MOODY'S
INVESTORS SERVICE

RATING METHODOLOGY

Special Assessment / Special Property Tax (Non-Ad Valorem) Debt Methodology

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Summary

This rating methodology replaces *Special Assessment / Special Property Tax (Non-Ad Valorem) Debt* methodology published in November 2016. We have updated references to other methodologies in the "About the Rated Universe" section. We have also updated analyst contacts. These updates do not change our methodological approach.

This methodology describes our approach to rating debt secured by an assessment on property or a special property tax (non-ad valorem, non-general obligation). It does not include an exhaustive treatment of all factors that are reflected in our ratings but should enable the reader to understand the qualitative considerations and financial metrics that are usually most important for assigning ratings in this sector. This methodology is intended to provide general guidance to investors, borrowers, and other interested market participants on how key credit characteristics are likely to affect rating outcomes.

This report includes a detailed scorecard that can be used to approximate credit profiles for special assessment and special property tax debt. The scorecard provides summarized general guidance for the factors that tend to be the most important in assigning ratings in this sector. However, the scorecard is a summary that does not include every rating consideration. Additionally, we may assign greater importance to certain factors than what the scorecard indicates based on the overall credit profile of certain districts.

The scorecard contains three fundamental factors:

1. District Characteristics
2. Leverage and Coverage
3. Socioeconomic Profile

Highlights of this report include:

- An overview of the rated universe
- A summary of the rating methodology
- A description of the scorecard factors
- Comments on the rating methodology assumptions and limitations, including a discussion of rating considerations that are not included in the scorecard

Our analysis may also be guided by additional publications that describe our approach for analytical considerations that are not specific to any single sector. Examples of such considerations include but are not limited to: pool rating methodologies, the assignment of short-term ratings, how sovereign credit quality affects non-sovereign issuers, and the assessment of credit support from other entities.[1]

Appendix A shows the full scorecard. Appendix B contains the metric definitions.

About the Rated Universe

The approach described in this methodology applies to US municipal debt secured by special assessments or taxes on property or land that are *not* based on the value of the property,[2] and are thus *non-ad valorem*.

This methodology does not apply to debt secured by taxes based on the value of property, also known as ad valorem property taxes. Debt secured by ad valorem tax revenue on incremental property values, also known as tax-increment debt, is rated under a separate methodology. This methodology also does not apply to debt secured by a local government's covenant to budget and appropriate legally available revenue for debt service, even in cases where the revenue derived from ad valorem property taxes is explicitly excluded from the covenant.[3]

Special assessments typically relate to new residential development projects; the debt is incurred to finance infrastructure essential to the functioning of the residential development such as roads, water or sewer lines, sidewalks, or municipal facilities such as schools and fire stations. District operations, once development has been achieved, are generally limited to servicing debt; general municipal services are provided by the local government. This methodology also applies to larger districts, sometimes coterminous with a city or county, that have debt supported by assessments. Unlike a utility revenue bond, however, the repayment of special district debt is de-linked from the usage of this new infrastructure.

There are several characteristics of debt secured by assessments or special property taxes that renders them inherently weaker than general obligation debt. The most important of these is that there is limited ability, if any, to raise the levy. The relevant assessments are typically fixed, and issuers of special assessment debt

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

2 In this report, "special property (non-ad valorem) taxes" and "special property taxes" are used interchangeably. References to "property taxes" in this report do not refer to taxes supporting general obligation debt unless so noted.

3 A link to a list of our sector and cross-sector rating methodologies can be found in the "Moody's Related Publications" section.

have a limited ability to adjust to a changing economic climate or real estate market. If delinquencies rise above the level the district projected, the district typically cannot raise the assessment/taxes on non-delinquent owners. Special assessment debt is generally passively managed. Expenditures other than debt service are often minimal and with debt often supported by a gross revenue pledge, expenditure flexibility is not a material credit factor. In contrast, issuers of general obligation debt are actively managed local governments, benefiting from the ability to increase their levies, utilize other financial resources, and adjust expenditures. In addition, assessment or taxing districts are generally smaller than a municipality's tax base and have a more limited economy.

Special assessment or special property tax secured debt is sometimes supported by additional security pledges, such as general obligation or general fund support, or a subordinate pledge on net utility revenues. In such cases, the rating will be assigned under the methodology that relates to the strongest pledge supporting the debt, which is typically the pledge relating to broader general government or utility revenues.

The credit quality of debt in this sector typically improves substantially once the project has passed through the initial development phase: the tax base becomes less concentrated as parcels are sold to individual home owners or commercial or industrial enterprises, thereby diversifying the source of revenue. Once development and occupancy is complete, the credit profile of the district has largely matured.

The following sections provide a brief overview of the features and distinguishing characteristics of special assessment and special property tax debt (non-ad valorem). For non-ad valorem property tax debt, our discussion focuses on Mello-Roos bonds, as they are a very large component of this type of debt. However, other types of special non-ad valorem property tax debt structures are also covered by this methodology.

Special Assessment

Special assessment debt structures vary across the country, but an essential common feature is that the assessment districts' liens on properties are based upon the benefit to the landowner from the improvement financed by the debt. The assessments typically comprise fixed annual charges, and there is minimal if any ability to raise assessments, other than for additional, pre-authorized debt.

The structures and governance framework for districts of this type can vary from state to state and even within a state. In the typical special assessment/tax district structure used in most states, bonds are issued to fund the needed capital projects and a reserve fund. Annual assessments or taxes are levied on district properties in an amount which, added together, equal the debt service due on the bonds in that year, plus an allotment for the administrative costs of the district. While our portfolio is heavily weighted towards Mello-Roos debt which has some levy flexibility, in most districts across the country, there is only a limited ability to levy assessments or taxes significantly in excess of annual debt service.

Assessments or taxes are often levied by the county and collected along with general property taxes, but other collection procedures are used in some localities. The bonds are secured solely by the assessments or taxes paid by properties in the district; bondholders have no access to the General Fund or general property taxes of the municipality. Usually, the issuers of the debt are a special district, not a stand-alone municipality, although the districts are located in a town or city, and/or county.

Mello-Roos Debt

Mello-Roos debt differs from assessment-backed debt in several ways, but primarily in that the non-ad valorem property tax pledge is not necessarily based upon a specific benefit to the property owner. The basis for levying each individual landowner's non-ad valorem property tax is subject to a wide degree of latitude, but it cannot be based on property value. Alternative methods of apportioning non-ad valorem value have included square footage, acreage, and development status or progress. Another attribute of the Mello-Roos structure that can often be a credit strength is the ability of the district to raise tax rates up to a maximum amount specified and approved at the time it is established. However, this maximum rate for Mello-Roos districts generally does not increase more than 2% per year absent additional authorized debt. Further, any tax increase on developed residential property necessitated by outsized increased delinquencies is limited to 10% above the amount that would have been levied absent delinquencies.

Rated Debt in the Development Cycle

This methodology applies to developed as well as less-developed or still-developing districts. Special districts typically solicit ratings once physical construction is largely complete such that the debt is supported by many individual property owners as opposed to the original developer (and single property owner).

About This Rating Methodology

This report explains the rating methodology for rating US municipal debt secured by special assessments or special property tax (non-ad valorem), summarized in the five sections below:

1. Identification of the Scorecard Factors

The scorecard in this rating methodology is comprised of three factors. Some of the factors are comprised of sub-factors that provide further detail.

Broad Factors	Factor Weighting	Characteristic	Sub-factors	Sub-factor Weighting
District Characteristics	45%	Size	Number of Parcels/Units	20%
		Taxpayer Concentration	Top Ten Taxpayers' Assessments/Taxes as a % of Total District Levy	20%
		Tax Delinquencies	Delinquency Trend	5%
Leverage and Coverage	40%	Debt Service Coverage	Debt Service Coverage	25%
		Leverage	Value to Lien	15%
Socioeconomic Profile	15%	Unemployment	Monthly Unemployment Rate	10%
		Income Level	Median Family Income as a Percentage of US Median	5%
Total	100%			100%

Source: Moody's Investors Service

2. Measurement or Estimation of Factors in the Scorecard

We explain our general approach for scoring each scorecard factor and show the weights used in the scorecard. We also provide a rationale for why each of these scorecard components is meaningful as a credit indicator (See “Discussion of the Scorecard Factors”).

The information used in assessing the sub-factors is generally found in or calculated from information in issuers’ financial statements or other disclosures/filings, from governmental data sources, derived from other observations, or estimated by our analysts. For comparability and transparency, we may make analytical adjustments to reported metrics.

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and performance trends as well as for peer comparisons. Financial ratios, 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 historic and expected future performance for periods of several years or more.

3. Mapping Scorecard Factors to a Numerical Score

After estimating or calculating each sub-factor, the outcomes for each of the sub-factors are mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, or B, also called alpha categories) and to a numerical score.

Qualitative factors are scored based on the description by broad rating category in the scorecard. The numeric value of each alpha score is based upon the scale below.

Aaa	Aa	A	Baa	Ba	B
1	3	6	9	12	15

Source: Moody's Investors Service

Quantitative factors are scored on a linear continuum. For each metric, the scorecard shows the range by alpha category. We use the scale below and linear interpolation to convert the metric, based on its placement within the scorecard range, to a numeric score, which may be a fraction. In the text or footnotes, we define the end points of the line (i.e., the value of the metric that constitutes the lowest possible numeric score, and the value that constitutes the highest possible numeric score).

Aaa	Aa	A	Baa	Ba	B
0.5-1.5	1.5-4.5	4.5-7.5	7.5-10.5	10.5-13.5	13.5-16.5

Source: Moody's Investors Service

4. Determining the Overall Scorecard-Indicated Outcome

The numeric score for each sub-factor is multiplied by the weight for that sub-factor, with the results then summed to produce an aggregate weighted factor score. The aggregate weighted factor score is then mapped back to an alphanumeric rating based on the ranges in the table below.

EXHIBIT 1
Scorecard-Indicated Outcome

Scorecard-Indicated Outcome	Aggregate Weighted Factor Score
Aaa	x ≤ 1.5
Aa1	1.5 < x ≤ 2.5
Aa2	2.5 < x ≤ 3.5
Aa3	3.5 < x ≤ 4.5
A1	4.5 < x ≤ 5.5
A2	5.5 < x ≤ 6.5
A3	6.5 < x ≤ 7.5
Baa1	7.5 < x ≤ 8.5
Baa2	8.5 < x ≤ 9.5
Baa3	9.5 < x ≤ 10.5
Ba1	10.5 < x ≤ 11.5
Ba2	11.5 < x ≤ 12.5
Ba3	12.5 < x ≤ 13.5
B1	13.5 < x ≤ 14.5
B2	14.5 < x ≤ 15.5
B3	15.5 < x ≤ 16.5
Caa1	16.5 < x ≤ 17.5
Caa2	17.5 < x ≤ 18.5
Caa3	18.5 < x ≤ 19.5
Ca	x > 19.5

Source: Moody's Investors Service

For example, an issuer with an aggregate weighted factor score of 10.6 would have a Ba1 scorecard-indicated outcome.[4]

5. Assumptions, Limitations and Rating Considerations Not Included in the Scorecard

This section, which follows the detailed description of the scorecard factors, discusses limitations in the use of the scorecard to map against actual ratings, some of the additional factors that are not included in the scorecard but can be important in determining ratings, and limitations and assumptions that pertain to the overall rating methodology.

Issuers' bonds in this sector are sometimes referred to as "story credits". This often means that credit attributes that may be of minimal importance in our evaluation of one district may be significant credit drivers in another district. Some of the commentary in the additional considerations section also explains the interplay between factors.

[4] In general, the scorecard-indicated outcome is oriented to the special assessments or special property tax revenue-backed debt rating. Individual debt instrument ratings also factor in decisions on notching for seniority level and collateral. The rating of an obligation of a district considers the scope and strength of any revenue or asset pledge, and the nature of the pledge is among the reasons that actual ratings may vary from scorecard-indicated outcomes. See also the "Other Considerations" section of this report.

Discussion of the Scorecard Factors

Factor 1: District Characteristics - 45%

Why it Matters

The size, diversity, and delinquency trend of a district all play an important role in gauging the resiliency of a district to shocks and to the likelihood that pledged revenues will be sufficient to make debt service payments when due.

The number of parcels/units is a useful indicator of the size and scope of the development. A larger number of taxable lots or parcels ultimately provides a broader and more diverse pool of property taxpayers upon build-out, and with greater long-term stability. Conversely, smaller districts tend to be less diverse and more dependent on a smaller number of taxpayers. These tax bases are more susceptible to localized economic shocks or natural disasters. Larger tax bases are inherently better able to absorb and rebound from these kinds of stresses.

Because special assessment debt is typically structured with narrow debt service coverage, concentration exposure is particularly important. It renders districts vulnerable to property owner bankruptcy, delinquencies, or other adverse microeconomic events affecting taxpayers' ability to pay assessments or taxes. Districts with a diffused tax base tend to exhibit more stability and resilience. Districts with significant commercial and industrial exposure will likely have higher concentration levels than highly residential project areas. However, in single family residential areas that are not fully developed, developers will likely be a large landowner and revenues will be highly concentrated among a few entities until the homes are built and sold.

Delinquency levels and trends can be a leading indicator of parcel-owner financial stress that may lead to lender foreclosures and a decrease in the value of properties. They may also inform any scenario analyses related to the robustness of debt service coverage. For instance, we may look at the impact of non-payment by the top two taxpayers. Since special assessment debt levies are typically designed to achieve narrow coverage, elevated *and* unexpected increases in delinquencies can pose a material credit risk to repayment of debt in this sector, especially in a scenario when the defaulting parcel-owner's taxes are not covered ty the foreclosing lender. While districts' levies typically incorporate an assumption of some modest level of delinquencies based on historical experience, a sharp unanticipated rise could adversely impact the coverage on bonds.

How We Assess it for the Scorecard

Sub-factor 1a: Size (20%) Number of taxable parcels/units

The size of the development, typically characterized in parcels, units or plotted lots, is assessed based on the number of homes and/or commercial properties.

Sub-factor 1b: Taxpayer Concentration (20%) Top ten taxpayers' assessments/taxes, expressed as a % of total district levy

The numerator is the dollar value of top ten taxpayers' non-ad valorem assessments/taxes, and the denominator is the dollar value of the total district levy of non-ad valorem assessments/taxes.

Factor 1: District Characteristics (45%)

Characteristic	Sub-factor	Weight	Aaa	Aa	A	Baa	Ba	B
Size*[1]	Number of Parcels/Units	20%	≥ 70,000	70,000 - 9,500	9,500 - 3,000	3,000 - 800	800 - 500	500 - 250
Taxpayer Concentration*[2]	Taxpayer Concentration: Top Ten Taxpayers' Assessments/ Taxes as % of Total District Levy	20%	≤ 2%	2% - 5%	5% - 10%	10% - 15%	15% - 20%	20% - 25%
Tax Delinquencies	Delinquency Trend	5%	De minimus level of delinquencies for extended period of time through all economic cycles (with delinquency rates generally less than 0.25% through all cycles)	Sustained low level of delinquencies for extended period of time through various economic cycles (with delinquency rates generally between 0.25% and 0.5% in these economic cycles)	Stable levels (with delinquency rates typically in the 0.5% to 2.5% range)	Mostly stable with brief periods of elevated rates (with delinquency rates typically in the 2.5% to 5.0% range)	Trending up to high levels of delinquencies (with delinquency rates typically 5.0% to 8.0%)	Delinquencies at very high levels (with delinquency rates typically greater than 8.0%)

*[1] For the linear scoring scale, the Aaa end point value is 500,000 units. A value of 500,0000 or better equates to a numerical score of 0.5. The B end point value is 250 units. A value of 250 or worse equates to a numerical score of 16.5.
*[2] For the linear scoring scale, the Aaa end point value is 0%. A value of 0% or better equates to a numerical score of 0.5. The B end point value is 25%. A value of 25% or worse equates to a numerical score of 16.5.

Source: Moody's Investors Service

Factor 2: Leverage and Coverage - 40%

Why it Matters

Leverage and coverage ratios are extremely important gauges of a debt affordability. Debt service coverage provides insights into a district's ability to generate special assessment/special property tax (non-ad valorem) revenues that are sufficient to cover debt service. While debt service coverage is typically structured to be narrow for this type of debt, the level of coverage also provides information regarding how the district is being managed.

Debt service coverage levels in this sector are typically narrow compared to coverage levels associated with enterprise and non-property special tax (e.g. sales tax) debt. Coverage may be limited by statute, but the ability to achieve greater than sum-sufficient coverage when possible provides a buffer against unanticipated delinquencies and is a credit strength, and all else being equal, typically results in a higher rating than bonds with limited or no levy flexibility.

Depending on the debt structure, the annual cash flow coverage ratio may also provide insight as to how the district is managed within the limits of its responsibilities, which primarily concern the repayment of debt. Specifically, the ratio may show whether the district is conservatively assuming delinquencies or whether their assumptions leave little cushion for increases in unpaid assessments. Trends in coverage over time provides an important indicator that adequate coverage is being maintained through varying economic cycles.

The value to lien ratio provides important insights into the leverage of the district's debt financing.[5] A higher value to lien ratio generally provides a greater degree of confidence that, if delinquent parcels go to

5 The denominator of the value to lien metric is based on the sum of the issuer's special assessment/special property tax debt and any other property tax/assessment supported debt in the district. Thus, it captures the principal sources of tax liens, and is a very important ratio for comparability across districts based on publicly available data. However, it does not typically capture other government liens, e.g. income tax liens. In addition, it does not usually capture mortgage liens, because government liens typically have a higher priority on the property.

foreclosure, the sale of the properties would generate sufficient proceeds to cover special assessment/special property (non-ad valorem) tax liens. The value-to-lien metric is also important in gauging the incentive and likelihood of property owners, taken as a whole, to pay the assessments/special property taxes (non-ad valorem) due on their properties.

The amount of mortgage and tax liens is highly relevant to an individual property owner's decisions whether to walk away from a property. However, foreclosing lenders have a different incentive, since they must pay tax liens in order to sell a property and maximize their recovery.

In general, less developed districts have lower value to lien ratios, because property improvements have not been completed (making the value of the land a higher percentage of assessed value). Value to lien can also be affected by state statute. Some states have a minimum required threshold to issue land secured debt.

How We Assess it for the Scorecard

Sub-factor 2a: Coverage (25%) Debt Service Coverage

The numerator of the ratio is annual special assessment/special property tax (non-ad valorem) collections, and the denominator is annual debt service on the related debt.

With most of these bonds having a level debt service schedule throughout the life of the bonds, we use current year coverage (current year special assessments/special property taxes (non-ad valorem) divided by/current year debt service) in the scorecard.

Sub-factor 2b: Leverage (15%) Value to lien (overall for district)

For our scorecard input, we use the value of a district's property divided by the special assessment/special property tax (non-ad valorem) debt and the district's share of any other special assessment/special property tax (non-ad valorem) or property tax supported debt.

We typically use property valuation measures as defined by the local or state government (often called full value). However, the method of calculating the value of the land can vary across the country. In the case of a material difference between what we believe is the true market and the full value (as determined by the local government), on an individual basis, we may use other market-based values, if available, when we believe the full value is not representative of the actual value of the land.

Factor 2: Leverage and Coverage (40%)

Characteristic	Sub-factor	Weight	Aaa	Aa	A	Baa	Ba	B
Debt Service Coverage*[3]	Debt Service Coverage	25%	≥ 2.00x	2.00x - 1.50x	1.50x - 1.20x	1.20x - 1.10x	1.10x - 1.00x	1.00x - 0.85x
Leverage*[4]	Value to Lien	15%	≥ 150x	150x - 90x	90x - 35x	35x - 10x	10x - 4x	4x - 2x

*[3] For the linear scoring scale, the Aaa end point value is 3.00x. A value of 3.00x or better equates to a numerical score of 0.5. The B end point value is 0.85x. A value of 0.85x or worse equates to a numerical score of 16.5.

*[4] For the linear scoring scale, the Aaa end point value is 275x. A value of 275x or better equates to a numerical score of 0.5. The B end point value is 2x. A value of 2x or worse equates to a numerical score of 16.5.

Source: Moody's Investors Service

Factor 3: Socioeconomic Profile - 15%

Why it Matters

The socioeconomic profile of a region informs our assessment of not only a district's likelihood of experiencing credit stress caused by economic cycles, but also the ability to successfully withstand such stress. In some cases, data for a district may be available, but more typically the available information relates to the surrounding municipality or county. In most cases, trends in the region as a whole have a strong impact on the districts (generally smaller areas) that comprise the region.

The current unemployment rate and historical trends (within the region and in comparison to national levels) provide valuable insight into any current stress on the tax base and the resiliency of the local economy through various economic cycles. Regions that demonstrate relatively stable employment trends during periods of broad economic stress are more likely to maintain adequate revenue collection rates. The unemployment rate is a core economic indicator that can be a barometer for broader economic trends.

Median family income is a very important indicator for economic strength of the local population, which heavily influences an individual district's long-term ability to withstand economic cycles and collect revenues to meet debt service needs. Above-average income levels may indicate desirability of real estate in the area, and higher income populations are typically more likely to have financial resources that provide a buffer during periods of higher unemployment. Where present, these strengths tend to mitigate potential special property tax (non-ad valorem) delinquencies.

How We Assess it for the Scorecard

We measure socioeconomic strength of a district by reviewing the area's unemployment rate (most recently available month) and median family income (MFI) as a percentage of the US median.

Sub-factor 3a: Unemployment (10%) Monthly Unemployment Rate

When available, we use the monthly unemployment rate of the district itself. Otherwise, we use the monthly unemployment rate of the overlapping municipality or county.

Sub-factor 3b: Income Level (5%) Median family income (MFI) as a percentage of the US median

The numerator of the ratio is MFI in the district, when available, or for the surrounding municipality or county. The denominator is the US MFI for the same period.

Factor 3: Socioeconomic Profile (15%)

Characteristic	Sub-factor	Weight	Aaa	Aa	A	Baa	Ba	B
Unemployment *5	Monthly Unemployment Rate	10%	≤ 3.5%	3.5% - 4.5%	4.5% - 6%	6% - 7.5%	7.5% - 10%	10% - 20%
Income Level*6	Median Family Income as a Percentage of US Median	5%	≥ 150%	150% - 90%	90% - 75%	75% - 50%	50% - 40%	40% - 20%

*5 For the linear scoring scale, the Aaa end point value is 0%. A value of 0% equates to a numerical score of 0.5. The B end point value is 20%. A value of 20% or worse equates to a numerical score of 16.5.
*6 For the linear scoring scale, the Aaa end point value is 200%. A value of 200% or better equates to a numerical score of 0.5. The B end point value is 20%. A value of 20% or worse equates to a numerical score of 16.5.

Source: Moody's Investors Service

Assumptions, Limitations and Rating Considerations That Are Not Covered in the Scorecard

The scorecard in this rating methodology represents a decision to favor simplicity that enhances transparency and to avoid greater complexity that might enable the scorecard to map more closely to actual ratings. Accordingly, the factors in the scorecard do not constitute an exhaustive treatment of all of the considerations that are important for ratings of issuers in this sector. In addition, our ratings incorporate expectations for future performance. In some cases, our expectations for future performance may be informed by confidential information that we cannot disclose. In other cases, we estimate future results based upon past performance, sector trends, competing developments or other factors. In either case, predicting the future is subject to the risk of substantial inaccuracy.

Assumptions that may cause our forward-looking expectations to be incorrect include unanticipated changes in any of the following factors: the macroeconomic environment and general financial market conditions, district competition, regulatory and legal actions.

Key rating assumptions that apply in this sector include our view that sovereign credit risk is strongly correlated with that of other domestic issuers, that legal priority of claim affects average recovery on different classes of debt sufficiently to often warrant differences in ratings for different debt classes of the same issuer, and the assumption that access to liquidity is a strong driver of credit risk.

In choosing metrics for this rating methodology scorecard, we did not explicitly include certain important factors that are common to all issuers in any sector, such as assessments of governance and the quality of financial reporting and information disclosure. Ranking these factors by rating category in a scorecard would in some cases suggest too much precision in the relative ranking of particular issuers against all other rated issuers in this sector and other sectors.

Ratings may include additional factors that are difficult to quantify or that have a meaningful effect in differentiating credit quality only in some cases, but not all, for instance financial controls and political interference. Litigation, competing developments as well as changes to household behavioral pattern and macroeconomic trends also affect ratings. While these are important considerations, it is not possible to precisely express these in the rating methodology scorecard without making the scorecard excessively complex and significantly less transparent. Ratings may also reflect circumstances in which the weighting of a particular factor will be substantially different from the weighting suggested by the scorecard.

For example, taxpayer concentration and tax delinquency levels are examples of considerations that are included in the scorecard in fixed weightings, but they may become critical to ratings and have a much higher effective weighting when there is an acute weakness. High taxpayer concentration characterized by an over-reliance on a few taxpayers with assessed poor credit quality magnifies default risk, as does a sharp and sustained rise in delinquency levels.

As an issuer or debt instrument experiences financial distress such that it has defaulted or is very likely to default or become impaired, ratings typically include additional considerations not captured in the scorecard that reflect our expectations for recovery of principal and interest. Such considerations are often very idiosyncratic to the specific circumstances of the distressed issuer, and may include the capital structure, the value of collateral, the investor base and its views of future prospects, and management and property owner's incentives. Consequently the scorecard-indicated outcome will often differ from the assigned rating in these cases.

Other Considerations

Truncation of the scorecard at 'B'.

The scoring ranges in the scorecard describe characteristics for ratings that range from 'Aaa' to 'B', which reflects the current overall credit characteristics of the rated universe. However, assigned ratings could be lower than 'B, for a variety of reasons. For instance, the actual situation of a district with respect to a particular factor may be materially worse than would be expected to occur for a district. Thus, even if the score for that factor score were 'B' because it is the lowest possible score in the scorecard, that material weakness could cause the assigned rating to be worse than the scorecard-indicated outcome. In addition, a material weakness is a reason that the factor may have greater importance in the rating than the standard factor weight would imply. As a more specific example, a district might show extraordinary weakness in the ability to collect assessments/special property taxes (non-ad valorem) sufficient to meet debt service. For instance, the failure of a major taxpayer to pay its taxes, a localized environmental disaster, or a change in law or statute that materially weakened the ability of a district to collect assessments/special property taxes (non-ad valorem) might put considerable negative pressure on a district's debt service capacity and liquidity profile. A high likelihood of a failure to comply with debt covenants could also drive the rating below the B level.

Special Assessment/Special Property Tax Rating Relative to the Locality's General Obligation Rating

In nearly all cases, an issuer's special assessment rating would be lower than the local government's general obligation rating, given the strength of the full faith and credit pledge backing most general obligation bonds, in contrast to the more limited (or non-existent) ability of a special assessment district to raise the levy. Weakness of the local economy and tax base would typically weigh on both issuers, and in many cases, a special assessment district is smaller, in terms of size and population, and less economically diverse than the jurisdiction issuing the general obligation debt.

In certain cases, the issuer's special assessment and the local government's general obligation ratings may be at the same level, and it is not impossible, though highly unlikely, that the special assessment rating may be higher than the issuer's general obligation rating. A parity rating would typically occur when the strength and stability of the pledged special assessment/special property tax (non-ad valorem) revenues relative to the related debt service (and debt burden) offsets, currently and on a prospective basis, the assessment district's limitations on raising revenues.

A rating above the general obligation would require that the pledged revenue stream for the assessment debt be legally separated from and not commingled with the local government's general finances. The legal separation of the revenue streams supporting the assessment and general obligation debt would result from different authorizing legislation, separate tracking and funds for each stream, and unrelated, legally authorized projects. In addition, the higher strength and stability of the pledged special assessment/special property tax (non-ad valorem) revenues relative to the related debt service requirement and debt burden, as compared to the general obligation pledged revenues relative to its debt service obligation and debt burden, must typically more than offset, currently and on a prospective basis, the assessment district's limitations on raising revenues. In most cases, this would only occur if the issuer's general obligation rating reflected credit weakness in factors unrelated to the economy and tax base. These factors could include weak finances, management issues, and/or governance issues that do not impact the special assessment debt.

Geographical considerations

The geographical specifics of a district can have an important impact on its long-term health. These considerations may include physical size of the district, its proximity to areas that are engines of economic growth or areas undergoing a secular decline, and the level of exposure to environmental issues and natural disasters. In the event of a natural disaster, there could be a temporary or a longer-term impact on parcel owners' ability and willingness to pay assessments or special property taxes (non-ad valorem) until insurance proceeds are received, damage is corrected, and the district's economic activity resumes. Environmental issues could range from temporary disruptions in potable water (which typically have very limited impact on ability and willingness to pay assessments/special property taxes (non-ad valorem)) to discovery of significant contamination (very low probability, but would pose significant long-term credit challenges).

Socioeconomic considerations

In some instances, MFI or unemployment statistics may incompletely or inaccurately depict the intrinsic strength of a district's economy which the use of additional economic indicators may help achieve. The assigned rating may be higher or lower than the scorecard-indicated outcome if other economic indicators and factors such as per capita income, real estate market metrics including foreclosure rates, population trends, desirability of location, accessibility to transportation, and general economic health of the district and surroundings materially alter our view on the development's long-term viability.

Taxpayer considerations

In addition to the risk of an overreliance on a limited number of individuals for tax payments, significant commercial or industrial presence, especially a large exposure to a single industry, can pose significant risk of a sudden collapse in tax revenues. Special assessment/special property tax (non-ad valorem) debt credit quality could be lower than the scorecard-indicated outcome if a large portion of the tax base is dependent upon a single industry, and/or is exposed to sectors we consider to be highly volatile, unpredictable, or weak. On the other hand, in certain cases where the scorecard indicates very high taxpayer concentration, due to a highly concentrated presence of a dominant institution or industry with especially strong and/or steady financial and economic prospects, the actual rating may reflect a lower weighting for this sub-factor. Examples of institutions offering some stability to a local economy may include universities or military bases.

While our calculation of concentration is based on the ten largest special property (non-ad valorem) tax/assessment payers and provides an apples to apples comparison, we may do additional analysis to understand the impact on debt service coverage from various nonpayment scenarios such as the ability of the district to maintain sum sufficient debt service coverage in the event the largest taxpayer or two fails to pay their levies. Where meaningful, this analysis is incorporated into ratings.

The presence of other positive credit attributes, such as low taxpayer concentration, sustained minimal level of delinquencies and the strength, desirability, and resiliency of the tax base, may reduce the risks normally associated with a small development, and the actual rating may be higher than the scorecard-indicated outcome.

The value to lien factor is calculated on a district-wide basis; but ratings may incorporate related information when it is relevant. For instance, an assessment of this ratio for the top taxpayers (individually or collectively) or the distribution of value to lien ratios in the district may cause the assigned rating to differ from the scorecard-indicated outcome, especially if this assessment shows that the value to lien ratio for the overall district is skewed by a relatively small number of developed parcels or otherwise does not fully capture risks associated with the value of properties in the district on a go-forward basis.

Degree of development

For special assessment debt, as outlined above, credit quality is positively impacted by the degree of progress towards full development, build-out, and sale of parcels. For less-developed or still-developing districts, the additional risks of construction, taxpayer concentration, and the greater percentage of value represented by unimproved land are primary drivers of lower credit quality. Less developed districts are generally more vulnerable to real estate cycles and other credit risks including ability to sell parcels and obtain mortgage financing. Value to lien ratios are typically lower as well, decreasing the likelihood of a successful foreclosure and reducing the incentive for these developers, who may be highly leveraged, to pay their assessments when the real estate market falters.

In these earlier development-stage transactions, we typically consider the feasibility of the project including the construction and overall financing plans, the presence of competing developments and the viability of the project given the product type relative to the location and demographics. This may include a review of reports including appraisal reports, feasibility reports, absorption studies, mortgage studies, indicating whether title is clear and whether all necessary zoning, building and environmental permits have been obtained. The presence of any meaningful legal impediments or challenges to the plan can be a material credit negative.

Since developers play such a key role in still-developing districts, we would typically assess the track record and financial condition of the developers, as well as additional security pledged to the bonds, such as a letter of credit posted until a certain level of development has occurred. Whether the developer has adequate financial resources to pay the assessments and complete the development plan can be an extremely important consideration, because completion generally results in a district with a more diversified, stable tax base.

Assessment and collection practices

The setting of assessment and collection frameworks may be material credit considerations in that they may positively or negatively impact the district's ability to collect on the stated level of assessment/special taxes (non-ad valorem). The reasonableness of the level assumed delinquencies incorporated in the levy can have a very significant impact on the level of collections relative to debt service. Districts that consistently utilize unrealistic delinquency assumptions or aggressive collection rates may have an actual rating that is below the scorecard-indicated outcome. Whether or not the district offers early payment discounts or charges penalties for late payments can have a meaningful effect on delinquencies. In the cases, where prepayment discounts result in lower delinquencies, the actual rating may be higher than the scorecard-indicated outcome. We would also typically review timing of the cash flows to determine if assessments and taxes are received in advance of debt service payments.

The method of billing may play a key role in the level of delinquencies. For example, it is not uncommon for assessments or special property taxes (non-ad valorem) to be on the same tax bill and have the same enforceability (i.e. lien on property) as general property taxes. This structure and lien position are important considerations for assuring that collection rates are sufficient to support the debt. The absence of these features or other weakness in billing practices or level of collection may have a negative impact where there are economic incentives for property owners to prioritize payments of other taxes over the tax supporting the special assessment debt that causes assigned ratings to be below the scorecard-indicated outcome.

Levy and tax rate features, and other revenue sources

In most districts across the country, there is only a limited ability to levy assessments or special property taxes (non-ad valorem) significantly in excess of annual debt service. While relatively rare, some districts have some levy flexibility, as can be the case for Mello-Roos debt. Because special assessment debt is typically structured with narrow tax service coverage, a district's ability to increase the assessment or special property tax (non-ad valorem) can be a strong enhancer to the credit quality. In assessing the potential benefit creditors may derive from this feature, we would typically consider the magnitude of the unused levy capacity or "headroom" as well as any other structural strengths or limitations of the assessment. For example, we would take into account if there is a maximum amount that could be collected, a maximum rate of increase or an expiration date of the special property tax (non-ad valorem) or assessment. We may also review the historical management of the levy where there is flexibility, and the track record of implementing increases. There may be instances when a theoretical ability to increase the assessment or tax rate is so limited that it has no positive credit impact. Nonetheless, where the ability to increase the levy is accompanied by sufficient headroom to permit a meaningful increase in the levy, the assigned rating may be higher than the scorecard-indicated outcome.

In addition to assessments and taxes, we also typically take into consideration other material sources of revenue that may enhance coverage, including investment earnings on a debt service reserve fund.

Debt Structure Considerations

Districts may issue debt secured by different liens on their assessments or special property taxes (non-ad valorem). Senior bonds are secured by a first lien on the assessments, and subordinate bonds are secured by a subordinate, or junior, lien on the revenue. The scorecard-indicated outcome is oriented to the senior debt.

We typically assess the likelihood of default and the expected recovery in the event of default for each lien independently. This will most commonly result in a rating distinction of one notch for each lien of subordination. In other words, if a district's senior lien is rated A2, its subordinate lien will most likely be rated A3.

The reason for the typical one-notch-per-lien distinction is that subordinate liens are more likely to default than senior liens, and subordinate liens' expected recovery in the event of default would be lower. Senior liens are typically afforded stronger legal protections under the district's indentures, senior-lien debt service is usually paid earlier in the flow of funds, and the first lien would likely enjoy a better claim in bankruptcy.

Debt service reserve fund

A debt service reserve fund (DSRF) is a common feature in special assessment debt structures and is an important consideration due to the typically limited debt service coverage levels, the narrow role of district management, and the often limited ability to increase rates. It is especially important in districts with lengthy foreclosure processes. The DSRF ensures payment of debt service in the event of a shortfall in pledged revenues, and typically gives the agency at least a year to find a more permanent resolution.

Our analysis typically incorporates the funding method (cash or surety) and the strength of the debt service reserve funding requirement with the most common being 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). Our general expectation is that structures will have a fully funded debt reserve, either in the form of cash (which is preferable from a credit standpoint) or a surety bond from a provider with appropriate credit strength. In considering whether a surety bond is sufficient to consider the DSRF as fully funded, we typically consider the surety bond provider's rating (which must be at least investment grade), the rating of the issuer relative to the rating of the surety provider,[6] the structure of the transaction and the surety provider's track record of payment.

When a DSRF is lacking or is weak (due to a smaller than standard amount, lack of full initial funding, issues with the surety provider's credit profile, or other reasons), the negative credit impact can cause the assigned rating to be lower than the scorecard-indicated outcome. The assessment of whether the lack of such security is a material credit negative would depend on the strength and weaknesses of other credit factors, including the level of debt service coverage, taxpayer concentration, and delinquency trend. For weak credits

[6] For instance, if the surety provider has a low-investment grade rating, the value of the surety relative to a cash DSRF would typically be lower for a mid-Aa issuer than for a mid-Baa issuer.

characterized by development risk, history of unexpected spikes in delinquencies or insufficient debt service coverage, we may assign greater importance to the DSRF requirement and method of funding, especially if there is an increased likelihood that the DSRF will be accessed. As described more fully below, the level of reserve also takes on greater importance when the foreclosure time frame is long.

Although, not typical in this sector, the presence of significant unrestricted reserves (other than debt service reserve fund) available for debt service payment may help a district better manage volatility in collections than districts with no reserves. When considered material, with no or limited accession restriction, this excess liquidity may strengthen our view of the credit profile of the assessment debt and lead to an assigned rating that is higher than the scorecard-indicated outcome.

Bondholder Protections

The ability to quickly foreclose on property or participate in a tax lien sale process to maintain cash flows is a critical rating component.

A covenant to initiate foreclosure is a common provision in special assessment financings. Foreclosure can be a lengthy process, and risks relative to the timing and ability to sell a property for a sufficient amount remain. We typically consider the covenants and conditions related to foreclosure for districts, as well as mechanisms to provide funds (including the DSRF) in the event of delinquency.

Some issuers covenant to initiate foreclosure within four to six months of the end of the fiscal year when aggregate collections are below a certain threshold and/or when individual property owners are delinquent above a certain amount. We typically consider the timeline the district has committed to follow, as well as the level of delinquency permitted relative to the amount of annual debt service. We may also look at factors that allow a district to defer proceedings, such as the presence of a fully funded reserve fund. We generally believe that allowing a reserve fund to be depleted before taking action on delinquencies past a certain threshold is a credit weakness.

The other common avenues available to a district to make it financially whole in the event of delinquencies include tax lien sales . While a failed tax lien sale is possible, robust markets for such sales have existed in some states, and those markets continued to function even through a recession. Additionally, we may consider sale of tax liens to a third party in states without a mature market should the district have a long history of successfully selling delinquent liens.

Despite lack of guarantees under the mechanisms described, we observe that they generally work well for districts that participate in them. When these mechanisms are coupled with foreclosure covenants, as they tend to be, they provide an additional level of protection for bond holders, which in some cases may cause assigned ratings to be above the scorecard-indicated outcome.

Management

Management is typically not an overarching factor in our evaluation of special assessment or non-ad valorem property tax debt. Likewise, given the limited operations of most districts, expenditure flexibility is not usually a significant part of our analysis. On the revenue side, management generally has only little if any ability to adjust the levy. However, the degree of margin built into the levy to account for delinquencies can affect overall credit quality, for example if management is not sufficiently conservative in their assumptions regarding delinquencies. For credits with governing documents that allow some level of discretion in the timing to implement foreclosure processes, a weak stance towards delinquencies could be a negative rating factor. Conversely, issuers that have aggressive policies in place to pursue delinquencies and consistently enforce these policies could see positive credit uplift. These policies could entail quick delivery of demands for payment and periodic follow-up communications with delinquent property owners.

When an issuer is responsible for multiple districts, we may consider how all of the districts are managed, both rated and unrated. This evaluation of management's performance in various environments and economic cycles may provide insight into how the rated district's management may react and adapt to a weakening economy and tax base and what actions it may take to mitigate potential adverse credit impact.

Additional Bonds Test

The provisions under which a district is permitted to issue additional parity bonds can be important to the determination of credit quality. These provisions set forth the minimum debt service coverage levels to be maintained for existing bondholders and other conditions that are required to issue parity debt. A strong additional bonds test is intended to maintain a defined, minimum level of coverage protection over the life of the bonds. We usually view strong provisions as those that require a high value to lien or other related metric, or that prohibit the issuance of additional bonds or limit issuance to refunding bonds. When the additional bonds test is tied to the level of build out or value to lien levels, we would typically seek to understand the likelihood of a district meeting the requirement.

If additional debt issuance is planned or likely, this factor may take on greater importance.

Maximum Annual Debt Service

When assessing coverage, we also typically consider coverage of maximum annual debt service (MADs), and the scorecard may employ forward looking scoring of the debt service coverage ratio that incorporates the maximum requirement. In addition, if the credit structure includes escalating debt service with future coverage predicated on additional development as opposed to one with automatically increasing assessments, the assigned rating may be lower than the scorecard-indicated outcome to reflect this additional risk. In determining the magnitude of the impact on the credit profile, we typically consider the level of development needed to achieve sum sufficient coverage and over what time horizon. For districts that can increase the levy as debt service increases, MADS coverage is typically not as important a factor.

Appendix A: Scorecard

Subfactor	Measure	Weight	Aaa	Aa	A	Baa	Ba	B
			0.5 to 1.5	1.5 to 4.5	4.5 to 7.5	7.5 to 10.5	10.5 to 13.5	13.5 to 16.5
Factor 1: District Characteristics: (45%)								
Size*[1]	Number of Parcels/Units	20%	≥ 70,000	70,000 - 9,500	9,500 - 3,000	3,000 - 800	800 - 500	500 - 250
Taxpayer Concentration*[2]	Taxpayer Concentration: Top Ten Taxpayers' Assessments/ Taxes as % of Total District Levy	20%	≤ 2%	2% - 5%	5% - 10%	10% - 15%	15% - 20%	20% - 25%
Tax Delinquencies	Delinquency Trend	5%	De minimus level of delinquencies for extended period of time through all economic cycles (with delinquency rates generally less than 0.25% through all cycles)	Sustained low level of delinquencies for extended period of time through various economic cycles (with delinquency rates generally between 0.25% and 0.5% in these economic cycles)	Stable levels (with delinquency rates typically in the 0.5% to 2.5% range)	Mostly stable with brief periods of elevated rates(with delinquency rates typically in the 2.5% to 5.0% range)	Trending up to high levels of delinquencies (with delinquency rates typically 5.0% to 8.0%)	Delinquencies at very high levels (with delinquency rates typically greater than 8.0%)
Factor 2: Leverage and Coverage: (40%)								
Debt Service Coverage*[3]	Debt Service Coverage	25%	≥ 2.00x	2.00x - 1.50x	1.50x - 1.20x	1.20x - 1.10x	1.10x - 1.00x	1.00x - 0.85x
Leverage*[4]	Value to Lien	15%	≥ 150x	150x - 90x	90x - 35x	35x - 10x	10x - 4x	4x - 2x
Factor 3: Socioeconomic Profile: (15%)								
Unemployment*[5]	Monthly Unemployment Rate	10%	≤ 3.5%	3.5% - 4.5%	4.5% - 6%	6% - 7.5%	7.5% - 10%	10% - 20%
Income*[6]	Median Family Income as a Percentage of US Median	5%	≥ 150%	150% - 90%	90% - 75%	75% - 50%	50% - 40%	40% - 20%

*[1] The definition for the metrics used in this scorecard can be found in Appendix B.
For the linear scoring scale, the Aaa end point value is 500,000 units. A value of 500,0000 or better equates to a numerical score of 0.5. The B end point value is 250 units. A value of 250 or worse equates to a numerical score of 16.5.
*[2] For the linear scoring scale, the Aaa end point value is 0%. A value of 0% or better equates to a numerical score of 0.5. The B end point value is 25%. A value of 25% or worse equates to a numerical score of 16.5.
*[3] For the linear scoring scale, the Aaa end point value is 3.00x. A value of 3.00x or better equates to a numerical score of 0.5. The B end point value is 0.85x. A value of 0.85x or worse equates to a numerical score of 16.5.
*[4] For the linear scoring scale, the Aaa end point value is 275x. A value of 275x or better equates to a numerical score of 0.5. The B end point value is 2x. A value of 2x or worse equates to a numerical score of 16.5.
*[5] For the linear scoring scale, the Aaa end point value is 0%. A value of 0% equates to a numerical score of 0.5. The B end point value is 20%. A value of 20% or worse equates to a numerical score of 16.5.
*[6] For the linear scoring scale, the Aaa end point value is 200%. A value of 200% or better equates to a numerical score of 0.5. The B end point value is 20%. A value of 20% or worse equates to a numerical score of 16.5.

Source: Moody's Investors Service

Appendix B: Metric Definitions

District Characteristics

Number of parcels/units. Calculated as the number of taxable parcels/units.

Top ten taxpayers' assessments/taxes, expressed as a % of total district levy. The numerator is the dollar value of top ten taxpayers' special assessments/special property taxes (non-ad valorem), and the denominator is the dollar value of the total district levy of special assessments/special property taxes (non-ad valorem).

Leverage and Coverage

Debt Service Coverage. The numerator of the ratio is annual special assessment/special property tax (non-ad valorem) collections, and the denominator is annual debt service on the related debt.

Value to lien. Calculated as the use the value of a district's property divided by the special assessment/special property tax (non-ad valorem) debt and the district's share of any other special assessment/special property tax (non-ad valorem) or property tax supported debt.

Socioeconomic Profile

Monthly Unemployment Rate. We use, when available, the monthly unemployment rate of the district itself. Otherwise, we use the monthly unemployment rate of the overlapping municipality or county.

Median family income (MFI) as a percentage of the US median. The numerator of the ratio is MFI in the district, when available, or for the surrounding municipality or county. The denominator is the US MFI for the same period.

Moody's Related Publications

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

For data 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.

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