

**RATING  
METHODOLOGY**

24 July 2024

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Rating Methodology  
**US K-12 Public School Districts**

This rating methodology replaces the *US K-12 Public School Districts Methodology* published on January 26, 2021. While this methodology reflects the same core principles as the 2021 methodology, we have expanded the types of instruments rated using this methodology to include the special tax debt instruments of these issuers, and we have expanded the existing instrument rating sections in this methodology to include our approach to these special tax debt instruments relative to a school district's issuer rating. We have also made editorial changes to enhance readability.

We continue to assign ratings using the *US Public Finance Special Tax Debt* methodology for special tax debt instruments that we do not rate in relation to an issuer rating of a US city or county, US K-12 public school district or US state or territory. 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 US public school districts that provide public education directly to students, typically from pre-kindergarten or kindergarten through 12th grade (K-12) or a subset of grades within this range. The entities rated using this methodology may operate as comprehensive K-12 school districts or as specialized or vocational schools. School districts rated using this methodology are operationally independent from a city or county government and have the power to issue debt on their own behalf or through a dedicated financing vehicle.

This methodology is used to assign issuer ratings and debt instrument ratings to school districts' general obligation unlimited tax, general obligation limited tax, general promises to pay, and lease and contingent obligations. Lease and contingent obligations include moral obligations, non-lease annual appropriation obligations, abatement lease-backed obligations and comparable debt. This methodology also applies to debt instruments supported by a pledge of special tax revenues where the credit profile of the school district is a highly relevant driver of the instrument.

Special tax obligations rated using this methodology are debt instruments secured by a pledge of a school district's taxes other than real property taxes (e.g., sales taxes), fees, transaction-based charges, and similar types of revenue (collectively, special taxes). Special tax obligations also rated using this methodology include debt instruments issued by a school district and secured by a pledge of the allocation or disbursement of special taxes received from another government.

This methodology also applies to the debt instruments of school district enterprises and component units that benefit from the school district's general obligation pledge or general

promise to pay, or from a lease, appropriation or moral obligation or pledged special tax revenue of the school district, provided that the credit profile of the school district is closely related to the instrument. Key characteristics of a related entity for which the credit profile of the school district is closely tied include a close governance relationship where key decision-makers are the same in the related entity and the school district, or are appointed by school district leaders, or where the school district has assigned pledged revenues to the related entity to repay the debt but retains ownership and control of the pledged revenues.

This methodology also applies to entities or sub-districts created to issue debt or debt-like obligations on behalf of a school district, including school districts that no longer educate students but have debt outstanding. Publicly managed charter schools, also called dependent charter schools, are also rated using this methodology.

Privately managed K-12 charter schools, which typically receive public funding, are rated using a separate methodology.<sup>1</sup> Independent (private) schools, whose primary funding sources are private tuition or charitable giving and endowments, are also rated using a separate methodology. This methodology does not apply to colleges or universities, nor does it apply to school districts that are operating units of city or county governments and that do not issue their own debt. State school district enhancement programs, such as state aid intercepts and the enhanced ratings of financings that benefit from such programs, are also rated using separate methodologies.

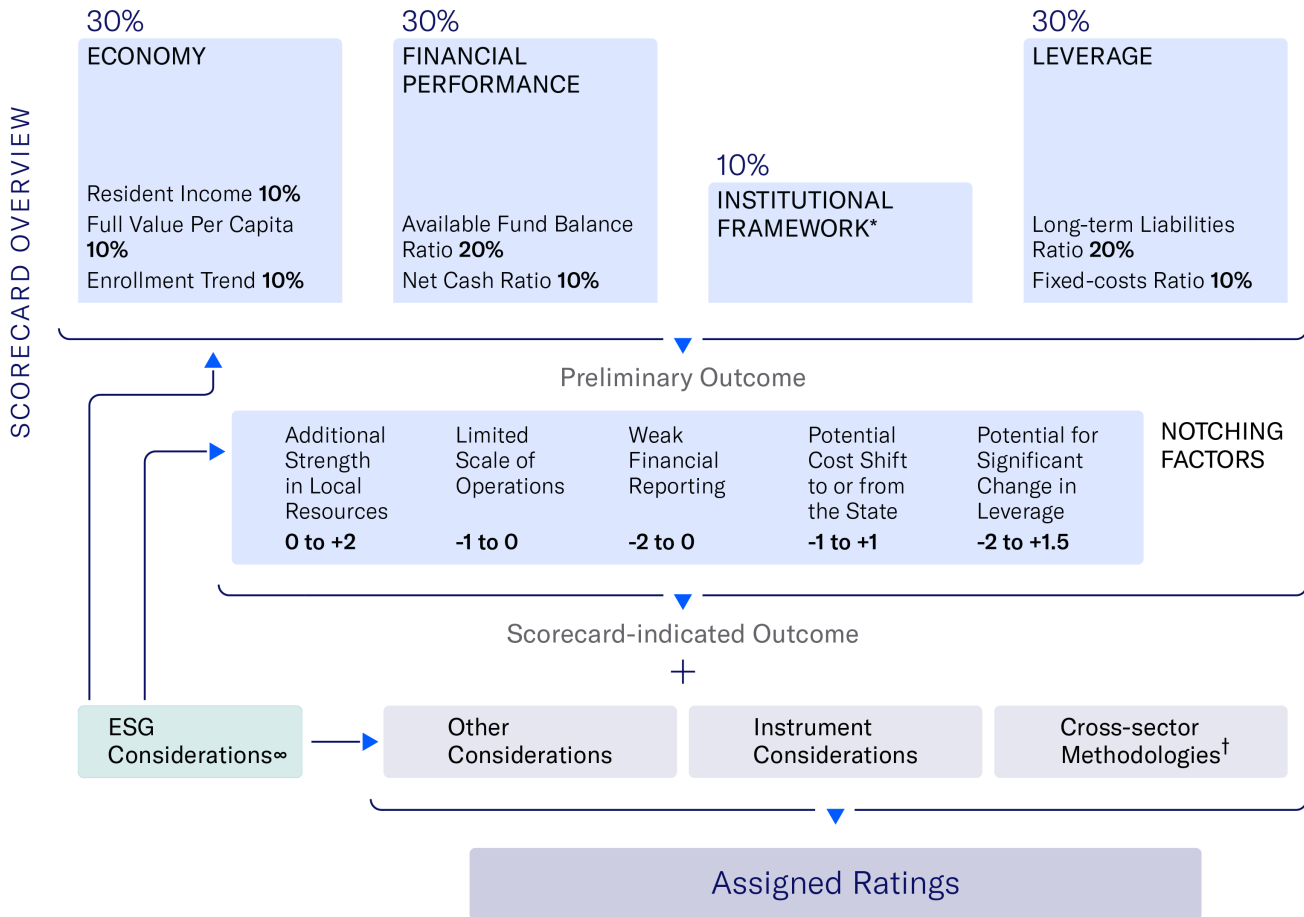
School district special tax and special assessment obligations that are not rated in relation to an issuer rating of a school district are rated using separate methodologies, e.g., those where the special tax revenue is levied on an area that is significantly narrower than the school district's total economic base. School district short-term debt is rated using a separate methodology.

### Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of US K-12 public school districts, 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.

The following schematic illustrates our general framework for the analysis of school districts, which includes the use of a scorecard. The scorecard-indicated outcome is not expected to match the actual rating for each issuer. For more information, see the "Other considerations" and "Limitations" sections.

Exhibit 1  
Illustration of the US K-12 public school districts methodology framework



\* This factor has no sub-factors.

<sup>∞</sup> 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.

<sup>†</sup> 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 K-12 public school districts 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 K-12 public school districts scorecard

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
<b>Factor: Economy (30%)</b>									
Resident Income (MHI Adjusted for RPP / US MHI) <sup>[1]</sup>	10%	≥ 120%	100% - 120%	80% - 100%	65% - 80%	50% - 65%	35% - 50%	20% - 35%	< 20%
Full Value per Capita (Full Valuation of the Tax Base / Population) <sup>[2]</sup>	10%	≥ \$180,000	\$100,000 - \$180,000	\$60,000 - \$100,000	\$40,000 - \$60,000	\$25,000 - \$40,000	\$15,000 - \$25,000	\$9,000 - \$15,000	< \$9,000
Enrollment Trend (Three-Year CAGR in Enrollment) <sup>[3]</sup>	10%	2% - 4%	0% - 2% or > 4%	(2)% - 0%	(5)% - (2)%	(8)% - (5)%	(11)% - (8)%	(14)% - (11)%	< (14)%
<b>Factor: Financial Performance (30%)</b>									
Available Fund Balance Ratio (Available Fund Balance / Operating Revenue) <sup>[4]</sup>	20%	≥ 25%	17.5% - 25%	10% - 17.5%	5% - 10%	0% - 5%	(5)% - 0%	(10)% - (5)%	< (10)%
Net Cash Ratio (Net Cash / Operating Revenue) <sup>[5]</sup>	10%	≥ 25%	17.5% - 25%	10% - 17.5%	5% - 10%	0% - 5%	(5)% - 0%	(10)% - (5)%	< (10)%

Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
<b>Factor: Institutional Framework (10%)</b>								
Locally Determined Revenue Framework: The state allows the bulk of the school district's operating revenue to be determined at the local level.	The bulk of operating revenue is subject only to the approval of the school district board.	The bulk of operating revenue is subject to the approval of local voters or another local government; and school district requests for revenue increases are regularly approved; or there is room under any limitations in the local tax rate or local levy amount that apply to the bulk of operating revenue.	The bulk of operating revenue is subject to the approval of local voters or another local government; and school district requests for revenue increases are sometimes approved; or there is limited room under any limitations in the local tax rate or local levy amount that apply to the bulk of operating revenue.	The bulk of operating revenue is subject to the approval of local voters or another local government; and school district requests for revenue increases are rarely approved; or there is no room under any limitations in the local tax rate or local levy amount that apply to the bulk of operating revenue.	Not applicable.	Not applicable.	Not applicable.	Not applicable.
State-Determined Revenue Framework: The state determines the bulk of the school district's operating revenue, which is generated from state or local sources.	The state provides or allows for regular, sizable increases to the bulk of the school district's revenue; the state never decreases, holds flat or delays the school district's revenue; and the school district can generate meaningful additional locally determined operating revenue.	The state provides or allows for regular, predictable increases to the bulk of the school district's revenue; and the school district can generate meaningful additional locally determined operating revenue.	The state provides or allows for increases to the bulk of the school district's revenue, although the timing or amount of the increases may vary or the state sometimes holds this revenue flat, modestly reduces this revenue or occasionally delays disbursements; and the school district can generate meaningful additional locally determined operating revenue.	The state provides or allows for increases to the bulk of the school district's revenue, although the timing or amount of the increases may vary or the state sometimes holds this revenue flat, modestly reduces this revenue or occasionally delays disbursements; or the school district cannot generate meaningful additional locally determined operating revenue.	The state rarely provides or allows for increases to the bulk of the school district's revenue, sometimes reduces revenue without advance notice or often delays disbursements for prolonged periods.	The state does not provide or allow for increases to the bulk of the school district's revenue and frequently reduces revenue without advance notice or delays disbursements for more than one fiscal year.	Not applicable.	Not applicable.

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
<b>Factor: Leverage (30%)</b>									
Long-term Liabilities Ratio (Debt + Adjusted Net Pension Liabilities + Adjusted Net Other Post Employment Benefits) / Operating Revenue) <sup>[6]</sup>	20%	≤ 125%	125% - 250%	250% - 400%	400% - 550%	550% - 700%	700% - 850%	850% - 1,000%	> 1,000%
Fixed-costs Ratio (Adjusted Fixed Costs / Operating Revenue) <sup>[7]</sup>	10%	≤ 15%	15% - 20%	20% - 25%	25% - 30%	30% - 35%	35% - 45%	45% - 55%	> 55%
<b>Preliminary outcome</b>									
<b>Notching factors</b>									
<b>Additional Strength in Local Resources</b>									
0 to +2									
<b>Limited Scale of Operations</b>									
-1 to 0									
<b>Weak Financial Reporting</b>									
-2 to 0									
<b>Potential Cost Shift to or from the State</b>									
-1 to +1									
<b>Potential for Significant Change in Leverage</b>									
-2 to +1.5									
<b>Scorecard-Indicated outcome</b>									

[1] For the linear scoring scale, the Aaa endpoint value is 200%. A value of 200% or better equates to a numeric score of 0.5. The Ca endpoint value is 10%. A value of 10% or worse equates to a numeric score of 20.5.

[2] For the linear scoring scale, the Aaa endpoint value is \$400,000. A value of \$400,000 or better equates to a numeric score of 0.5. The Ca endpoint value is \$7,500. A value of \$7,500 or worse equates to a numeric score of 20.5.

[3] The Aaa category has a V-shaped linear scoring scale, with 3% as the best possible score. A value of 2% equates to a numeric score of 1.5. A value of 3% equates to a numeric score of 0.5. A value of 4% equates to a numeric score of 1.5. A value of 6% or higher equates to a numeric score of 4.5. The Ca endpoint value is (17)%. A value of (17)% or worse equates to a numeric score of 20.5.

[4] For the linear scoring scale, the Aaa endpoint value is 50%. A value of 50% or better equates to a numeric score of 0.5. The Ca endpoint value is (17.5)%. A value of (17.5)% or worse equates to a numeric score of 20.5.

[5] For the linear scoring scale, the Aaa endpoint value is 50%. A value of 50% or better equates to a numeric score of 0.5. The Ca endpoint value is (17.5)%. A value of (17.5)% or worse equates to a numeric score of 20.5.

[6] For the linear scoring scale, the Aaa endpoint value is 0%. A value of 0% or better equates to a numeric score of 0.5. The Ca endpoint value is 1,250%. A value of 1,250% or worse equates to a numeric score of 20.5.

[7] For the linear scoring scale, the Aaa endpoint value is 0%. A value of 0% or better equates to a numeric score of 0.5. The Ca endpoint value is 65%. A value of 65% or worse equates to a numeric score of 20.5.

Source: Moody's Ratings

## Sector overview

In the US, a public school district is typically a governmental entity that has taxing authority and provides elementary or secondary school education within a defined geographic boundary. K-12 education is a primary mission of state government; most states delegate this responsibility to local school districts while mandating or strongly influencing their school districts' curriculum, revenue-raising ability and spending priorities.

Although school districts are typically autonomous, their institutional frameworks are established and defined by the state's constitution, laws or court decisions. Hawaii is an exception. It provides K-12 education directly and has no local school districts. In some other states, K-12 education is generally provided by departments of cities or counties rather than by stand-alone school districts. School district operating revenue is typically a combination of state aid and locally sourced revenue.

Some of the school districts that are rated using this methodology provide education but do not have taxing authority. They instead receive all of their operating revenue from other local governments or the state.

## 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: Economy (30% weight)

#### Why it matters

A school district's economy provides important indications of the school district's capacity to generate revenue at the local level.

This factor comprises three quantitative sub-factors:

*Resident Income: Median Household Income (MHI) Adjusted for Regional Price Parity (RPP) / US MHI*

The ratio of adjusted MHI of a school district to the MHI of the US provides an indication of the relative strength of a school district's capacity to generate revenue at the local level. A community with relatively high MHI usually has a strong economy and capacity to fund the school district through local revenue sources, including property taxes. Higher-income communities also support growth in the commercial and service sectors of the local economy.

We use MHI to compare resident income across school districts because this statistic includes the income of all residents of a housing unit regardless of relationship, including families, single persons living alone and unrelated roommates. Adjusting MHI for RPP is important because it allows for comparability across the US by adjusting for regional differences in the cost of living. RPP compares the average prices paid by consumers in a region of the US to the national average.

*Full Value per Capita: Full Valuation of the Tax Base / Population*

The ratio of the full valuation of the property tax base to the population of the school district provides another indication of the relative strength of a school district's capacity to generate revenue, but from a different perspective. Ad valorem property taxes are a key revenue source for many school districts. This ratio is an important indicator of a school district's capacity to generate revenue to the extent it can levy taxes on real estate values, including the value of properties that may augment the tax base without adding to costs associated with student enrollment, such as vacation homes and commercial and industrial properties.

*Enrollment Trend: Three-Year Compound Annual Growth Rate (CAGR) in Enrollment*

The trend in student enrollment typically indicates a school district's ability to attract families with school-aged children. Operating revenue for most school districts is directly or indirectly tied to enrollment. The student enrollment trend may indirectly influence a community's willingness to support a school system with tax or other revenue.

Moderately increasing enrollment is an indicator of credit strength. School districts with moderate enrollment growth usually benefit from strong local support for the funding of school programs. Stable enrollment is also an indicator of credit strength, although to a lesser degree, because it provides predictability in operating budgeting and long-term capital planning.

Rapid enrollment growth sometimes contributes to financial or operating challenges. For example, steep increases in enrollment may strain a school district's budget, require the use of cash on hand to pay for new services or require debt issuance to build new classrooms to quickly accommodate a rising number of students. Expenditures may begin to increase before a school district realizes the revenue growth that typically follows a rapid increase in enrollment.

Steep enrollment declines can drive credit deterioration if revenue stagnates or declines at a faster pace than the school district can reduce expenditures, especially fixed costs. Because enrollment figures are incorporated into most state funding formulas, negative enrollment trends result in funding declines for many school districts. Some school districts have the legal ability to make up lost state revenue by raising local taxes; however, with declining enrollment, a school district may have a smaller population to tax or may have weaker local political support for funding K-12 education.

#### How we assess it for the scorecard

Scoring for this factor is based on three quantitative sub-factors: Resident Income, Full Value per Capita and Enrollment Trend.

*Resident Income: Median Household Income (MHI) Adjusted for Regional Price Parity (RPP) / US MHI*

The numerator is the MHI of a school district, adjusted for RPP in the school district's metropolitan statistical area (MSA). For school districts outside of an MSA, we adjust based on the respective state's statewide non-MSA RPP. The denominator is US MHI. Where available, we use the American Community Survey (ACS) from the US Census Bureau or any successor report as our source of MHI data. Where school district data is not available, we typically use the relevant county or city MHI data. The US Bureau of Economic Analysis is typically our source for RPP data.

*Full Value per Capita: Full Valuation of the Tax Base / Population*

The numerator is the full market valuation of taxable property in the school district, and the denominator is the population of the school district.

For the numerator, we use the full market valuation reported by each school district or by the state or local government in which the school district is located. Full market valuation is often calculated as a multiple of assessed value or of the book value of properties in a school district, but calculation methods vary by state. For the denominator, if a school district's population is not reported publicly, we typically use the population of the relevant municipality(ies) or an applicable portion thereof.

*Enrollment Trend: Three-Year Compound Annual Growth Rate (CAGR) in Enrollment*

We use the three-year compound annual growth rate (CAGR) of student enrollment (based on actual student headcount). For school districts that no longer directly educate students but have debt outstanding, the enrollment trend is zero. For school districts that operate charter schools, we typically include student enrollment at these dependent charter schools. For school districts with charter schools within their geographic boundaries that operate independently of the school districts, we typically exclude student enrollment at charter schools.

We use data published by the state, where available, or data from the issuer if state data are unavailable. A school district with moderate growth typically receives a higher score for this sub-factor than a school district with either decreasing enrollment or steep increases in enrollment.

### Factor: Financial Performance (30% weight)

#### Why it matters

The financial performance of a school district is important because it greatly influences the school district's ability to meet existing financial obligations and its flexibility to adjust to new obligations or unexpected contingencies, such as unanticipated revenue shortfalls or cost increases.



This factor comprises two quantitative sub-factors:

*Available Fund Balance Ratio: Available Fund Balance / Operating Revenue*

The ratio of available fund balance to operating revenue provides a highly valuable indication of whether a school district's resources would be sufficient to bridge temporary budget imbalances. A school district's available fund balance represents the resources expected to be available to fund operating needs and unforeseen contingencies, including, for example, stress from a steep change in enrollment. The available fund balance includes cash as well as receivables, payables and other current assets and liabilities that are likely to become cash inflows or outflows in the short term. Comparing available fund balance to operating revenue provides insights into the strength of resources relative to the scale of the school district's operations.

*Net Cash Ratio: Net Cash / Operating Revenue*

While the available fund balance and net cash amounts of a school district are usually related, the ratio of net cash to operating revenue provides another important perspective into financial flexibility. Net cash is a school district's most readily available liquid resource. Accruals can cause the two measures to diverge, because the available fund balance reflects receivables, payables, and other current assets and liabilities that are not incorporated into net cash. For example, a large receivable for taxes or state aid could lead to a high available fund balance position, but the school district could have a weak cash position; in such cases, the school district's net cash position may provide a better indicator of its immediate financial flexibility. Alternatively, a school district could have a high net cash position because it has deferred certain expenditures into the next fiscal year. In this case, its lower available fund balance reflects the payable that will eventually reduce the net cash position.

#### **How we assess it for the scorecard**

Scoring for this factor is based on two quantitative sub-factors: Available Balance Ratio and Net Cash Ratio.

For the Financial Performance sub-factors, we include amounts related to charter schools where those schools are operationally dependent on the school district. We exclude amounts related to operationally independent charter schools where those schools are either not included in the school district's financial statements or are presented separately from the school district's operating funds (e.g., as a component unit). Where charter schools are operationally independent but their financials are embedded in those of the school district, we typically include amounts related to charter schools in the metrics, and where we consider these amounts to be material, we typically assess the impact qualitatively.

*Available Fund Balance Ratio: Available Fund Balance / Operating Revenue*

The numerator is the school district's available fund balance, which equals operating fund assets minus operating fund liabilities, adjusted for unavailable portions of a fund's total fund balance. We also adjust the available fund balance for near-term non-operating obligations. The denominator is operating revenue.

Available fund balance comprises the net assets of funds that we consider available for operating purposes. This typically comprises the general fund and debt service fund, and may also include certain other funds. We typically include the available portion of the fund balance in these other funds if the majority of the fund's revenue or expenditures are allocated to the provision of core school services and are not restricted for special use. We consider the substance (i.e., the availability of the assets in the fund to the school district) rather than the designation in the financial statement. Typically, however, restricted and non-spendable amounts are excluded.

In our calculation or estimation of available fund balance, we include the committed, assigned and unassigned portions of the fund balances of the applicable funds, and we may also include portions of debt service funds that are in the non-spendable or restricted categories if in our view those amounts are usable for operating purposes. Long-term assets, such as capital assets, and long-term liabilities, such as debt and retirement liabilities, are not included in calculating or estimating available fund balance.

For school districts that do not report financials on a modified accrual basis, we cannot calculate or estimate available fund balance. In these cases, scoring for this sub-factor is based on net cash as a proxy for available fund balance. For these school districts, we also apply downward notching for weak financial reporting, as described in the "Notching factors" section.

The ratio's denominator is the total annual revenue of funds that we consider to be operating funds. We typically include revenue from asset sales and grants in operating revenue if that revenue is reported in an operating fund. Examples of revenue that we exclude from our calculation or estimation of operating revenue include proceeds from the issuance of long-term bonds or short-term notes.

*Net Cash Ratio: Net Cash / Operating Revenue*

The numerator is net cash (cash and liquid investments in operating funds minus short-term debt issued for operations and maturing within one year, such as cash flow notes, tax anticipation notes or state aid anticipation notes). The denominator is operating revenue.

### **Factor: Institutional Framework (10% weight)**

#### **Why it matters**

A school district's institutional framework is important because it prescribes how the bulk of a school district's operating revenue is determined. This framework affects a school district's ability to match recurring revenues with operating expenditures. School districts' operating expenditures typically include the following types of core, recurring costs: salaries and benefits for instructional and support staff, routine operating and maintenance costs and debt service. Examples of nonoperating expenses include spending on capital projects.

A school district's revenue framework is established by its state. Some states give all or some of their local communities broad latitude in determining the bulk of school district operating revenue. For these school districts, operating revenue typically comes from property taxes, which are subject to the approval of the local school board, the board of another local government or local voters. Nonetheless, local revenue may be subject to local tax rate caps or levy limits. Other forms of local revenue include sales taxes, income taxes and various fees, although these are less common.

Other states give local communities limited ability to determine the bulk of school district operating revenue. For these school districts, operating revenue typically comes from a mix of state aid and local taxes. State aid to school districts is essentially a transfer payment from the state government. For school districts in these states, even if local property taxes represent the bulk of operating revenue, the state largely or completely determines the amount of local taxes the school districts may levy. In stipulating the mix of state and local funding for local districts, states often employ formulas that consider enrollment, local resources, student needs and other demographic considerations.

In one common type of framework in which the state determines the bulk of a school district's operating revenue, the state requires school districts to levy taxes at a specific rate (also called a mill rate) to generate revenue toward a state-established per pupil amount. State aid makes up the difference, if any, between the locally generated revenue and the per pupil amount.

In most states, even where the state determines the bulk of operating revenue, school districts usually have some ability to generate supplemental local revenue, subject to local voter approval, tax rate caps, levy limits or established per pupil amounts. In other states, the state determines the bulk of operating revenue and does not allow the school district the ability to generate any significant supplemental operating revenue.

In some cases (e.g., certain special education and vocational-technical entities), school districts have no direct taxation power. Instead, the main local source of revenue is a tuition-like charge to the towns or school districts of origin of the students served.

#### **How we assess it for the scorecard**

In our assessment of this qualitative factor, we consider whether the state allows the bulk of a school district's operating revenue to be determined at the local level or if the state itself determines the bulk of a school district's operating revenue. We also consider the limits and hurdles imposed on the school district's ability to raise revenue. Most school districts in a given state typically receive the same score for this factor, except where the revenue framework of some school districts in the state is materially different from others.

If the state allows the bulk of the school district operating revenue to be determined at the local level, we consider whether revenue increases are subject only to the approval of the school district board, or require the approval of local voters or another local government. If approval is required by local voters or the board of another local government, we consider how regularly such requests are approved. We also consider the extent of the limitations on the school district's ability to raise local revenue absent such approval.

If the state determines the bulk of a school district's operating revenue, we consider the extent to which the state provides or allows for regular revenue increases. This consideration applies whether the revenue is generated from state or local sources. We also assess the state's track record of timely revenue disbursements, if applicable. We also consider whether the state allows the school district to supplement the bulk of its state-determined operating revenue with locally determined operating revenue. Scoring is based on historical trends and is also typically forward-looking. We may incorporate our expectations for future funding into our assessment, based on our knowledge of the state's financial trajectory and budgetary priorities. We typically perform this assessment on a statewide basis, unless a potential state action affects only a subset of districts, and we typically conduct the assessment once a year.

### Factor: Leverage (30% weight)

#### Why it matters

Leverage measures provide important indications of a school district's capacity to invest in capital assets and pay annual fixed costs, including debt service, while meeting its core responsibility to provide educational services.

Debt, unfunded pension liabilities and unfunded other post-employment benefit (OPEB) liabilities represent the primary long-term financial obligations of a school district. OPEBs most often are retiree healthcare benefits. The more leveraged a school district is, the less flexibility it has to meet debt service and other obligations. High and rising fixed debt service and retirement benefit costs can crowd out other operating priorities, reducing a school district's ability to deliver on its core service mission. As a school district's financial capacity to deliver on its core service mission declines, the risk rises that it will default and seek to restructure its debt. High leverage may also diminish a school district's access to credit markets either due to statutory debt limits or a lack of investor willingness to extend credit.

This factor comprises two quantitative sub-factors:

*Long-term Liabilities Ratio: (Debt + Adjusted Net Pension Liabilities + Adjusted Net OPEB Liabilities) / Operating Revenue*

The ratio of debt, adjusted net pension liabilities (ANPL) and adjusted net OPEB liabilities to operating revenue is an important indicator of leverage.

*Fixed-costs Ratio: Adjusted Fixed Costs / Operating Revenue*

The ratio of adjusted fixed costs to operating revenue provides an indication of the financial burden of a school district's debt service, pension and OPEB obligations relative to its operating revenue and, by proxy, of the percentage of revenue that remains available for the school district to provide core educational services.

#### How we assess it for the scorecard

Scoring for this factor is based on two quantitative sub-factors: the Long-term Liabilities Ratio and the Fixed-costs Ratio.

*Long-term Liabilities Ratio: (Debt + Adjusted Net Pension Liabilities + Adjusted Net OPEB Liabilities) / Operating Revenue*

The numerator is the sum of a school district's direct gross debt outstanding, ANPL and adjusted net OPEB liabilities. The denominator is operating revenue.

A school district's direct gross debt includes its long-term bonds and other forms of long-term debt, including general obligation bonds; general promises to pay; lease-backed, appropriation and moral obligations; bond anticipation notes; special tax debt; loans from the state; and leases classified as debt under Generally Accepted Accounting Principles (GAAP). It includes all forms of debt that are supported by state aid or other statewide revenues unless the debt appears as a liability on the state or another government's long-term balance sheet. A school district's direct gross debt also includes any debt of another entity for which it has provided a guarantee. Direct gross debt includes debt that is supported by a dedicated revenue stream (self-supporting debt) if this debt is ultimately the obligation of the school district. Direct gross debt excludes short-term cash flow notes that are considered liabilities when calculating available fund balance but includes short-term debt that does not reduce available fund balance, such as bond anticipation notes as well as the current portion of long-term debt.

For a description of how we calculate or estimate ANPL and adjusted net OPEB liabilities, please see our cross-sector methodology that describes our adjustments to pension and OPEB data reported by Governmental Accounting Standards Board (GASB) issuers.<sup>2</sup>

### Fixed-costs Ratio: Adjusted Fixed Costs / Operating Revenue

For any period, the numerator is the sum of a school district's implied debt service, its pension tread water indicator, and its OPEB contributions. The denominator is operating revenue. The three components of the numerator are described below.

#### Implied debt service

A school district's implied debt service represents the annual cost to amortize its long-term debt over 20 years with level payments. We use a 20-year amortization period to reflect the typical composite useful life of capital assets financed by school districts, which range from assets with long expected useful lives, such as school buildings, to assets with short useful lives, such as school buses and technology improvements. The 20-year amortization period also provides a general composite of the weighted average maturity of a school district's debt outstanding.

We use a school district's implied debt service rather than its actual debt service as an input to the fixed-costs ratio for two key reasons. First, implied debt service provides a comparable measure of annual debt carrying costs across school districts. Using actual debt service in the ratio could have the effect of rewarding the backloading of debt amortization — in these cases, the current year ratio would understate the school district's growing fixed cost burden. Using actual debt service could also penalize more rapid debt amortization, because the current fixed-costs ratio would appear relatively weak. Second, implied debt service avoids potentially misleading volatility in actual debt service payments that can be caused by refunding (i.e., debt refinancing) activity.

We calculate or estimate implied debt service in several steps (see the exhibit below):

- » **Step 1:** We assign a common implied interest rate to all school districts, approximately annually. We base the implied interest rate each year upon a 10-year rolling average of a high-grade municipal bond index, such as the Bond Buyer 20-bond GO index or a comparable index, as of the end of the prior calendar year. (see line A).
- » **Step 2:** A level-dollar amortization divisor is calculated, using a 20-year period and the implied interest rate calculated in Step 1 (see line B).
- » **Step 3:** The school district's debt outstanding at the beginning of the fiscal year (i.e., its outstanding debt at the end of the prior year) is divided by the amortization divisor calculated in Step 2. The result is the implied debt service (see lines C and D).

#### Exhibit 3

##### Example calculation of implied debt service

Line item	Example: School district information	Value	Typical source
A	Implied interest rate (10-year rolling average as of end of prior calendar year)	3.90%	Bond Buyer 20-bond GO or comparable index
B	Amortization divisor	13.716	$=\{1 - [1 / (1 + A)^{20}]\} / A$
C	Debt outstanding, end of prior fiscal year	\$1,000,000	Audited financial statements
D	Implied debt service	\$72,910	$= C / B$

Source: Moody's Ratings

#### Pension tread water indicator

The pension tread water indicator represents our estimate of the pension contribution necessary to prevent reported unfunded pension liabilities from growing, year over year, in nominal dollars, if all actuarial assumptions are met.<sup>3</sup>

#### OPEB contributions

The input to the fixed-costs ratio for OPEBs is a school district's actual contribution in a given period, typically the fiscal year. In the event a school district issues pension or OPEB funding bonds, the deposit of the proceeds into a retirement system or trust is not considered a contribution in our analysis of fixed costs, nor in our analysis of pension contributions relative to the pension tread water indicator.

## Notching factors

The scorecard includes notching factors. Our assessment of these notching factors may result in upward or downward adjustments to the preliminary outcome that results from the four weighted scorecard factors. Adjustments may be made in half-notch or whole-notch increments based on the notching factors listed in the table below.

In aggregate, the notching factors can result in a total of up to four and one-half upward notches or up to six downward notches from the preliminary outcome to arrive at the scorecard-indicated outcome. In cases where we consider that the credit weakness or credit strength represented by a notching factor, or by these factors in aggregate, is greater than the scorecard range, we incorporate this view into the school district's rating, which may be different from the scorecard-indicated outcome.

Exhibit 4

### Notching factor table

Notching factor	Notching range
Additional Strength in Local Resources	0 to +2
Limited Scale of Operations	-1 to 0
Weak Financial Reporting	-2 to 0
Potential Cost Shift to or from the State	-1 to +1
Potential for Significant Change in Leverage	-2 to +1.5

Source: Moody's Ratings

### Additional Strength in Local Resources

#### Why it matters

For some school districts, very high aggregate property values or extremely high resident income levels may provide credit strength that is not fully reflected in the Resident Income or Full Value per Capita sub-factors. School districts with very high property values have greater revenue-generating capacity than school districts with lower property values but similar household income levels. For example, the values of second homes and commercial properties augment the tax base without associated student enrollment, a strength that may not be indicated by adjusted MHI.

#### How we assess it for the scorecard

In assessing this notching factor, we consider the following two metrics. Notching for this factor is cumulative. Notching for this factor is only upward because extraordinarily weak adjusted MHI and Full Value per Capita are overweighted in the scorecard.<sup>4</sup>

- » **Very high full value per capita.** We use the Full Value per Capita sub-factor. This notching factor results in an adjustment of up to one upward notch for school districts whose ratios are high relative to peers. We apply a one-half upward notch if the full value per capita is \$400,000 to \$800,000 and one upward notch if it is greater than \$800,000.
- » **Extremely high adjusted MHI.** We use the Resident Income sub-factor (the ratio of MHI (adjusted for RPP) to US MHI). We apply a one-half upward notch if the value is 200% to 250%. We apply one upward notch if the value is greater than 250%.

### Limited Scale of Operations

#### Why it matters

Small scale is important because school districts with very small operating budgets are at greater risk of a budgetary disruption than larger school districts, which have greater economies of scale. Event risks, such as an unexpected capital need, an adverse litigation outcome or the transfer of a small number of students out of the school district, can disrupt the budget of a school district whose scale of operations is limited.

#### How we assess it for the scorecard

Scale is assessed using total operating revenue. This notching factor results in a downward adjustment of one-half notch for school districts whose operating revenue is between \$4 million and \$8 million and one notch for school districts whose operating revenue is less than \$4 million. This notching factor does not result in upward notching because large size on its own does not reduce credit risk.

## Weak Financial Reporting

### Why it matters

Where there are weaknesses in the quality of financial statements, ratios may not accurately reflect all elements of the school district's financial position, potentially understating risk.

### How we assess it for the scorecard

Notching for this factor is applied cumulatively as explained below and is capped at two downward notches.

For school districts that do not report non-cash assets and liabilities including receivables and payables, typically because they report on a cash basis, we apply one downward notch to reflect the risk that net cash may not be an accurate representation of the school district's available fund balance.

For school districts whose financial statements do not comply with GASB rules for the reporting of pension and OPEB liabilities, we may use estimates for certain pension and OPEB characteristics. We typically estimate pension liabilities based on partial information where we have data on one pension plan but not on the issuer's other plans. In such cases, we apply a one-half downward notch to reflect that adjusted liability values may be an imprecise reflection of the issuer's actual liabilities. We typically estimate OPEB liabilities based on partial information where we have data on one OPEB plan but not on the issuer's other plans, and in such cases, we apply a one-half downward notch. We typically use a value of zero for a missing OPEB liability input where a school district does not report this information, and in such cases, we typically apply a one-half downward notch for weak financial reporting.

For school districts whose financial statements do not comply with GASB rules for the reporting of pension costs, we may not have sufficient information to calculate or estimate a pension tread water indicator. In these cases, we use actual pension contributions to calculate the Fixed-costs Ratio sub-factor, and we apply a one-half downward notch to reflect that actual pension contributions may be an imprecise reflection of pension funding needs. Pension system financial reporting, which we often rely on to calculate the tread water indicator, can lag behind a school district's own financial reporting. In these cases, we may rely on a fixed-costs ratio that incorporates the tread water indicator from the prior year, but would not apply downward notching. We typically use a value of zero for a missing OPEB contribution input where a school district provides OPEB benefits but does not report this information, and then apply a one-half downward notch for weak financial reporting.

For school districts that do not report gross capital asset values and depreciation, we do not have sufficient information to assess the Potential for Significant Change in Leverage notching factor, and we apply a one-half downward notch.

## Potential Cost Shift to or from the State

### Why it matters

In some cases, the state has recently taken or we expect that it may take future action to shift certain costs to a school district or may absorb costs on its behalf, detracting from or adding to the school district's financial flexibility. These shifts can affect our view of a school district's credit strength, even where not yet reflected in scorecard metrics.

A state is more likely to pass down costs during times of state budgetary stress, and is more likely to provide additional funding when it is in a relatively strong credit position or has a political incentive to support certain local programs. For example, a state could shift pension costs to school districts by requiring them to pay a higher proportion of annual pension contributions. As another example, a state could appropriate less money than in previous years for capital work or for certain forms of state aid. Conversely, states on occasion may take on a greater proportion of pension costs or capital funding, or provide additional aid.

### How we assess it for the scorecard

In assessing the likelihood of a state shifting material costs toward or away from school districts in the state, we consider the state's budgetary position, spending priorities and political incentives to provide or reduce financial support for education and school districts. We also consider whether any shift in material costs is likely to be temporary or long-lasting, and whether it indicates a secular trend. We typically perform this assessment on a statewide basis, unless a potential state action affects only a subset of districts, and we typically conduct the assessment once a year.

This notching factor may result in a downward or upward adjustment of up to one notch. Where notching is applied, it is typically applied to all of a state's school districts that we expect will be affected by the cost shift.

## Potential for Significant Change in Leverage

### Why it matters

The potential for a significant increase in leverage or fixed costs due to pension asset risk, slow or negative pension amortization or unmet capital needs can weaken a school district's ability to meet its obligations. These forward-looking risks may not be fully incorporated into the preliminary scorecard outcome. Alternatively, some school districts have comparatively much lower exposure to a significant change in leverage because they have no pension asset risk or have minimally depreciated capital assets.

### How we assess it for the scorecard

Our assessment is based on the following metrics, if data are available. If data for one or more of the following metrics are not available, we would apply no notching based on the relevant metric in this notching factor and score this notching factor without those inputs. In addition, we would apply the Weak Financial Reporting notching factor, discussed above. Notching for this factor is cumulative and is capped at two downward notches or one and one-half upward notches.

- » **Pension asset shock indicator (PASI).** We use the pension asset shock indicator to assess a school district's exposure to potential pension system investment losses.<sup>5</sup> While some school districts have their own pension system, more typically, school districts participate in a larger pension system, often statewide. The PASI is expressed as a probability. It represents the likelihood that a school district's pension system(s) will experience investment losses in a given year that amount to 25% or more of the school district's revenue. If a school district has a PASI of 18%-23%, we notch downward by one-half notch. If a school district has a PASI of 23% or higher, we apply one downward notch. While dependent on the combination of inputs, a PASI of 18% can translate to roughly a 10% likelihood of losses amounting to 50% of a sponsoring government's revenue. A PASI of 23% can translate to a roughly 15% likelihood of losses amounting to 50% of a sponsoring government's revenue, and a 5% likelihood of losses amounting to 100% of revenue.
- » **Pension tread water gap.** The pension tread water gap reflects the difference between a school district's pension tread water indicator (or contribution level)<sup>6</sup> and its actual pension contributions. To arrive at the pension tread water gap, we use a ratio; the numerator is the pension tread water indicator minus the school district's actual pension contributions in the most recent year, and the denominator is operating revenue. If a school district's tread water gap is equal to 5%-10% of its operating revenue, we notch downward by one-half notch. We notch downward an additional one-half notch for each five-percentage-point increase in the gap (i.e., 10%-15%, 15%-20%, 20% or higher), up to a maximum of two downward notches.
- » **Defined contribution plan.** If the school district does not have a defined benefit plan and instead has a defined contribution or similar plan, we apply one upward notch to reflect the lack of exposure to pension risk.
- » **Capital asset depreciation ratio.** We use a ratio of accumulated depreciation to gross depreciable assets in a given year. If the ratio is lower than 25%, we notch upward by one-half notch to reflect the school district's very low level of capital asset depreciation. If the ratio is equal to 25%-65%, we do not apply notching. If the ratio is 65% or higher, we notch downward by one-half notch. A ratio above 65% indicates that reinvestment in capital assets (excluding non-depreciable assets such as land and construction-in-progress) is lagging behind depreciation. A ratio above 65% is also a signal of likely future debt issuance.

Exhibit 5

**Notching factor: Potential for Significant Change in Leverage**

Notching metric	Level of notching						
	+1	+0.5	0	-0.5	-1.0	-1.5	-2.0
Pension Asset Shock Indicator (PASI)	n/a	n/a	< 18%	18% - 23%	≥ 23%	n/a	n/a
Pension Tread Water Gap	n/a	n/a	< 5%	5% - 10%	10% - 15%	15% - 20%	≥ 20%
Defined Contribution Plan	Yes	n/a	n/a	n/a	n/a	n/a	n/a
Capital Asset Depreciation Ratio	n/a	< 25%	25% - 65%	≥ 65%	n/a	n/a	n/a
						Sub-total before cap	+1.5 to -3.5
						<b>Total factor notching</b>	<b>+1.5 to -2</b>

Source: Moody's Ratings

**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 financial controls and the quality of financial reporting; the quality and experience of management; assessments of governance as well as environmental and social 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 (IPs), 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 IPs are inputs to credit ratings. For more information, please see our methodology that describes our general principles for assessing ESG risks.<sup>7</sup>

Environmental considerations, such as exposure to natural disaster risk, and social considerations, such as the risk of teacher strikes, may influence credit strength. Weak or opaque governance can negatively affect a school district's performance, which can lead to an exodus of students, reduce taxpayer willingness to support the school district's revenue needs, or even lead to a takeover of the school district by the state. Conversely, very strong governance can lead to educational outcomes that foster enrollment growth or to effective measures that mitigate certain kinds of credit-negative exposures.

**Liquidity**

Liquidity is an important rating consideration for all school districts, and extremely weak liquidity can heavily affect ratings in many cases. However, the relative strength or weakness of liquidity may not have a substantial impact in discriminating between two issuers with an otherwise similar credit profile. Liquidity can be particularly important where issuers have large short-term demands on liquidity, for example where tax revenues are highly seasonal. While liquidity is specifically considered in the scorecard, when it is very weak, near-term default risk may be elevated and the impact liquidity has on ratings may be much greater than the standard scorecard weight would imply. We form an opinion on likely near-term liquidity requirements from the perspective of both sources and uses of



cash. In our forward view of liquidity, we typically consider the school district's own sources of liquidity as well as its market access. In our assessment, we may use scenario analysis, including a scenario where market access is lost.

In addition, cash flow or deficit financing could indicate an unbalanced budget or financial stress. For distressed school districts, access to financing from the state, public markets or banks could be a stopgap to defer a liquidity crisis. The loss of such market access could be a prelude to debt restructuring and possibly a default.

### **Economic concentration**

Economic concentration is an important consideration because school districts that rely heavily on a single taxpayer or industry are particularly vulnerable to revenue losses, especially if the industry is weak or volatile. Sometimes these losses are sudden, such as when a large local employer closes on short notice.

### **Other demographic considerations**

While the scorecard includes some demographic indicators, additional demographic considerations that, where material, could impact credit strength include the following: the size or age of the population, the percentage of school-age children who attend the public school district, changes in median home value, the proportion of property tax appeals or delinquencies outstanding, and changes in the local workforce or in employment opportunities.

For example, new home construction or business growth can improve a school district's revenue-generating capacity. As another example, a large university's student population may depress a community's MHI, but the university may lend stability to the local economy. In contrast, unusually high unemployment or poverty levels strain a school district's capacity to generate local revenue. If such school districts are highly dependent on state funding, they are especially vulnerable to any state funding cuts.

### **Competitive considerations**

Some school districts are exposed to loss of enrollment arising from competition from other schools in their region, including independent charter schools and open-enrollment public schools. In other cases, a school district may be required to fund charter schools, reducing the school district's financial flexibility.

In addition, some school districts have academic performance measures that result in competitive strengths or weaknesses. For instance, a school district with favorable standardized test scores, high-school graduation rates or state assessment rankings may have strong community support for revenue even if the MHI is relatively low.

### **Local support for public education**

Some school districts have unusually strong or weak local support for public education, evidenced by high or low voter support for school budgets, bond referenda or other measures regarding school funding. Such local support is especially important when the bulk of operating revenue is determined locally. Strong local support increases the likelihood that a school district will maintain financial stability, even during a weak state funding environment or when facing other financial challenges. Conversely, weak local support increases vulnerability to such challenges.

### **Unusual strengths or weaknesses related to budgets**

Unusually volatile or unpredictable revenue sources or expenditures can result in budget imbalances and reduce fund balance and cash reserve stability. We may consider recent or expected volatility in revenue or expenditures that is not already captured in the scorecard. We may also qualitatively consider a school district's financial flexibility to the extent that it is not captured in the scorecard.

We also typically consider the organization's internal reserves where they are not incorporated in the scorecard-indicated outcome, material in size and free from external restrictions. In this assessment, we typically also consider the potential volatility of those reserves, and whether they are intended for non-operating uses.

In addition, revenue or expenditure timing issues may overstate or understate fund balance or cash at year end, and we may consider the issuer's financial position at other points of the year. We also qualitatively assess the extent of pass-through revenue, such as state aid earmarked for a county's schools, that is captured as revenue in scorecard metrics but is not available for primary government activities.

### Management strategy

The quality of management is an important factor supporting a school district's credit strength. Management's track record of adhering to stated plans, commitments and guidelines provides insight into management's likely future performance, including in stressed situations. Management's ability to develop and adhere to budgets that provide for capital investment while managing debt levels and unfunded retirement liabilities is another credit consideration. Also, we consider management decisions that may aggravate or highlight credit weakness, such as deficit financings or heavy reliance on debt issuance that creates substantial exposure to forms of arbitrage risk, such as retirement obligation bonds.

### 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 oversight of 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.

### Extraordinary state support

The circumstances surrounding extraordinary state support for a school district are often very situation-specific and are influenced by a state's commitment to provide ongoing support to a distressed district. In some cases, a state may provide meaningful financial or managerial support to a school district undergoing stress, thereby bolstering a weak fundamental credit profile and materially lowering the risk of a payment default. Conversely, a temporary infusion of state funds may bolster financial performance in the short term but leave the school district exposed to rapid financial deterioration if the state aid does not continue. We typically assess whether the support will be ongoing and sufficient to stabilize the school district. We also consider the associated benefits or risks of dependence on such support.

### Related local governments

In some cases, other governments related to the school district affect the school district's credit strength. The same taxpayers that support the debt and operations of the school district typically also support the debt and operations of overlapping local government entities, such as the city and county in which the school district is located. The operating expenses and the debt, pension and OPEB burdens of these overlapping entities can elevate total tax rates or bills, thus impeding the willingness or ability of the school district to generate additional revenue, even where legally permitted to do so.

In some cases, other local governments related to the school district, such as a city or county, positively affect the school district's credit strength. For example, the local government may provide financial support or shared services to the school district as needed, or on an ongoing basis. In cases where an external government provides or is expected to provide support to a school district, we consider the materiality of the support relative to the school district's need and the likelihood that meaningful support will continue.

Some states have established regional school districts that provide education on behalf of several member towns. Some states also establish specialized regional school districts that provide special education or vocational services to multiple participating districts. Such regional or specialized school districts can face unique risks, such as a dependence on member local governments to levy and collect taxes for a large portion of operating revenue. These school districts can also face the possibility of a change in the proportionate membership of participating jurisdictions or the possibility that a member could discontinue participation in the school district.

### Unusual risk or benefit posed by long-term liabilities

Most school districts issue fixed-rate debt that amortizes over a multi-year period. School districts that have variable-rate debt, debt with bullet maturities or capital appreciation bonds, derivatives such as interest rate swaps or other forms of debt that are subject to remarketing risk may be more exposed to liquidity demands or may require market access for refinancing, which can place downward pressure on credit quality. Liquidity and market access risks can also arise with variable-rate demand obligations and bonds that contain provisions that allow debtholders to put bonds back to the issuer. The potential adverse credit effects of variable-rate demand obligations are assessed in the context of the overall credit profile and circumstances of each issuer.

As an example, some school districts issue debt secured by an annual state apportionment of a percentage or a set amount of total state-wide sales taxes. In these cases, the level of revenue is outside the school district's direct control and depends on total sales taxes

and the timing of the state's transfers to the school district; however, the school district is typically responsible for the payment of the related debt. In addition, some school districts may face material credit risk from certain long-term liabilities that are not debt or pensions, e.g., significant claims and judgments or compensated absences.

In addition to the Leverage sub-factors, we may assess the following debt features, which may strengthen or weaken a school district's overall credit quality, such as the use of derivatives, which may mitigate some risks such as exposure to short-term interest rates, but may entail other risks, such as counterparty exposures and potential collateral posting requirements. In addition, a large amount of short-term notes without sufficient offsetting liquidity can expose a school district to market access risks.

A school district that is rapidly paying off debt with recurring revenue typically has greater financial flexibility and may have a conservative financial policy. Conversely, if a school district's current debt service costs are very high and causing financial stress that is understated by the implied debt service input to the fixed costs ratio, the issuer rating may be lower than the scorecard-indicated outcome.

### **Outsized contingent liability risk**

Contingent liabilities, such as a guarantee to pay another entity's debt or manage the operation of a separate enterprise, even if that enterprise is currently self-supporting, can reduce credit strength. For example, where a school district has not regularly budgeted to pay debt service for an entity whose debt it guaranteed, a sudden call on the guarantee could impact the school district's credit strength. Other examples include a school district's operational exposure to transportation, food service or energy enterprises that are outside the school district's scope of operations. We typically would consider the enterprise's amount of debt, debt structure and legal issues that could limit the flexibility of the school district in the event it had to pay the enterprise's debt or manage its operations.

### **Expected decline or improvement in instrument-level credit quality**

Expectations of a marked decline in credit quality (e.g., debt service coverage) on any debt pledge of a school district could indicate weakening credit quality of the school district itself that is not yet reflected in the scorecard. Conversely, an expected material improvement in instrument-level credit quality might indicate improving credit quality of the issuer. In some cases, there is a material separation between pledged revenue and the issuer's operating funds, e.g., through a special purpose vehicle. In other cases, the transaction structure has an open loop that allows the school district to use excess cash flow after debt service is paid for other needs. In this case, when pledged revenue decreases, operating revenue to the school district would also decrease. Overall, a change in the credit quality of any instrument of a school district could indicate shifts in the credit quality of the school district itself, e.g., through financial or governance ties between the instrument and the school district's overall operational and financial strength.

### **History of missed debt service payments**

A past default on rated or unrated obligations indicates a heightened risk of failure to meet financial obligations, especially if the credit drivers of the default have not been cured. In addition, a history of default can indicate weak or wavering willingness to take necessary steps to avoid a future default. We include in this category missed or materially late payments on any of a school district's long-term bonds or short-term notes reflecting an inability or unwillingness to pay, and we typically include defaults on contingent obligations, such as moral obligations. The more time that has passed since a default, the less heavily we weigh this consideration, provided that the issuer has a subsequent track record of paying debt service on time and in full.

### **Event risk**

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

### **Additional metrics**

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

## 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, 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 school district's financial statements, 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 a school district's performance 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 historical and expected future performance for periods of several years or more.

Metrics that relate to pension and OPEB obligations are calculated based on our cross-sector methodology that describes our adjustments to pension and OPEB data reported by GASB issuers.<sup>8</sup> Financial metrics may incorporate analytical adjustments that are specific to a particular school district.

### 2. Mapping scorecard factors to a numeric score

After estimating or calculating each factor or sub-factor, each outcome is mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa or Ca, also called alpha categories) and to a numeric 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 on the scale below.

Exhibit 6

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

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
1	3	6	9	12	15	18	20

Source: Moody's Ratings

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. As a purely theoretical example, if there were a ratio of revenue to interest for which the Baa range was 50x to 100x, then the numeric score for an issuer with revenue/interest of 99x, relatively strong within this range, would score closer to 7.5, and an issuer with revenue/interest of 51x, relatively weak within this range, would score closer to 10.5. In the text or table footnotes, we define the endpoints 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).

Exhibit 7

#### Ranges of numeric equivalents for quantitative factor and sub-factor scores

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
0.5 - 1.5	1.5 - 4.5	4.5 - 7.5	7.5 - 10.5	10.5 - 13.5	13.5 - 16.5	16.5 - 19.5	19.5 - 20.5

Source: Moody's Ratings

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

The numeric score for each sub-factor (or each factor, when the factor has no sub-factors) is multiplied by the weight for that sub-factor (or factor). A further weighting is then applied by scoring category as shown in the table below.

Exhibit 8

**Weighting by scoring category**

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
1	1	1	1	1	4	8	8

Source: Moody's Ratings

We weight the three lowest scoring categories more heavily than higher scores in this scorecard because a serious weakness in one area often cannot be completely offset by strength in another.

The actual weighting applied to each sub-factor is the product of that sub-factor's standard weighting and its overweighting, divided by the sum of these products for all the sub-factors (an adjustment that brings the sum of all the sub-factor weightings back to 100%).

The numeric score for each sub-factor is multiplied by the adjusted weight for that sub-factor, with the results then summed to produce an aggregate numeric score before notching factors (the preliminary outcome). We then consider whether the preliminary outcome that results from the weighted factors should be notched upward or downward in order to arrive at an aggregate numeric score after notching factors. Numerically, a downward notch adds 1 to the score, and an upward notch subtracts 1 from the score. In aggregate, the notching factors can result in a total of up to four and one-half upward notches or up to six downward notches from the preliminary outcome to arrive at the scorecard-indicated outcome.

The aggregate numeric score before and after notching factors can be mapped to an alphanumeric. For example, an issuer with an aggregate numeric score before notching factors of 11.7 would have a Ba2 preliminary outcome, based on the ranges in the table below. If the combined notching factors totaled two upward notches, the aggregate numeric score after notching factors would be 9.7, which would map to a Baa3 scorecard-indicated outcome.

Exhibit 9

**Scorecard-indicated outcome**

Aggregate numeric score	Scorecard-indicated outcome
$x \leq 1.5$	Aaa
$1.5 < x \leq 2.5$	Aa1
$2.5 < x \leq 3.5$	Aa2
$3.5 < x \leq 4.5$	Aa3
$4.5 < x \leq 5.5$	A1
$5.5 < x \leq 6.5$	A2
$6.5 < x \leq 7.5$	A3
$7.5 < x \leq 8.5$	Baa1
$8.5 < x \leq 9.5$	Baa2
$9.5 < x \leq 10.5$	Baa3
$10.5 < x \leq 11.5$	Ba1
$11.5 < x \leq 12.5$	Ba2
$12.5 < x \leq 13.5$	Ba3
$13.5 < x \leq 14.5$	B1
$14.5 < x \leq 15.5$	B2
$15.5 < x \leq 16.5$	B3
$16.5 < x \leq 17.5$	Caa1
$17.5 < x \leq 18.5$	Caa2
$18.5 < x \leq 19.5$	Caa3
$19.5 < x \leq 20.5$	Ca
$x > 20.5$	C

Source: Moody's Ratings

In general, the scorecard-indicated outcome is oriented to the issuer rating.

**Assigning issuer-level and instrument-level ratings**

After considering the scorecard-indicated outcome, other considerations and relevant cross-sector methodologies, we typically assign an issuer rating to the K-12 public school district.

Individual debt instrument ratings assigned using this methodology for general obligation unlimited tax, general obligation limited tax, general promises to pay; lease and contingent obligations and special tax pledges may be assigned at the same level or higher or lower than the issuer rating. These differences reflect our assessment of differences in expected loss related to an instrument's priority of claim as well as the specific pledge included in the instrument's terms. Broad guidance for decisions on assigning instrument ratings relative to the issuer rating can be found in the appendix. Guidance for rating K-12 short-term debt is provided in our methodologies for short-term obligations, and guidance for the ratings of K-12 long-term debt instruments not discussed in the appendix is provided in the relevant security-specific methodologies.<sup>9</sup>

## Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.<sup>10</sup>

## 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 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 these issuers. 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 issuer's circumstances.

Factors that are outside the scorecard, including those discussed above in the "Other considerations" section, may be important for ratings, and their relative importance may also vary from school district to school district or from instrument to instrument. In addition, certain broad methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.<sup>11</sup> Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers and the assignment of short-term ratings.

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. School districts 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: Assigning instrument ratings for K-12 school districts

In this appendix, we describe our general principles for assessing how an instrument's particular characteristics affect its credit risk, more specifically the instrument's probability of default and loss upon an event of default. Credit risk of individual debt instruments of school districts and their related units may be different from what is reflected in the issuer rating. In this context, related units include entities or sub-districts created to issue debt or debt-like obligations on behalf of a school district.

We also provide guidance for assigning individual debt instrument ratings relative to the issuer rating based on these considerations. Differences, if any, in credit risk among instruments of the same issuer may arise from the specific pledge included in the instrument's terms, the instrument's priority of claim and the nature of the instrument (i.e., whether it is a contingent or a non-contingent obligation). As a result, instrument considerations may lead to an instrument rating at the same level as the issuer rating or the application of upward or downward notches from the issuer rating.

### Analytic elements and why they are important

In this section, we describe some of the analytic elements of the typical structural features of debt instruments in the sector, and why they are important. Individual instruments may include a variety of permutations of these analytic elements. We divide K-12 instruments into three groups of pledges that are typical in the sector: (i) real property-based pledges; (ii) non-contingent general promises to pay and contingent obligations; and (iii) special tax pledges.

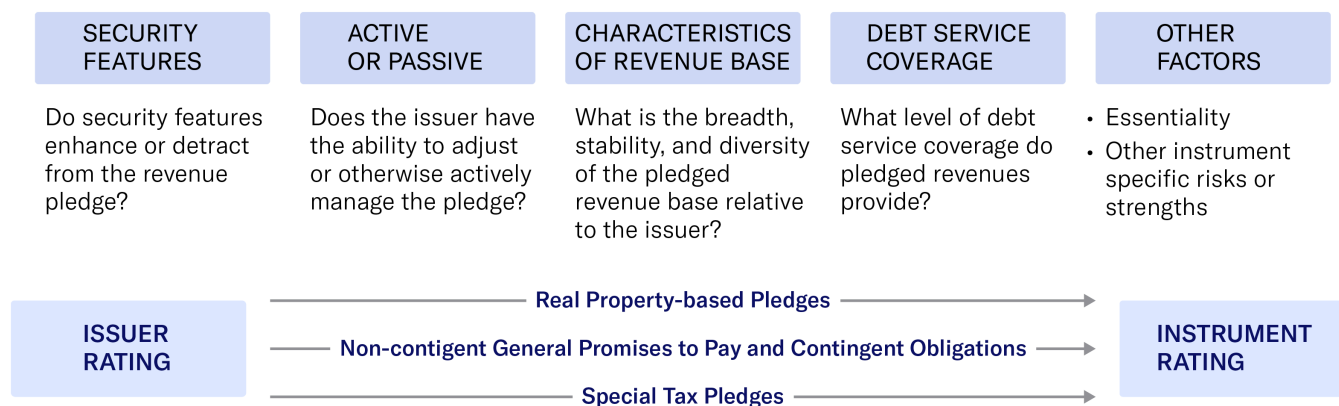
For each instrument type, we evaluate the instrument's security features, including whether the debt obligation is contingent or non-contingent. We also consider whether the pledge, if any, is active or passive. Based on these characteristics, we may also assess the characteristics of the revenue base, debt service coverage and other factors. We consider the aggregate (typically cumulative) effect of these structural analytic elements to arrive at the assigned instrument rating. In most cases, notching for the various analytic elements is cumulative; however, there may be circumstances where one analytic element mitigates or exacerbates the credit effect of another analytic element.

Some instruments may have characteristics of more than one instrument type, and we may consider elements from more than one approach in determining the extent of notching. For example, a K-12 school district may pledge specific special taxes and real property tax for the repayment of a debt issuance. In assigning instrument ratings we also consider the relative risk of a K-12 school district's various types of debt instruments, i.e., any differences in probability of default or loss to creditors in the event of a default, within the context of the issuer's entire debt portfolio. For example, we would consider the relative rating relationship between a contingent obligation and a narrow special tax instrument.

The exhibit below illustrates the general analytical considerations to determine the instrument level assigned relative to the issuer rating.

Exhibit 10

#### General approach for assigning instrument ratings



Source: Moody's Ratings

## Security Features

### *Why it matters*

Security features set the framework for our overall debt instrument analysis because these features may enhance or weaken the instrument's credit risk relative to the credit risk indicated by the issuer rating. Security features include the specific revenue pledge that a school district grants to bondholders.

A fundamental security consideration is whether the pledge is contingent or non-contingent. Contingent obligations are typically weaker than non-contingent obligations, all else being equal (as described below). Contingent debt is an obligation where the stated promise to pay depends on additional action or the availability of the asset. A typical contingency requires a school district to appropriate funds to pay debt service annually; each appropriation renews the pledge for another year. There are other types of contingencies, such as a requirement for a leased asset to remain available for a school district's use or occupancy in order for a school district to remain obligated to make lease payments.<sup>12</sup> Typically, contingent obligations are not considered debt under state statutes, which is often a reason why these instruments are employed; they also do not typically require voter approval. It is important to look through the nominal debt type to the underlying characteristics of the pledge to understand whether it is contingent or non-contingent.

The physical and legal separation of pledged revenue from the issuer's control is another important security feature. This can be accomplished through the combination of a lockbox and a valid security interest, such as a lien that is granted pursuant to statute and that makes holders of the pledge secured creditors. Both are important security features because a lockbox provides physical separation and a security interest provides legal separation through a property interest in pledged revenues. Other securitization or structural features that create physical and legal separation may also achieve the same result, if also combined with a lien.

In the case of a lockbox, funds from tax collections or intergovernmental transfers are transferred directly from a third-party tax collector or grantor to the trustee for the bonds. The lockbox segregates the revenue dedicated to debt service from the issuer's accounts and control. The lockbox feature can lessen the likelihood of default because it creates a separation from the issuer's operations and other funds. When combined with legal separation, a lockbox can also be a positive credit factor in recovery, as described below.

In some states, certain pledges are secured by statute when executed properly. Such statutorily secured debt is reasonably expected to have lower probability of default and higher recovery in an insolvency scenario than unsecured debt. While these structures are largely untested in a default scenario, under federal bankruptcy law secured debtholders have priority over unsecured debtholders and other unsecured creditors in a reorganization. Together, a lockbox and statutory provisions for secured status, like a lien, may enhance recovery prospects compared with other debt. Both features are necessary to provide separation of the pledged revenue from the issuer's control and a security interest that makes the bondholders' interest in the pledged revenue that of a secured creditor.

We typically consider these security features to be ineffective where the issuing government has the ability to change the flow of funds to the lockbox, where the third party collecting pledged revenues has not carried out its lockbox obligations or in similar circumstances where we consider the legal separation to be weak. We also typically consider these security features to be ineffective where there are historical or ongoing significant legal challenges.

We note that the security features described above are different from whether there is a specific pledge or promise to pay, which we discuss below.

## Active or Passive Pledges

### *Why it matters*

The active or passive nature of a pledge is important because it can differentiate whether the issuer has promised to raise revenue to pay debt service or otherwise has the legal ability to do so. In this context, a pledge means the revenue that is effectively designated in the transaction documents as being available to pay debt service on the instrument. This designation may be explicit, such as a pledge of real estate tax revenue or of a 2% hotel tax revenue, or implicit, such as a general promise to pay from revenue that is not specifically pledged to other debt obligations. We consider a pledge to be active if the issuer can increase the pledged revenue stream (e.g., by raising tax rates or fees) without meaningful limitation or additional approvals from voters or other governments. We consider



a pledge to be passive if the issuer can increase the pledged revenue stream only after securing voter approval or other external approvals, often from the state government, or if there are specific legal or practical limitations on the pledged revenue stream, e.g., tax rate limitations. In these cases, revenue to pay debt service typically depends on the performance of the revenue base, e.g., economic growth, and thus is more vulnerable than the issuer's overall revenue to economic decline.

For special tax pledges, our treatment of active versus passive pledges does not differentiate between those where the issuer has promised to raise revenue and those where the issuer has the legal ability to raise revenue but has not promised to do so, because adjusting the rate or amount of the revenue pledged to the instrument is not generally the principal mechanism by which most governments actively manage special tax pledges.

### **Characteristics of the Revenue Base**

#### *Why it matters*

The promise to pay and the revenue pledge, if any, embedded in the instrument delineate the relationship between the issuer's total revenue and economic base, which are considered in its issuer rating, and the revenue that is available to pay debt service of a specific instrument.

The breadth, stability and diversity of the pledged revenue base relative to the issuer's revenue provide important indications of the strength or weakness of the revenue pledged to meet debt service. If a pledge is more limited or less stable than the broad operating revenue that is reflected in the issuer rating, particularly if the pledge is passive in nature, the bondholder may face more risk than is indicated in the issuer rating. Some bonds carry a revenue pledge from a broader and more robust economic base than the issuer's own revenue.

Where the pledged revenue base is narrow, bondholders may have limited recourse if the specific pledged revenue is insufficient to meet debt service on the related obligations. However, in some cases, a technically narrower pledge can still be robust.

### **Debt Service Coverage**

#### *Why it matters*

For some pledge types, debt service coverage is an important indicator of the sufficiency of the pledged revenue to meet debt service payments, e.g., where the dedicated revenue stream is limited or passive. If there is material excess revenue, the relevant bonds have lower exposure to potential variations in the revenue stream.

Debt service coverage is also an important indicator of revenue sufficiency where pledged revenues are more sensitive to economic changes and other disruptions, e.g., with special tax revenue pledges.

### **Other Factors**

#### *Why it matters*

Additional factors, some of which vary by pledge or security type, may also affect the risk of a given debt instrument relative to the credit strength of the issuer. Following are some examples:

- » The essentiality of the leased asset underlying a contingent obligation is important because it can indicate the likelihood that an issuer will choose to appropriate funds to pay the lease, or, for an abatement lease, whether it will continue to have use of the leased asset.
- » In some instruments, there may be a sunset provision in the pledge that precedes the maturity of the debt obligation.
- » Where a pledge type is subject to unanticipated legal challenges, an individual debt instrument may be vulnerable to non-payment even if the issuer is not undergoing stress.

### **General guidance for assigning individual debt instrument ratings**

In assigning instrument ratings, we consider all of the analytic elements relevant to the specific debt issuance and their impact. In this section and the pledge-specific sections that follow, we provide guidance on the typical range of notching for common security types. For each major security type, the guidance for assigning a rating is described by analytic element and is typically cumulative. However,

actual ratings may be different from the guidance where there is unusual strength or weakness in the legal structure or revenue base, in the relation of an issuer to the obligation, or in the terms of the debt instruments, or in the relation of an issuer to the obligation, e.g., where the issuer or instrument is in financial distress. Other issuer-specific or instrument-specific considerations may also be relevant.

Where a school district is undergoing financial distress, we may widen or narrow the rating differentials between the issuer rating and the rating of any specific obligations, based on our view of the relative probabilities of default and relative loss rates upon default. In these instances, the anticipated recovery rate for an obligation would be a more important rating consideration than our general principles for assigning instrument-level ratings. Our views of relative expected loss would generally be informed by state or federal case law within the relevant jurisdiction and other meaningful issuer-specific risk factors that may indicate the issuer's relative willingness and ability to pay various types of obligations.

Outside of a stress scenario, upward notching of an instrument above the issuer rating is typically limited to one notch, because there is inherent uncertainty in the potential for any structural feature to reduce loss severity relative to the typically broad revenue pledge associated with instruments rated at par with the issuer rating and uncertainty given limited default and recovery experience.

The guidance below for assigning instrument-level ratings is divided into three groups of pledges that are typical in the K-12 sector: (i) real property-based pledges; (ii) non-contingent general promises to pay and contingent obligations; and (iii) special tax pledges.

### Real property-based pledges

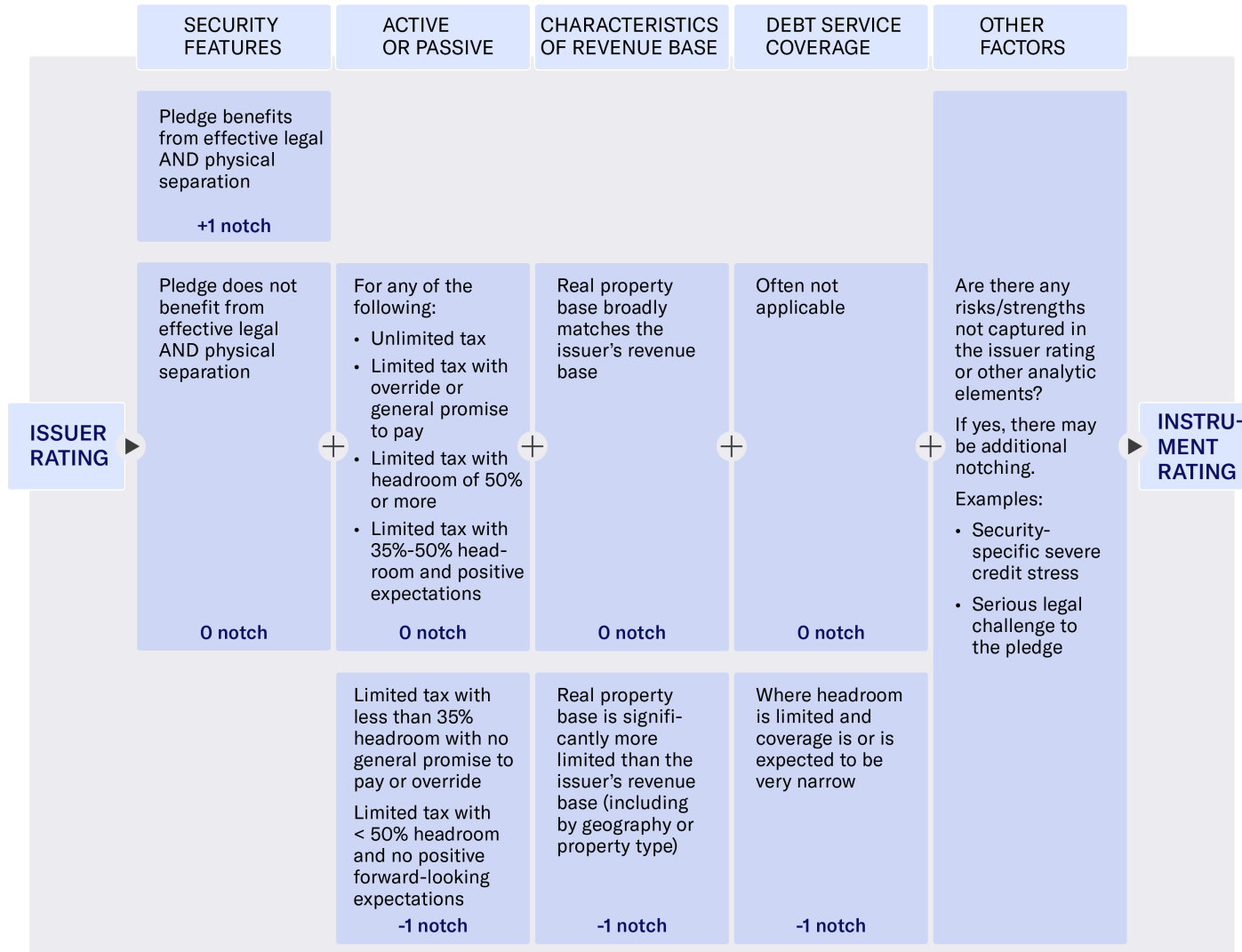
In a real property-based pledge, the issuer pledges taxes that are levied on real property or other real property-related revenue. These pledges can be active or passive but are, by definition, non-contingent.

Examples of real property-based pledges include general obligation unlimited tax (GOULT) and general obligation limited tax (GOLT) pledges. Because the taxes associated with these pledges are levied on real or tangible property, GOULT or GOLT pledges have historically been among the most stable debt pledges.

Overall, a major consideration for all securities within the real property-based pledge grouping is whether the school district can adjust without limit the tax rate that generates the pledged revenue. We also consider how meaningful the limitation is. Where we consider the limitation to be material, the instrument rating is typically one notch below the issuer rating.

Exhibit 11

Real property-based pledges: Illustrative notching



Source: Moody's Ratings

**General obligation unlimited tax pledge**

While a GOULT pledge often includes a general promise of the issuer to pay the obligation (the specific language may vary; an example is a full faith and credit pledge), the key differentiating feature is the pledge to levy ad valorem taxes, without limit as to rate or amount, sufficient to make timely payment of debt service. Ad valorem taxes are based on the value of the real property. Because of the breadth and strength of the pledge, most GOULT instrument ratings are at the same level as the issuer rating.

*How we assess it*

Security Features

Where a GOULT pledge provides physical and legal separation from pledged revenue under the issuer's control, typically through a lockbox and valid security interest, such as a lien, and we consider these to be effective, there is typically one upward notch for this analytic element. While the presence of only one of these elements may provide a modest benefit, it is not sufficient to provide uplift from the issuer rating.

We may not consider these security features to be effective where the responsible local governments have not carried out their lockbox obligations, where we think the legal separation is weak or where there have been successful legal challenges to the separation.

Active or Passive Pledge

These are, by definition, active pledges. There is no notching for this analytic element.

*Characteristics of the Revenue Base*

Where the GOULT pledge encompasses all or substantially all of the issuer's tax base, there is no notching for this analytic element. Where we consider that the revenue pertaining to the specific GOULT pledge is significantly more limited than the issuer's revenue base (e.g., from a more limited geographic base or property type), there may be one downward notch for this analytic element. Where this more limited tax base is still robust, there may be no downward notching for this analytic element.

Debt Service Coverage

Not applicable.

Other Factors

We also consider risks in the structural features of the pledge that are not already reflected in the issuer rating or other analytic elements. If the risks are material, cumulative notching may reflect one or more additional downward notches, depending on the severity of the risks.

For example, a serious legal challenge to the validity of the GOULT pledge could lead to downward notching for this analytic element.

**General obligation limited tax pledge**

A GOLT pledge is a general obligation of a school district that includes a limited rather than an unlimited tax pledge. The nature of the limit for a GOLT varies. It can be imposed on the tax rate or on the levy amount that is available to pay the related debt service. In other cases, there may be a limit on the issuer's overall property tax levy, either a limit on the rate or a limit on the total amount of tax revenue collected. Although some of these limitations result in materially weaker credit strength, in many other cases, the tax limit does not materially constrain a school district's ability to pay debt service and therefore does not result in a material difference in the credit risk of the instrument relative to the issuer rating.

There are various structural features that can reduce or eliminate the difference in credit risk between GOULT and GOLT pledges. For example, a school district may be able to override the stated limit, or a school district may issue GOLT debt that is also secured by a broad revenue pledge. In addition, some school district GOLT pledges have headroom within the limit that we think will be sufficient to cover projected growth in GOLT debt service or withstand potential decreases in net revenue (due to, for example, decreases in the assessed valuation of real property, enrollment or state aid). If there are no sufficient mitigants, a GOLT instrument is typically rated one notch below the issuer rating.

*How we assess it*Security Features

Where a GOLT pledge includes both a lockbox and a valid security interest, such as a lien, and we consider these to be effective, there would typically be one upward notch for this analytic element. While the presence of only one of these elements may provide a modest benefit, it is not sufficient to provide uplift from the issuer rating.

We may not consider these security features to be effective where the responsible local governments have not carried out their lockbox obligations, where we think the legal separation is weak or where there are historical or ongoing significant legal challenges.

Active or Passive Pledge

Where a school district has a meaningful ability to raise taxes within the stated limit (i.e., meaningful headroom) or can override the limit, or where an additional pledge (e.g., a general promise to pay) mitigates the limit, we consider the pledge to be active. In these cases, there is no downward notching for this analytic element. The absence of meaningful headroom typically leads to one downward notch for this analytic element. We typically consider headroom of 50% or more of maximum annual debt service (MADS) to be meaningful (see box). Where headroom is at least 35% and up to 50%, we may consider it sufficiently meaningful based on our forward view of a school district's revenue and economic base.

**How we estimate or calculate headroom for raising tax revenue**

We estimate or calculate headroom based on the ratio of the incremental revenue permitted by the limit to MADS for the pledge (e.g., GOLT).

The numerator is the current taxable assessed valuation related to the pledge multiplied by the maximum allowable tax rate for the debt ("projected maximum levy," or revenue) minus the "current levy used for debt service." The denominator is the MADS amount in dollars on all of the issuer's parity debt.

$$\text{(Projected Maximum Levy – Current Levy Used for Debt Service) / MADS}$$

If the levy is not used exclusively for debt service, we would use the maximum allowable levy in the "projected maximum levy" calculation and the portion of this levy used for debt service in the "current levy used for debt service."

In addition, if a limited tax pledge includes both property and non-property tax revenue, we include both types of revenue in the "projected maximum levy" calculation.

In our forward-looking view of this metric, we may incorporate a projection of additional parity debt and resultant MADS, and we may project taxable assessed value, particularly if we expect that the school district's tax base will decline.

Characteristics of the Revenue Base

Where revenue pertaining to the specific GOLT pledge is significantly more limited than the issuer's revenue base (e.g., from a more limited geographic base or property type), there may be one downward notch for this analytic element. Where this more limited tax base is still robust, however, there may be no downward notching for this analytic element.

Where there is a material decline in assessed valuation and where we consider that the levy limitation is likely to cause weakened or insufficient debt service coverage, there is typically downward notching for this analytic element.

Debt Service Coverage

Where headroom is limited, we typically assess debt service coverage on a current and forward-looking basis. In cases where the debt service coverage of the pledge is materially lower than the issuer's general ability to meet all of its obligations, we may notch the instrument rating down to reflect this risk to the extent it is not already captured in the issuer rating or other analytic elements.

One downward notch is typical for this analytic element where there is no meaningful headroom and debt service coverage is expected to be near or below 1.1x. More than one downward notch may be applied where there is no meaningful headroom and debt service

coverage is expected to be below 1x. For clarity, the guidance for this analytic element does not apply where there is an additional pledge (e.g., a general promise to pay).

#### Other Factors

We also consider strengths or risks in the structural features of the pledge that are not already reflected in the issuer rating or other analytic elements. If the strengths are material, cumulative notching may reflect one upward notch. If the risks are material, cumulative notching may reflect one or more additional downward notches, depending on the severity of the risks.

For example, a serious legal challenge to the validity of the GOLT pledge could lead to downward notching for this analytic element.

#### **Non-contingent general promises to pay and contingent obligations**

This grouping includes general promises to pay, where general operating revenue is available for the payment of debt service, but the issuer has not pledged a specific, material revenue stream. It also includes contingent obligations.

##### **Non-contingent general promises to pay**

Some obligations represent a general non-contingent promise to pay, using the school district's available revenue or its main operating revenue. Available revenue is typically revenue that has not been pledged to pay other obligations. In some cases, these instruments are called "general obligations," but the instrument does not include a property-tax pledge. In other cases, pledges specifically exclude taxation. Many obligations in this group contain broad language describing the promise (e.g., "full faith and credit" or similar wording) but do not include a specific pledge of a property tax or other revenue. Because these promises to pay are non-contingent, we may consider them to be as strong as an explicit general obligation pledge. In other cases, the general promise to pay is effectively subordinated, because there are material carve-outs of revenue that is pledged to other debt. As there is wide variation in the language used, we look at the substance of the issuer's obligation.

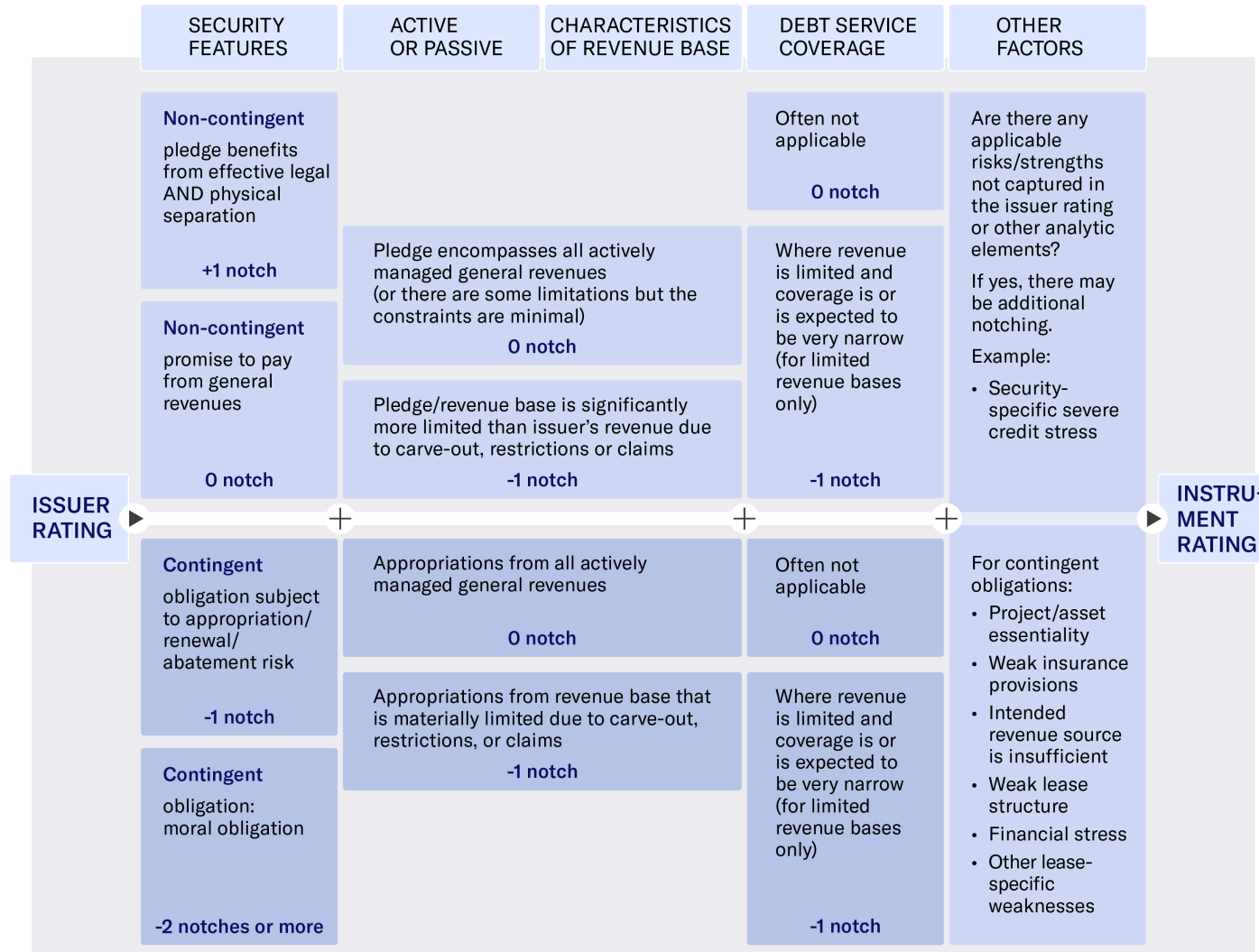
Non-ad valorem debt is also in this category. It typically is a non-contingent pledge of general revenue with the explicit exclusion of revenue derived from ad valorem property taxes.

A number of regional and special school districts fall into the general promise to pay category because they have no direct taxing power and thus cannot issue long-term debt with a tax pledge. These entities issue long-term debt that is a non-contingent general obligation or promise to pay, e.g., where the regional or special school district has pledged its operating revenue. In many cases, the non-state revenue of these school districts is derived from per pupil charges to the respective towns or other school districts receiving the educational services.

In cases where language such as "full faith and credit" requires the school district to levy taxes sufficient to pay the obligation under the laws of the state, we consider these to be real property-based pledges.

Exhibit 12

Non-contingent general promises to pay and contingent obligations: Illustrative notching



Source: Moody's Ratings

*How we assess it*

### Security Features

There is typically no notching for this analytic element, because general promises to pay are non-specific as to revenue, by definition. However, we assess the security features of each transaction in order to determine if they provide material benefit to creditors.

### Active or Passive Pledge and Characteristics of the Revenue Base

We consider these two analytic elements together.

Where the pledge or general promise to pay encompasses all actively managed general revenue or where the relevant revenue is subject to some limitations but the constraints are minimal, there is no notching for these analytic elements.

Where the relevant revenue is significantly more limited than the issuer's revenue base (e.g., it is limited by the exclusion of certain significant operating revenue, by meaningful tax limitations or by priority claims on specific revenue), there is typically one downward notch for these analytic elements. For example, in the case of non-ad valorem debt, there is typically one downward notch for these analytic elements due to the limited characteristics of the revenue base. Where this more limited base is still robust, however, there may be no downward notching for this analytic element.

### Debt Service Coverage

For non-contingent pledges, there is no upward notching for this analytic element. Where the pledge is substantially reduced by carve-outs or other competing claims that render the pledged revenue significantly more limited than the school district's revenue, we typically assess debt service coverage on a current and forward-looking basis. One downward notch is typical for this analytic element where there are material revenue carve-outs and debt service coverage is expected to be near or below 1.1x. More than one downward notch is likely to be applied where there are material revenue carve-outs and debt service coverage is expected to be below 1.0x, in the absence of other mitigants.

### Other Factors

We also consider strengths or risks in the structural features of the pledge that are not already reflected in the issuer rating or other analytic elements. If the strengths are material, they may offset downward notching related to other analytic elements. If the risks are material, cumulative notching may reflect one or more additional downward notches, depending on the severity of the risks. For example, security-specific severe credit stress or a legal structure or security type with a poor track record in default could lead to downward notching for this analytic element. In addition, a serious legal challenge to the validity of a non-contingent general promise to pay could lead to downward notching for this analytic element.

### **Contingent obligations**

Examples of contingent obligations include appropriation lease-backed obligations, abatement lease-backed obligations, non-lease annual appropriation obligations and moral obligations. In the municipal market, appropriation-backed instruments are often issued as certificates of participation.

For school districts, a typical contingent obligation is an appropriation lease-backed instrument. The school district usually does not pledge any specific revenue to the lease and instead annually appropriates funds to pay debt service. The school district obligates itself to make lease payments pursuant to a capital lease between itself (as lessee) and, usually, a special purpose entity lessor created and controlled by the lessee. This lease payment revenue is used to pay debt service on the lease-backed instrument.

In the case of an appropriation lease, the school district has a legal right to choose not to appropriate the funds, thereby not renewing the lease. The school district generally covenants to take proactive steps to make the annual lease payment and lease renewal, although with the explicit recognition that it is legally entitled to choose not to appropriate funds for the lease payment, or renew the lease. The same kind of appropriation structure can exist without a lease or leased asset.



Another common type of contingent obligation is an abatement lease, where the lease payment is contingent upon the continued availability of the leased asset for use or occupancy. If the use of the asset is compromised (e.g., a school building is partially destroyed by an earthquake), the lessee would be required to abate or reduce the lease payment in proportion to the reduction in use.

A fourth type of contingent obligation is a moral obligation. An example of a moral obligation structure would be where a school district promises to consider, under certain circumstances, appropriating funds for the replenishment of a debt service reserve. A moral obligation pledge is neither a guarantee to pay debt service nor a promise to replenish a debt service reserve nor a legally enforceable obligation to pay. Rather, it is a declaration that the school district intends to support the debt and will consider making appropriations and providing funding under certain circumstances.

Based on these contingencies, such obligations are not typically defined as debt under state law and would therefore be excluded from statutory and constitutional restrictions on debt issuance that apply to school districts. However, we consider such obligations to be the debt of the district.

Contingent obligations are typically weaker from a legal perspective than debt secured by a general obligation pledge, due to the contingent nature of appropriation and abatement features and the more limited creditor recourse in the event of default.

In all cases, contingent debt includes a legal out, either through failure to appropriate or abatement, and therefore lacks a firm pledge of revenue over the life of the debt. Even in cases where an issuer plans to use certain revenue flows for contingent lease payments or debt service, unless they are pledged for the life of the instrument, this intention does not improve credit quality. However, where the issuer signals an intention to use limited revenue to pay the contingent obligation, this may indicate additional risk for the lease bonds. An example is where the issuer intends to pay from expected project revenue (e.g., a school bus garage rented by a vendor), as opposed to general revenue.

We notch down from the issuer rating for contingent obligations in the K-12 sector. The number of downward notches for leases is usually limited to one or two, depending on our assessment of the essentiality of the pledged asset or financed project to the school district's operations. In most cases there is a fundamental connection between the financed asset and the fundamental operations of the school district, providing a strong incentive for school districts to appropriate funds for debt service payments.

The exhibit below shows the typical notching seen between the school district's issuer rating and non-contingent lease-backed obligations, contingent obligations and moral obligations.

Not all leases are contingent obligations. Non-contingent leases are rated based on the long-term pledge, e.g., GOULT or GOLT.

Exhibit 13

**Typical downward notching from the issuer rating**

For non-contingent lease-backed obligations, contingent obligations and moral obligations

Security Type		Non-Contingent Lease-Backed Obligations	Contingent Lease-Backed and Annual Appropriation Obligations		Moral Obligations	
Essentiality		N/A	More	Less	More*	Less
Notches from Issuer Rating	Zero	X				
	One		X			
	Two			X	X	
	Three or more				X	X

\*For moral obligations, we may apply two or three downward notches from the issuer rating for more essential assets, depending on the legal structure.

Source: Moody's Ratings

### *How we assess it*

#### Security Features

A contingent pledge is notched downward for security features.

A contingent pledge subject to appropriation, renewal or abatement typically leads to one downward notch for this analytic element. An exception is if an instrument also carries a backup general obligation pledge (GOULT or GOLT) or other non-contingent pledge, in which case we rate the instrument based on the stronger of the two pledges.

Where the contingent pledge is a moral obligation, there are typically two or more downward notches for this analytic element. The greater notching for moral obligations, relative to leases and appropriation obligations, reflects several characteristics of moral obligations, including that they are typically contingent upon legislative approval and are only called upon if the underlying revenue streams are insufficient.

#### Active or Passive Pledge and Characteristics of the Revenue Base

We consider these two analytic elements together, and there is typically no downward notching for these analytic elements.

Where all actively managed general revenue is available for annual appropriation, including cases where the general revenue is subject to some limitations but those constraints are minimal, there is typically no downward notching for these analytic elements.

However, there would typically be one downward notch for these analytic elements where the available revenue is materially limited, such as by the exclusion of certain significant operating revenue, meaningful tax limitations on revenue or other priority claims on material revenue.

#### Debt Service Coverage

For contingent pledges, there is no upward notching for this analytic element. Where the available revenue for debt service is significantly more limited than the school district's revenue, we typically assess debt service coverage on a current and forward-looking basis. One downward notch is typical for this analytic element where debt service coverage is assessed and expected to be near or below 1.1x. More than one downward notch will likely be applied where debt service coverage is assessed and expected to be below 1x, in the absence of other mitigants.

#### Other Factors

We also consider risks in the structural features of the obligation that are not already reflected in the issuer rating or other analytic elements. If the risks are material, cumulative notching may reflect one or more additional downward notches, depending on the severity of the risks.

#### ***Essentiality***

For contingent leases and moral obligation pledges, the essentiality of the underlying assets or financed project to the school district's core operations is a major consideration. We consider essentiality to be a strong indicator of a school district's incentive to appropriate funds for lease payments.

While essentiality falls on a continuum, we typically classify it in two categories. We generally consider an asset or project that is critical to K-12 core operations or administration as more essential (e.g., construction of school buildings, capital improvements on school buildings and financing of equipment that directly supports operations). In these cases, the asset or project also cannot be separated from the school district (is not severable) and has no commercial or enterprise risk. With more essential assets, there is no notching for the essentiality consideration.

Less essential assets or projects are not critical to K-12 core operations or administration, are severable, or have commercial or enterprise risk, e.g., an economic development project or a project that depends on vendor performance. In these cases, a future administration may no longer choose to support the project, appropriate funds for debt service, or repair the asset following an abatement event. In these cases, there are typically one or more downward notches for the essentiality consideration.

The exhibit below provides a summary of typical notching for the essentiality consideration. Actual notching is based on our view of the circumstances of the school district, the terms and conditions of the obligation and the school district's incentives or disincentives to honor the obligation. For example, a change in state law that weakens a school district's incentive to provide pre-K education could diminish the essentiality of a lease tied to pre-K operations. If there is a mix of more and less essential assets associated with an individual instrument or master lease structure, we generally characterize the essentiality of the entire asset pool by the single most essential asset.

Exhibit 14

**Typical notching for essentiality**

More essential	Less essential
Asset or project is critical to K-12 core operations or administration, not severable, and has no commercial or enterprise risk.	Asset or project is not critical to K-12 core operations or administration, is severable, or has commercial or enterprise risk.
<b>Examples (Illustrative; categorization could vary based on specific circumstances)</b>	
» District's school buildings	» Projects dependent on commercial/vendor performance*
» Facilities (athletic, arts, parking, etc.) or improvements not severable from core operations	» Facilities (athletic, arts, parking, etc.) or improvements severable from core operations
» Administrative buildings	» Vacant land
<b>Typical notching for essentiality</b>	
No notching	One or more downward notches

\*Vendors are not the lessors or owners of projects, but their performance may affect the anticipated impact of the lease payments on a school district's budget. A school district's payment obligation is not explicitly conditioned on vendor performance.

Source: Moody's Ratings

**Insurance and asset substitution**

For abatement leases, the leased asset's availability for a school district's use or occupancy is a precondition for lease payment. We typically consider sufficient property insurance procured by the lessee or the ability to substitute a new asset for a compromised asset to be an important structural feature. In the absence of both the ability to substitute an asset and standard insurance provisions, such as title insurance and renters' interruption insurance, there may be one downward notch for the insurance consideration.

**Intended revenue source**

In some cases, school districts may have an intended source of revenue to support contingent obligations, even if the pledge is to pay these obligations with all available revenue. The intention to use a specified revenue source, however stable, does not offset the contingent nature of the obligation. In these cases, there is typically no upward notching for this analytic element. Where the intended revenue source is unproven or volatile, the school district may not expect or be prepared to pay debt service from other sources. In these cases, we may apply one or more downward notches for this analytic element.

**Structural weakness**

For any contingent pledge, where there is a material structural weakness, such as lack of clarity in the legal documents on the pledge and its mechanics, or if there is insufficient timing between the school district's expected appropriation date and the debt service payment dates, cumulative notching may reflect one or more additional downward notches, depending on the severity of the risks. In addition, a serious legal challenge to the validity of a contingent pledge could lead to downward notching for this analytic element.

**Financial distress**

Where a school district is undergoing financial distress, we may widen or narrow the rating differentials between the issuer rating and the rating of any contingent obligations, based on our view of the relative probabilities of default and relative loss rates upon default. Our views of relative expected loss would generally be informed by state law, case law within the relevant jurisdiction and other meaningful issuer-specific risk factors that may indicate the school district's relative willingness and ability to pay various types of obligations.

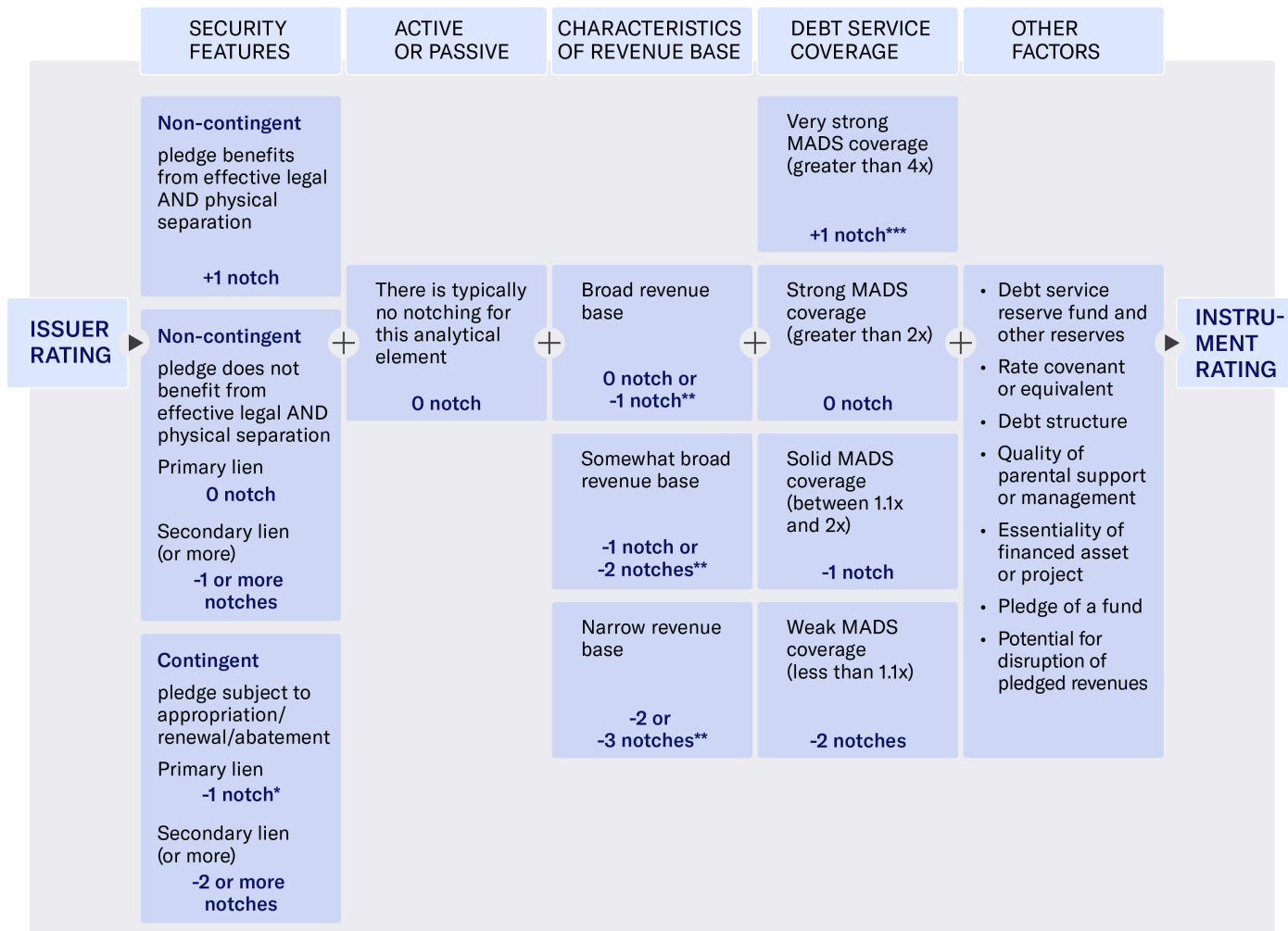
In these instances, the specific, anticipated recovery rate for an obligation would be a more important rating consideration than our general principles for assigning instrument-level ratings.

### Pledges of special taxes, fees and assessments

Special tax debt encompasses debt backed by pledges of taxes other than real property taxes, as well as assessments or fees levied on economic activity, transaction-based charges, and similar types of revenue other than real property taxes (collectively, special taxes). These pledges may benefit from physical and legal separation, and may be contingent or non-contingent. Examples of such pledges include taxes, assessments or fees on a variety of consumer purchases, such as retail sales, food and beverage sales; income taxes; business taxes; insurance policies or other non-property bases; and fixed or formulaic allocations of such special taxes from a higher level of government.

Exhibit 15

#### Special tax pledges: Illustrative notching



\* Where a special tax pledge is both subject to appropriation and subordinate to one or more other liens on the revenues, we assess the combined risk of these features, which may result in only one downward notch.

\*\* Based on revenue trend and volatility.

\*\*\* We apply upward notching from the issuer rating only when the instrument benefits from effective physical and legal separation. We typically limit the number of upward notches to one above the issuer rating.

Source: Moody's Ratings

For the majority of special tax debt instruments, we limit the number of upward notches to one above the issuer rating. We only apply upward notching from the issuer rating when the instrument benefits from effective physical and legal separation. We also typically limit downward notches to four below the issuer rating. Rating a special tax instrument that is more than four notches below the

school district's rating would typically reflect an idiosyncratic weakness in the pledge that does not reflect a deterioration in the school district's governance or other aspect of fundamental credit quality.

#### **How we assess it**

##### *Security Features*

Where a special tax pledge provides effective physical and legal separation of the pledged revenue for debt service, there is typically one upward notch for this analytic element. Effective separation is reached where the debt structure includes both a lockbox and a valid security interest, such as a lien. While the presence of only one of these elements may provide a modest benefit, one without the other is not sufficient to provide uplift from the issuer rating.

We may consider these security features to be ineffective where the issuing government has the ability to change the flow of funds to the lockbox, where the third party collecting pledged revenues has not carried out its lockbox obligations, where we consider the legal separation to be weak, or where there are historical or ongoing significant legal challenges.

Where the special tax pledge is contingent, i.e., subject to appropriation, renewal or abatement, there is typically one downward notch for this analytic element, effectively limiting the instrument rating to one notch below the issuer rating. In assessing contingency for pledges subject to appropriation or renewal, we may consider whether the tax, assessment or fee has been authorized by voters and may not notch down for this analytical element, for example, where voter authorization for a special tax pledge also includes prioritization of the revenue for debt service over other uses, or where such authorization directs pledged revenue toward a specific purpose and materially reduces the risk of non-appropriation for debt service.

Where a special tax pledge is both contingent and the notching guidance suggests one or more downward notches for other analytic elements, we assess the combined risk of all these elements and may not apply additional notching for contingency. For clarity, contingent instrument ratings are typically at least one notch below the issuer rating.

Where the lien on the pledged special tax revenues is subordinate to one or more other liens on the revenues, there is typically one separate downward notch for this analytic element. Where we consider that the default probability and expected loss severity of the subordinate lien are not meaningfully different from the senior lien, we may assign the same rating to both senior and subordinate instruments, for example, where senior lien debt represents a small share of the combined senior and subordinate debt. Where default probability and expected loss severity are materially higher for the subordinated debt in relation to the senior lien, for example in cases where debt is deeply subordinated (e.g., subordinated debt represents a small share of the combined senior and subordinate debt), the ratings of subordinated lien instruments may be more than one notch below the senior lien instruments. Where a special tax pledge is subject to appropriation and is subordinate to one or more other liens on the revenues, we assess the combined risk of these features.

##### *Active or Passive Pledge*

Where a school district has the legal and practical ability to raise the rate or amount of the pledged special tax revenue, we consider the pledge to be active. Where a school district has limited-to-no authority to raise the rate or amount of the pledged special tax revenue, or where it maintains revenue-raising authority but confronts significant practical impediments to raising the rate or amount (e.g., significant public resistance to rate increases), we consider the pledge to be passive.

There is typically no downward notching for this analytical element, however, because adjusting the rate or amount of the revenue pledged to the instrument is not generally the principal mechanism by which most cities and counties actively manage special tax pledges. Where a special tax revenue source is subject to downward pressure due, for example, to a decline in the economic activity generating that revenue, a school district may be reluctant to raise the rate or amount of the special tax if that increase could further depress economic activity. Therefore, governments typically manage these pledges through a variety of other mechanisms unrelated to the tax rate or amount, including debt refinancings, supplementing the special tax revenue with unpledged revenue, and through the use of dedicated and non-dedicated reserves.

##### *Characteristics of the Revenue Base*

We assess characteristics of the revenue base for special tax debt instruments using the following two dimensions: (i) the breadth and diversity of the economic base generating the pledged revenue; and (ii) the trend of growth and volatility of the pledged revenues, both

historical and forward-looking. This assessment considers the relative strength of the tax being pledged based on what is being taxed, as well as the historical tax revenue volatility through different economic cycles, and expectations for future performance.

Our assessment of the breadth and diversity of the economic base generating the revenues is primarily based on the nature of the pledged revenue. Where a special tax instrument includes a pledge of multiple types of taxes, assessments or fees, our classification is typically based on the dominant type, although our final assessment may also reflect any strength from the diversity of multiple types of revenues.

The exhibit below illustrates how we typically classify the most common types of special tax revenue sources issued by US state and local governments (Broad, Somewhat Broad or Narrow). School districts typically issue debt backed by sales and use taxes or allocations of broad taxes. Types of special taxes not included in this list are classified in the same category as the tax types most similar to them.

Exhibit 16

**Classification of revenue types**

Broad	Somewhat Broad	Narrow
» Sales and use tax	» Utility franchise tax	» Hotel tax or fee
» Income or payroll tax	» Utility user tax, fees or surcharges	» Cigarette tax
» Corporate gross receipts tax	» Gasoline tax	» Gaming tax (other than lottery)
» Assessments on payrolls, insurance policies or other non-property bases	» Restaurant food or beverage tax	» Lottery tax
» Allocations of broad taxes from higher levels of government	» Motor vehicle registration and similar surcharges or fees	» Extraction and production of natural resource tax
	» Liquor tax	» Real estate transaction tax
	» Allocations of somewhat broad taxes from higher levels of government	» Parking tax
		» Motor vehicle rental tax
		» Court fines and fees
		» Allocations of narrow taxes from higher levels of government
<b>Typical notching for revenue type</b>		
No notching	One downward notch	Two downward notches

Source: Moody's Ratings

In our forward-looking assessment of revenue growth trend and volatility, we typically consider relative special tax revenue performance trends during past economic cycles to assess elasticity of demand and to project future performance. We typically consider the revenue trend to be declining where there have been multiple consecutive years of historical decline in revenue over the past 10 years or where we expect steady future decline due to change in the underlying economic activity. We typically consider revenue to be volatile where an annual change in pledged revenue during the past 10 years substantially deviates from the average annual rate of change, or where we project substantial deviation in the future. In periods of high volatility and in sensitivity analysis projecting high volatility, we assess the estimated positive or negative impact on debt service coverage. Where a special tax has not been levied for 10 years, we evaluate the history of similar revenues to estimate the trend and volatility. In our assessment, we may also consider an issuer's regular set-aside of revenue to smooth out volatility.

Where we assess the breadth of the economic base generating the revenues to be Broad and the revenue trend to be consistently neutral or growing with limited volatility relative to similar revenue types, there is typically no downward notching for this analytical element. Where we assess the breadth of the economic base generating the revenues to be Broad and the revenue trend to be steadily declining or volatile relative to similar revenue types, there is typically one downward notch for this analytical element. For example, sales taxes in a certain school district may be significantly more volatile than sales taxes across the sector.

Where we assess the breadth of the economic base generating the revenues to be Somewhat Broad and the revenue trend to be consistently neutral or growing with limited volatility relative to similar revenue types, there is typically one downward notch for this analytical element. Where we assess the breadth of the economic base generating the revenues to be Somewhat Broad and the

revenue trend to be steadily declining or volatile relative to similar revenue types, there are typically two downward notches for this analytical element.

Where we assess the breadth of the economic base generating the revenues to be Narrow and the revenue trend to be consistently neutral or growing with limited volatility relative to similar revenue types, there are typically two downward notches for this analytical element. Where we assess the breadth of the economic base generating the revenues to be Narrow and the revenue trend to be declining or volatile relative to similar revenue types, there are typically three downward notches for this analytical element. There are also circumstances where exposure to an economically sensitive revenue source is reflected in an issuer rating that is lower than it would be in the absence of such exposure. In these cases, we may apply fewer downward notches for this analytical element, because the risk is incorporated in the issuer rating.

Exhibit 17

#### Breadth of the economic base

Economic base	Revenue trend	Typical notching outcome
Broad	Consistently neutral or growing with limited volatility relative to similar revenue types.	0
	Steadily declining or volatile relative to similar revenue types.	-1
Somewhat Broad	Consistently neutral or growing with limited volatility relative to similar revenue types.	-1
	Steadily declining or volatile relative to similar revenue types.	-2
Narrow	Consistently neutral or growing with limited volatility relative to similar revenue types.	-2
	Declining or volatile relative to similar revenue types.	-3

Source: Moody's Ratings

For special taxes that are a fixed dollar allocation or based on a formula that does not reflect the underlying economic trend, we typically consider the trend and volatility of the broader revenue base as a proxy for the specific instrument.

Our assessment of the special tax's economic base is considered relative to the economic base of the parent government (e.g., the state as a whole). For example, if it is somewhat more limited than the parent government's total economic base but not substantially more so, we may assess the breadth of the economic base as Somewhat Broad or Narrow where the revenue would otherwise be assessed as Broad. Where a special tax is levied on an economic base that is significantly more limited than the parent government's total economic base, the instrument would be out of scope for this methodology (see the "Scope" section).

#### Debt Service Coverage

We typically calculate debt service coverage by dividing the most recent fiscal year's collected and legally available pledged special tax revenues by the maximum annual debt service (MADS). We define maximum annual debt service as the largest single-year future principal and interest debt service payment on all outstanding parity bonds. We often also calculate coverage based on our projections, which typically include expected near-term changes in revenue or debt (and thus MADS). For subordinate lien bonds, we calculate debt service coverage by dividing the relevant year's pledged and collected special tax revenues by the combined senior and subordinate maximum annual debt service.

Where the pledge comprises a fixed allocation of annual revenue collected by another government, we may calculate coverage based on the total amount of the special tax revenue that is collected by the other government divided by the total allocation to the receiving government or governments, or we may make a qualitative assessment of the robustness of coverage. Assessing coverage this way provides a clearer view of the sufficiency of the revenue base from which the fixed allocation is drawn and any risks to the allocation based on the other government's revenue collections. To illustrate a coverage calculation: a US state statutorily promises to provide 20 local governments with a fixed amount of \$100,000 annually (for a total of \$2 million) from a special tax whose total collections equal \$4 million. One of the local governments, a school district, then pledges its annual allocation to a debt instrument and structures it so that debt service matches the allocation, resulting in 1x coverage based on the allocation. In this case, we would calculate coverage based on the total revenues collected by the state divided by the total allocations the state has agreed to make (i.e., \$4 million divided by \$2 million), resulting in 2x coverage. Where we do not have sufficient information to calculate exact coverage in this way, we may use available information to make a qualitative assessment of total state revenue collections relative to total local government allocations.

Our thresholds for downward notching for special tax instrument debt service coverage incorporate our assessment that special tax revenue is typically less predictable than tax revenue that is not dependent on economic activity. Where debt service coverage is greater than 2x, there is typically no downward notching for this analytical element. Where debt service coverage is 1.1x to 2x, there is typically one downward notch for this analytical element. Where debt service coverage is less than 1.1x, there are typically two downward notches for this analytical element. There may be additional downward notches where we project coverage is likely to remain at low levels or to fall below sum sufficiency in the future. If coverage is below 2x for a subordinate lien obligation and we do not expect further material narrowing, we may not notch down for coverage where we have already applied one or more downward notches for subordination.

Where coverage is very strong, for example more than 4x, and we assess that high coverage will remain stable and that it effectively offsets a revenue weakness, there may be additional uplift, typically by one notch, up to the issuer rating. However, where contingency risk is present, we typically limit uplift to one notch below the issuer rating to maintain the credit distinction between instruments with and without contingency risk.

Additionally, we assess the strength of the restrictions that the transaction documents place on the issuance of additional debt supported by the revenue pledge, if any. For some special tax instruments, transaction documents do not allow for the issuance of additional parity debt, which is known as a closed lien. Where the transaction has a closed lien, there may be one upward notch for this analytical element where coverage is between 2x and 4x, reflecting the inability of the issuer to reduce coverage with additional leverage.

Where the special tax debt instruments are open-lien, i.e., where the transaction documents allow for the issuance of additional parity debt, we assess the strength of the additional bonds test (ABT). The typical ABT requires historical pledged revenues to cover MADS for the current and projected additional debt by a specific minimum coverage ratio before the additional debt may be issued, although the measurement of the ABT may vary by debt transaction. The limits that the ABT places on additional leverage informs our forward-looking view of coverage. For example, where current coverage is greater than 2x but the ABT allows for additional leverage, we may notch downward by one notch where additional leverage is expected and likely to reduce coverage below 2x. Comparing two debt instruments with the same type of revenue pledge and similarly high coverage, the instrument with a 3x ABT, for example, is more likely to retain high credit quality over the long term and be rated closer to its respective issuer rating than the one with a 1.5x ABT, all else being equal.

#### *Other Factors*

We also consider strengths or risks of the instrument that are not already reflected in the issuer rating or other analytic elements. If the strengths are material, they may offset downward notching related to other analytic elements; however, we do not apply any upward notching that would result in the assignment of a rating above the issuer rating, absent physical and legal separation, or result in a rating less than one notch below the issuer rating if contingency risk is unmitigated. If the cumulative risks from other factors are material, we may apply one or more additional downward notches. For example, where there is potential for disruption of the pledged revenues, we may apply additional downward notches, or where we have observed proactive support from the parent to improve bondholder security, we may apply an additional upward notch.

#### Debt service reserve or other funds

The transaction documents for a special tax debt instrument may include the requirement that the trustee hold a specified amount in a debt service reserve fund (DSRF), from which the trustee pays debt service if special tax revenues are insufficient. The DSRF covenant ordinarily requires the issuer to replenish any draws from the DSRF using pledged revenues, if available after the payment of debt service. DSRF requirements may be initially funded with cash or with surety policies from an insurer. We generally consider cash-funded reserve funds as stronger than those funded with a surety, although we typically treat surety-funded DSRF requirements the same as cash-funded DSRF requirements where the surety provider is rated investment-grade. We also typically consider cash-funded "springing reserves" only in circumstances where they are fully funded. Once funded, we assess these reserves using the same criteria as a standard DSRF. Springing reserves are funded only under specific conditions. The transaction documents may also include requirements that the trustee hold amounts in other funds that are also available to pay debt service, such as a rate stabilization fund. We may also consider the strength of other funds that are pledged to the debt instrument. In cases where funds are available but not



pledged to the debt instrument, we may consider this as a form of parental support, unless these funds are already considered in the parent's issuer rating.

Where we assess downward notching for revenue volatility or debt service coverage and there is a strong debt service reserve fund requirement funded with cash or a surety provided by an investment-grade insurer, or there are other funds pledged to pay debt service, we may offset one of the downward notches. We consider a DSRF to be strong where it is at or close to the common "three-pronged test," i.e., the lesser of 10% of principal, MADS, or 1.25x average annual debt service, because this threshold would typically provide at least one year of debt service and often several additional years.

#### Rate covenant or equivalent

Some special tax debt instruments include a requirement to set rates or a levy that guarantees a minimum debt service coverage level. These requirements can be presented in the transaction's legal documentation in the form of a rate covenant, or in the authorizing documentation for the special tax. For example, where pledged insurance assessments are authorized specifically to repay the debt, there is typically an automatic annual adjustment to reset the rate so that collections match the annual debt service payments.

Rate requirements typically use annual debt service to calculate coverage rather than maximum debt service. Therefore, we may apply a downward notch for low maximum annual debt service coverage of the debt instrument. However, an effective rate covenant or automatic adjustment mechanism allows the rate to be set without regulatory or political approvals, which increases the certainty that future revenue growth will match increases in the debt service schedule and balance weak trends or volatility in the underlying revenue base. Where we consider the adjustment mechanism to be effective, we may offset downward notching assessed for Characteristics of the Revenue Base, or narrow MADS coverage, by one to two notches.

#### Debt structure

Most special tax debt instruments are structured as fixed-rate debt that amortizes over a multiyear period. Some special tax debt instruments may be structured as variable-rate, include bullet maturities or capital appreciation features, or include derivatives such as interest rate swaps, and may introduce additional risk as a result. These types of structures may be subject to remarketing risk because they require market access for refinancing, or they may be exposed to liquidity demands. Liquidity and market access risks can also arise with variable-rate demand obligations and bonds that contain provisions that allow debtholders to put bonds back to the issuer. The potential adverse credit effects of variable-rate demand obligations are typically assessed in the overall credit profile and circumstances of each issuer and are reflected in the issuer rating. However, where the school district's special tax debt includes riskier structures than the school district's overall debt profile, there may be one to two additional downward notches.

#### Quality of parental support or management

A special tax debt instrument may experience financial stress (generally due to insufficient pledged revenues) that increases the probability of default. A school district often provides support for a special tax debt instrument experiencing financial stress, either through direct financial support or by actively managing the competing demands on the special tax. Where a school district has a track record of providing support for a special tax debt instrument experiencing stress or a clear willingness and ability to support stressed instruments, we may offset downward notching assessed for characteristics of the revenue base or debt service coverage by one or more notches. Where such parental support is unlikely for a special tax debt instrument experiencing stress, there may be one or more additional downward notches. Indicators of parental support and active management include a track record of appropriating additional resources above the pledged revenue, refinancings to improve debt service coverage, or resolutions of support.

#### Essentiality of financed asset or project

For contingent obligations, the essentiality of the underlying assets or financed project or function to the issuer's core operations is a major consideration. We consider essentiality to be a strong indicator of the issuer's incentive to appropriate funds for these contingent payments. To the extent that a special tax pledge is contingent, we may apply an additional one to two downward notches for less essential assets or projects using the same framework discussed in the contingent obligations category (see "Non-contingent general promises to pay and contingent obligations" section).

### Pledge of a fund

Although most issuers of special tax debt instruments pledge a stream of tax revenues, a school district may pledge a particular fund that receives the revenues generated by one or more special taxes. We typically view the pledge of a fund as the equivalent to a pledge of the revenue streams the fund receives for our analysis of the security features, active or passive nature of the pledge, characteristics of the revenue base, and coverage. However, a pledge of a fund often allows an issuer additional discretion over the revenues that flow into the pledged fund. There may be additional upward or downward notches, typically by one to two notches, where a school district's discretion over the flow of funds could increase or decrease the availability of revenues for debt service. We may consider a pledge of a fund that includes a substantial share of a school district's operating revenues to be closer to a general promise to pay and the instrument rating would be assigned based on that pledge type.

### Potential for disruption of pledged revenues

A special tax debt instrument may encounter extreme uncertainty in the continued steady flow of pledged revenues in the future. For example, the debt may be structured so that the revenue pledged to the debt instrument sunsets prior to final maturity and requires legislative action to renew. The pledged special tax revenue may have the potential to be materially diminished by non-economic events, for example due to a rate reduction, tax holidays, changes in the regulatory environment for the relevant products or services, or a sudden secular decline in consumer demand for those products or services underlying the tax. Where there is a strong risk of disruption of revenues that is not already captured in our assessment of the pledged revenue's breadth, trends and volatility, there may be one or more additional downward notches.

### 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 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](#) For more information about our adjustments, see our cross-sector methodology that describes our adjustments to pension and OPEB data reported by GASB issuers. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [4](#) Overweighting is described in "Determining the overall scorecard-indicated outcome" section.
- [5](#) For more information about the pension asset shock indicator, see our cross-sector methodology that describes our adjustments to pension and OPEB data reported by GASB issuers. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [6](#) For more information about the tread water indicator, see our cross-sector methodology that describes our adjustments to pension and OPEB data reported by GASB issuers. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [7](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [8](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [9](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [10](#) A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.
- [11](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [12](#) Please see *Rating Symbols and Definitions* for more information on what we consider to be a default.

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REPORT NUMBER 1401435

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