

U.S. Public Finance Ratings Criteria: Tax-Secured and Utilities

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To Our Readers

S&P Global Ratings is pleased to present the 2016 edition of *U.S. Public Finance Ratings Criteria – Tax-Secured and Utilities*.

The criteria in this book were in effect as of July 11, 2016. From time to time we may revise or withdraw criteria or publish new criteria, and **we encourage market participants to visit our websites for the most current information**. Changes and updates to our criteria will be published on our public website at spglobal.com, and on S&P Global Ratings' [RatingsDirect®](#) on the [Global Credit Portal](#) (subscription-based).

Our goal is to provide greater insight to market participants about our ratings criteria, and we hope you will find the information useful.

Sincerely,

A handwritten signature in black ink, appearing to read "Tina Morris", is displayed within a light gray rectangular box.

Tina Morris

Managing Director
General Manager
Head of U.S. Public Finance
S&P Global Ratings

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- Government Department Appropriation-Backed Debt, Nov. 7, 2007
- Idaho School Bond Standing Appropriation Credit Enhancement: Methodology And Assumptions, April 5, 2012
- Key General Obligation Ratio Credit Ranges – Analysis Vs. Reality, April 2, 2008
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- US Public Finance Waterworks, Sanitary Sewer and Drainage Utility Systems, Jan. 19, 2016
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Tax-Secured

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Criteria | Governments | U.S. Public Finance: Debt Statement Analysis

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Debt Statement Analysis

(Editor's Note: We originally published this criteria article on Aug. 22, 2006, and added a section entitled "Frequently Asked Questions" on Sept. 17, 2015.)

1. Debt analysis is a critical component of the rating process at Standard & Poor's Ratings Services. Debt analysis focuses on the nature of the pledge offered on various securities, the debt repayment structure, current and forecasted debt service burden and the magnitude of an issuer's capital needs. Debt position is measured in several ways, but analytic construction of the basic debt statement is critical to the evaluation. Differences often arise between the analytic approach to indebtedness and the statutory approach represented by issuers.
2. There has also been much debate about the inclusion of pension liabilities and other postemployment liabilities on an issuer's debt statement. In terms of debt statement analysis, pensions and OPEB will not be included unless the municipality has issued debt to fund its liability. However, Standard & Poor's will analyze various measures of an entity's pension system and OPEB liability and in order to perform comparable analysis will show debt ratios both with and without debt incurred for pensions and OPEB.

Debt Statement Analysis

3. When Standard & Poor's examines the debt burden of a municipality it starts by looking at all direct debt, and any other analytic obligations of the entity. Debt types included in gross direct debt include:
 - General obligation bonds;
 - Any short term debt or commercial paper;
 - Other tax secured obligations such as sales, gas or excise tax obligations;
 - Authority, certificate or other capital lease obligations that are secured by lease rental or contract payments subject to appropriation;
 - Moral obligation secured debt;
 - Tax increment and special assessment secured obligations;
 - Pension obligation bonds; and
 - Any enterprise or revenue – based debt.
4. Operating leases, tobacco and GARVEE bonds (supported by federal revenues) will not be included in the debt statement analysis.
5. With this aggregation of direct debt, Standard & Poor's measures the full burden of debt on the population in relation to wealth. After this evaluation, deductions are made from the debt statement for self-support of certain types of debt. Once a net direct debt figure is determined, various ratios are again calculated
6. Self-support is an analytic judgment and will not necessarily match statutory calculation of self-support. The following are typically deducted:
 - TANs, RANS, and TRANs;

- State aid reimbursements for well defined, long-standing programs;
- Federally supported GARVEE revenues;
- Enterprise debt secured by revenues only;
- Moral obligation debt that has not required any contribution to the debt service reserve fund from the morally obligated party; and
- Tax secured enterprise debt that is fully or partially self-supporting from the enterprise.

Self-Supporting Debt

7. Although a debt obligation may be exempt from a legal debt limitation, Standard & Poor's does not necessarily treat the obligation as self-supporting. Standard & Poor's will assume revenue secured debt for enterprise bonds (water, sewer, solid waste and electric revenue bonds), GO backed revenue bonds that have passed the coverage test, and state aid supported bonds are self-supporting.
8. If tax-secured bonds are paid from an enterprise fund, Standard & Poor's will give credit to partial self-support, and will factor that level of support into the overall debt burden. For example, if an issuer's GO backed water and sewer debt was below 1.0x, but managed to have 0.7x for the last three fiscal years, then Standard & Poor's would give self-support to 70% of the GO water and sewer debt. If the coverage tends to change from year to year; from 0.7x in fiscal 2003 to 0.5x in fiscal 2004, and 0.6x in fiscal 2005, Standard & Poor's will use the lowest percentage of the last three years.
9. In this case, Standard & Poor's would assume that 50% of the GO backed revenue bonds is self-supporting. Partial self-support does not apply to revenue bonds because they would be in covenant default. Standard & Poor's analyzes the system to make sure that system revenues are able to cover both revenue and GO backed revenue debt. Coverage from the enterprise fund revenues must provide at least 1.0x support for the last three fiscal years to be considered fully self-supporting and to be factored out of the direct debt of the municipality.
10. Bonds that are supported by special assessments, sales tax, gas tax, or tax increment financing (TIF) revenues will not be considered self-supporting, and will be included in the direct debt of the issuer. If these bonds have a dedicated millage to pay debt service, this will be taken into account and explained in the debt section of the issuer's credit commentary, but it will not be considered self-supporting.

Pensions And Other Postemployment Benefits

11. Standard & Poor's will continue to analyze an issuer's pension system(s) and the funding of its actuarial accrued liabilities (AAL). For information on pension and other postemployment benefits (OPEB) criteria please refer to the Public Finance Criteria: GO bonds.
12. In terms of the debt statement, if the issuer has sold pension obligation bonds then the bonds will be included in the debt statement and debt ratios will be calculated both with and without the pension obligation bonds. The same holds true for OPEB obligation bonds. However, Standard & Poor's will recognize in its analysis the comparison between an employer that has issued POBs and as a result has higher debt ratios but lower unfunded pension liabilities versus one

that has not issued POBs and thus has lower debt ratios but higher unfunded pension liabilities. The analysis will take into account that the increased debt ratios are offset by the entity's improved funding ratio.

Debt Statement Presentation

13. For Standard & Poor's to achieve a thorough analysis of a community's debt levels, it is imperative that the issuer provides a comprehensive debt statement. Although debt statements will never be uniform due to the unique circumstances of the municipalities, there are certain essentials that make up a good debt statement.
14. From an analytic standpoint, a good debt presentation will communicate the nature of the pledged security, the debt repayment structure, the current debt service burden and the future capital needs of an issuer.
15. The debt statement should include a listing of obligations of both long- and short-term debt and maturity dates should be provided. Furthermore, the nature of the security should be concisely, but accurately defined. If the entity paying the debt service is different from the security, that should be defined as well. In terms of lease obligation, there is often a conduit authority set up to issue the debt for the obligor, therefore the debt statement should include this debt and indicate the appropriate authority for debt issuance.
16. Standard & Poor's will also ask the issuer to report another important measure of the debt burden on the issuer's operations--the debt service carrying charge. Pre-GASB 34, the debt service carrying charge, which is measured as the combined general fund and debt-service-fund debt service to operating expenditures (not including pension obligations), was an important measure of the issuer's management of debt repayment and financial flexibility. Post-GASB 34, the debt service carrying charge is measured as the combined primary governmental debt service to the primary government expenditures. The debt service carrying charge measures what percent of the issuer's expenditures are used for debt repayment, and is a useful indicator of financial flexibility.
17. Another tool that issuers use to manage debt is derivatives, such as swaps. Interest-rate swaps are used in conjunction with bond issues to save interest costs, increase financial flexibility, synthetically advance refund bond issues, and access different investor markets. Swaps also are used to lock in fixed rates of return on debt service funds and other floating-rate assets without sacrificing liquidity.
18. However, swaps expose issuers to counterparty credit risk, termination risk, basis risk, rollover risk, and for many housing bond issuers, amortization risk. Therefore, Standard & Poor's will review swap transactions in conjunction with the issuer's overall debt profile and will assign a Debt Derivative Profile score. For information on the Debt Derivative Profile Criteria please refer to Criteria: Debt Derivative Profile.
19. In terms of capital appreciation bonds (CABS), Standard & Poor's will use the accreting value that is presented by the issuer in the audited financial statements. Since this includes interest payments, Standard & Poor's will gauge whether the value artificially inflates the debt position by 10% or more, and will explain in the debt section of the credit commentary the sinking fund and pay out of the CABS.

Overlapping Debt

20. Another important measure of debt that should be included in a debt statement is the overlapping debt issuance (or underlying debt for counties). A comprehensive debt statement will include a separate section on overlapping debt and the percentages applicable to the municipality. The rationale for this is that the burden on the community is for all debt issued. Therefore, the community is responsible for the debt of the school district to the same extent as the city and the county. The taxpayers are obligated to pay taxes to each entity, and this is one of the most important measures of how the current obligation affects the community.
21. Similar to the presentation of direct debt, the overlapping debt section should also include all securities, not just the general obligation bonds. A comprehensive overlapping debt section would include bonds secured by special assessments, gas tax, and sales tax, among others.

Future Debt/CIP

22. Standard & Poor's closely scrutinizes an issuer's CIP to evaluate future debt statement changes. Again, Standard & Poor's examines the tax-supported obligations and revenue obligations and their potential impact on the issuer's future operations, and the potential burden to the community. A typical CIP presents the expected projects for the next five fiscal years, a list of the projects and their cost, and the funding source — whether funded internally, by an outside governmental agency, or debt financed. As well, the CIP would communicate whether the project was discretionary or non-discretionary. In addition, the issuer should also communicate the remaining borrowing capacity, tax rate and levy capacity, or other revenue capacity of the obligor/issuer.

Debt Example

23. For example, table 1 describes what Standard & Poor's includes in the analysis of the gross debt position for a city. Under gross direct debt, Standard & Poor's included the \$252.9 million general obligation bonds and the \$27 million lease debt, since both are direct obligations of a city, and the debt service payment is derived from the city's operations. As well, the other tax-supported debt includes \$10.4 million sales tax revenue bonds and \$16.9 million tax increment financing bonds and is also added to the direct debt obligation of the city.

Table 1

Sample: Computation of Direct and Overlapping Debt

(Mil \$)

Gross direct debt	
General obligation	252.9
Capital leases	27
Tax incremental financing	16.9
Sales tax	10.4
Total gross direct debt	307.2

Table 1**Sample: Computation of Direct and Overlapping Debt (cont.)**

Self-supporting debt	
General obligation water and sewer	25
Net direct debt	282.2
Overlapping debt	
General obligation	300
Other tax supported	150
Combined overlapping debt	450
Net direct and overlapping	732.2

24. Under the net direct debt, Standard & Poor's subtracted the city's \$25 million general obligation water and sewer debt because system revenues were paying the debt service. (See self-supporting debt section). Therefore, the city's net direct debt position totals \$282.2 million.
25. Table 2 shows the debt statement presented to Standard & Poor's by the city. The debt statement includes \$252.9 million in general obligation debt, \$10.4 million in sales tax revenue bonds, \$16.9 million in tax increment financing bonds and \$27 million in capital leases. Of the \$253 million general obligation debt, the city proved that the \$25 million GO water and sewer obligation was self-supporting, having more than 1.0x coverage for more than three consecutive fiscal years, and this portion of general obligation debt was not included in table 1. The city's total net direct debt was \$282.2 million.

Table 2**Sample Long-Term Debt Statement**

(000s \$)

Maturing in FY:	--GO Bonds--			--TIF Bonds*--			Total	--Sales Tax Revenue Bonds--		
	Principal	Interest	Total	Principal	Interest	Total		Principal	Interest	Total
2006	43,265	22,518	65,783	5,393	3,033	8,426	1,979	2,390	915	3,305
2007	42,675	19,064	61,739	5,094	2,908	8,002	2,098	446	598	1,044
2008	34,125	15,664	49,789	3,866	3,008	6,874	2,298	468	574	1,042
2009	18,770	13,332	32,102	2,575	3,305	5,880	2,434	488	550	1,038
2010-2014	9,445	11,926	21,371				2,558	503	525	1,028
2014-2019	50,115	47,640	97,755				15,839	2,488	1,932	4,420
2020-2024	54,540	31,112	85,652				16,012	2,363	1,140	3,503
2025-2030							9,322	1,240	470	1,710
Total	252,935	161,256	414,191	16,928	12,254	29,182	52,540	10,386	6,704	17,090

Changes in outstanding long-term obligations

	GO Bonds	TIF Bonds	Sales Tax	Capital Leases
Outstanding/July 1, 2005	258,888	17,049	10,721	Year ended June 30
New issue	22,621			2006 15
Principal retired	(28,574)	(751,000)	(335,000)	2007 13

Table 2**Sample Long-Term Debt Statement (cont.)**

Accretion				2008	12
Other				2009-2024	26,960
Outstanding/June 30, 2006	252,935	16,298	10,386	Total minimum payments required	27,000

*TIF-Tax increment financing.

26. Although not included in the debt statement, the city has \$31.5 million in water and sewer, and \$15.97 million in solid waste debt outstanding. The coverage of water and sewer debt has been more than 3.0x for the last three fiscal years, and the coverage of solid waste was 1.25x for the last three fiscal years. Therefore, Standard & Poor's is assured that operating revenues are not supplementing the enterprise funds, and the enterprise fund is not in covenant default. The city's enterprise debt presentation is shown in Table 3.

Table 3**Sample: Revenue Bonds And Other Debt**

(000s \$)

Maturing in FY:	--Water and Sewer--		--Solid Waste--	
	Principal	Interest	Principal	Interest
2006	1,090	2,237	8,403	1,856
2007	1,121	2,181	5,208	1,119
2008	1,152	2,124	1,204	1,077
2009	1,210	1,065	1,151	1,019
2010-2014	6,886	8,871		
2015-2019	6,275	7,090		
2020-2024	9,197	2,868		
2025-2030	5,298	592		
Less:				
Unamortized discount & deferred amount	(1,226)			
Premium	479			
Total	31,482	27,028	15,966	5,071
Changes during the fiscal year				
	Water and Sewer	Solid Waste		
Outstanding as of July 1, 2005	33,532	24,967		
New issue				
Principal retired	(2,050)	(9,001)		
Other				
Outstanding as of June 30, 2006	31,482	15,966		

Frequently Asked Questions

How does Standard & Poor's determine if a public-private partnership (P3) payment obligation will be included into the debt statement of USPF state and local governments?

27. For USPF governments participating in public private partnerships, we may treat the government's P3 obligation as debt, as a contingent liability, or neither. The key determinants are the source of revenue to pay the P3 obligation and whether we consider the obligation self-supporting. Once a determination is made to include all or a portion of the obligation as debt, we size the debt statement impact based on the type of payments (e.g. milestone, availability) and the net present value of the payments.
28. If we consider the revenue stream used to repay the obligation to be a tax-backed revenue, the P3 obligation will be included as tax-supported debt, subject to adjustments mentioned below. Tax-backed revenues include tax revenues, appropriations, and special taxes. If the security for repayment is from a true enterprise operation or from a nontax-supported source, such as toll revenues or grant anticipation revenue bonds (GARVEES) paid solely from dedicated federal funding, then it will not be included as tax-supported debt or contingent liability.

Can P3 obligations receive self-support treatment?

29. In some cases, in addition to tax-backed revenues, there will be additional pledges of nontax revenues supporting the P3 payment obligation. In these cases, we will determine if these nontax revenues provide partial support or self-support of the payment obligation to adjust the size of the obligation to be included in our debt calculations. Our self-support analysis is based on historic coverage, but we may adjust our view of self-support if we expect future coverage to be lower than historic levels.

How does Standard & Poor's determine the amount of debt to include in the debt statement?

30. In evaluating how much debt to include, we will evaluate milestone and availability payment obligations separately. Milestone payments are made in recognition of a construction milestone being reached and, in most cases, are paid prior to the asset being available for use. Absent some form of self-support, we would treat milestone payments as debt and add them at the P3's financial close. Availability payments include a fixed portion which represents both the capital portion of project-related debt issued by the partnership and equity partner's contribution and a variable portion that represents lifecycle operations and maintenance (O&M) expenses. In our view, adding the string of total future annual payments represents a more comprehensive estimate of a government's true obligation over the life of a project. However, because we view O&M costs for these projects as operating costs and to ensure equal treatment with other tax-backed debt, where a breakdown is available, we would separate the O&M cost from the other components of the availability payment. Availability payments are treated as contingent liability prior to asset delivery, and, absent proven self-support, these payments will be added as a debt-like obligation upon delivery of the asset.
31. Since milestone and availability payments include either an interest component (for debt issued) or a return on investment (on the equity contribution), prior to adding the obligations to our debt statements, we would discount the future payments to arrive at a net present value of the principal component of the P3 payment. Given that P3 projects are typically done in lieu of a traditional debt financing for a public entity, we estimate a discount rate that is representative of a public entity's cost of capital based on its rating category and length of the P3 contract. We would generally use Municipal Market Data or a similar data source to estimate the discount rate.

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Criteria | Governments | U.S. Public Finance: Financial Management Assessment

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Assessing Financial Practices

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Financial Management Assessment

(Editor's Note: This criteria article originally was published on June 27, 2006. We're republishing this article following our periodic review completed on Feb. 5, 2015. As a result of our 2015 review, we updated the author contact information. Previously, we updated the author contact information following our 2014 review. In table 6, the debt derivative profile criteria referred to has been superseded by the criteria article titled, "Contingent Liquidity Risks in U.S. Public Finance Instruments: Methodology And Assumptions," published on March 5, 2012.)

The rigor of a government's financial management practices is an important factor in Standard & Poor's Ratings Services analysis of that government's creditworthiness. Managerial decisions, policies, and practices apply directly to the government's financial position and operations, debt burden, and other key credit factors. A government's ability to implement timely and sound financial and operational decisions in response to economic and fiscal demands is a primary determinant of near-term changes in credit quality. Standard & Poor's will now offer a more transparent assessment of a government's financial practices as an integral part of our general obligation and appropriation credit rating process.

Assessing Financial Practices

Major elements of governmental financial management include economic analysis, revenue forecasting, risk management, accounting practices, financial strategies, cash and liquidity administration, and debt management. All of these elements have an impact on a government's bottom line, and, as a result, on its credit quality. If a government is unable or unwilling to employ its authority in a timely manner to address events that impact its budget and financial condition, its credit rating can be adversely affected.

Many finance directors and other local government officials take pride in the managerial policies, practices, and structures they have established to ensure efficiency and quality of service, and to promote innovation and security. While credit ratings incorporate financial management as one of many factors, the impact of financial management on the rating may not be readily apparent because other factors may counterbalance, or even outweigh it. Examples of such factors include local economic conditions, debt levels, and statutory limitations. By focusing special attention on the assessment of financial practices, Standard & Poor's will more fully recognize governments' efforts in this important area.

Analytical Framework

Standard & Poor's has established an analytical methodology that evaluates established and ongoing management practices and policies in the seven areas most likely to affect credit quality. These areas are:

- Revenue and expenditure assumptions
- Budget amendments and updates
- Long term financial planning

- Long term capital planning
- Investment management policies
- Debt management policies
- Reserve and liquidity policies

The evaluation of each area focuses on best practices and policies that are credit-important in most governments rather than policies that address issues that are fairly unusual or unique to the government. The nature of the policies and practices considered are those that governments may use in some manner regardless of the size or type of government. Issuers that rank well in the evaluation should be those whose policies help reduce the likelihood of credit deterioration, or enable them to benefit more from changing conditions, whether they are economic, budgetary, statutory, or personnel related.

Users of the FMA, however, should also realize its limitations. By focusing on a government's policies and practices, the FMA is not an evaluation of the competency or aptitude of individual finance professionals; nor is it an evaluation of a finance department's ability to handle unique challenges. Moreover, the nature of the entity's governing body, the effectiveness of its governance practices, and issues of public policy pursued by the government are beyond the scope of this analysis.

Although Standard & Poor's considers in its analysis any material information that provides relevant context or influences financial management, it is important to note that this assessment of financial practices is based primarily on the existence and implementation of management practices, and not necessarily the results achieved by such practices. Results—both positive and negative—are assumed to manifest themselves in other visible ways. The purpose of the focus on policies and practices is to evaluate the potential for credit quality to move away from those currently indicated by results.

The following tables detail each of the seven financial practice areas examined by Standard & Poor's.

Table 1

Revenue And Expenditure Assumptions	
Are the organization's financial assumptions and projections realistic and well grounded from both long-term and recent trend perspectives?	
Strong	Formal historic trend analysis is performed and updated annually for both revenue and spending; regular effort is made to determine whether revenues or expenditures will deviate from their long-term trends over the next couple of years; evidence of independent revenue forecasting exists (when possible).
Standard	Optimistic assumptions exist that, while supportable, add risk; assumptions are based on recent performance, but little evidence of questioning or validating assumptions exists.
Vulnerable	Assumptions neglect likely shortfalls, expenditure pressures or other pending issues; assumptions exist which enjoy no prudent validation.

Table 2

Budget Amendments And Updates

Are there procedures for reviewing and amending the budget based on updated information and actual performance to ensure fiscal targets are met?

Strong	At least quarterly budget surveillance is maintained to identify problem areas and enable timely budget adjustments; management exhibits ability and willingness to address necessary intra-year revenue and expenditure changes to meet fiscal targets.
Standard	Semiannual budget reviews exist; management identifies variances between budget and actual performance.
Vulnerable	No formal process exists for regular review and timely updating of budget during the year.

Table 3

Long-Term Financial Planning

Does management have a long-term financial plan that allows them to identify future revenues and expenditures as well as address upcoming issues that might affect these?

Strong	A multi-year financial plan exists where future issues are identified and possible solutions are identified, if not implemented; revenue and expenditure decisions are made primarily from a long-term perspective. Structural balance is a clear goal.
Standard	Multi-year projections are done informally; multi-year projections are done, but without discussion of pending issues, so that issues are not addressed; some one-shot actions exist, but the long-term consequences of these actions are acknowledged and communicated.
Vulnerable	No long-term financial planning exists; operational planning is done on a year-to-year (or budget-to-budget) basis; one-shot budget fixes are used with little attention to long-term consequences.

Table 4

Long-Term Capital Planning

Has the organization created a long-term capital improvement program?

Strong	A five-year rolling CIP with funding identified for all years exists and is linked to the operating budget and long-term revenue and financing strategies.
Standard	A five-year CIP is done, but is generally limited to projects to be funded from the current budget plus a four-year wish list; some funding for out-year projects is identified, but not all.
Vulnerable	No five-year CIP exists; capital planning is done as needs arise.

Table 5

Investment Management Policies

Has the organization established policies pertaining to investments, such as the selection of financial institutions for services and transactions; risk assessment; investment objectives; investment maturities and volatility; portfolio diversification; safekeeping and custody; and investment performance reporting, benchmarking, and disclosure?

Strong	Investment policies exist and are well defined; strong reporting and monitoring mechanisms exist and are functioning.
Standard	Informal or non-published policies exist; policies are widely communicated and followed.
Vulnerable	Absence of informal or non-published policies

Table 6

Debt Management Policies	
Has the organization established policies pertaining to the issuance of debt, such as projects that may or may not be funded with debt (including economic development projects); maturity and debt service structure; use of security and pledges, credit enhancement, and derivatives; and debt refunding guidelines?	
Strong	Debt policies exist and are well defined; strong reporting and monitoring mechanisms exist and are functioning. If swaps are allowed, a formal swap management plan that follows S&P's guidelines (see the DDP) has been adopted.
Standard	Basic policies exist; policies are widely communicated and followed. If swaps are allowed there is a swap management plan in place, but it does not follow S&P's guidelines.
Vulnerable	Absence of basic policies or clear evidence that basic policies are followed. Swaps are allowed but there is no swap management plan in place, and/or there is no local (non-FA) knowledge about the swap.

Table 7

Reserve And Liquidity Policies	
Has the organization established a formalized operating reserve policy, which takes into account the government's cash flow/operating requirements and the historic volatility of revenues and expenditures through economic cycles?	
Strong	A formal operating reserve policy is well defined. Reserve levels are clearly linked to the government's cash flow needs and the historic volatility of revenues and expenditures throughout economic cycles. Management has historically adhered to it.
Standard	A less defined policy exists, which has no actual basis but has been historically adhered to it.
Vulnerable	Absence of basic policies or, if they exist, are not followed.

Assessment Methodology

Standard & Poor's evaluates and assigns each of the seven areas a qualitative ranking, based on the above framework. In determining the overall assessment, the revenue and expenditure assumptions, budget amendments and updates are given a relatively higher importance; long-term financial planning and liquidity policies are given an average importance; and capital planning, debt policies, and investment policies receive relatively less weight. The difference in degrees of importance is limited, however, so that each factor's contribution to the assessment is meaningful.

Overall assessments are communicated using the following terminology: The term "good", in addition to the terms "strong", "standard", and "vulnerable", is used to further differentiate governments with a mix of strong and standard practices.

"Strong"

A Financial Management Assessment of 'strong' indicates that practices are strong, well embedded, and likely sustainable. The government maintains most best practices deemed critical to supporting credit quality and these are well embedded in the government's daily operations and practices. Formal policies support many of these activities, adding to the likelihood that these practices will be continued into the future and transcend changes in the operating environment or personnel.

"Good"

A Financial Management Assessment of 'good' indicates that practices are deemed currently good, but not comprehensive. The government maintains many best practices deemed as critical to supporting credit quality, particularly within the finance department. These practices, however, may not be institutionalized or formalized in policy, may lack detail or long-term elements, or may have little recognition by decision makers outside of the finance department.

"Standard"

A Financial Management Assessment of 'standard' indicates that the finance department maintains adequate policies in most, but not all key areas. These policies often lack formal detail and institutionalization, and may not include best practices.

"Vulnerable"

A Financial Management Assessment of 'vulnerable' indicates that the government lacks policies in many of the areas deemed most critical to supporting credit quality. The 'vulnerable' designation suggests a high degree of uncertainty regarding a government's ability to effectively adapt to changing conditions that could threaten its long-term financial position.

Analytical Process And Supporting Documentation

To perform its analysis of local government financial practices, Standard & Poor's will rely on documentation provided by the government and discussions with the organization's management. Relevant documents include, but are not limited to, audited financial statements and accompanying notes, budget documents, financial plans, management policy statements, procedure manuals, and periodic reports. Discussions provide an important opportunity for management to elaborate on the factors listed above, as well as answer specific questions, so as to enable Standard & Poor's analysts to assess the factors as thoroughly as possible.

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Criteria | Governments | U.S. Public Finance: GO Debt

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(Editor's Note: This criteria article originally was published on Oct. 12, 2006. We're republishing this article following our periodic review completed on July 17, 2014. This article has been partially superseded by U.S. State Ratings Methodology published Jan. 3, 2011. It replaces portions of this criteria as it relates to states, as well as "State Ratings" section. This article has been partially superseded by U.S. Local Governments General Obligation Ratings: Methodology And Assumptions, published Sept. 12, 2013, for issuers that are in the scope of that criteria.)

When a state or municipal issuer sells a general obligation (GO) bond, the issuer pledges its full faith and credit to repay the financial obligation. Unless certain tax revenue streams are specifically restricted, the GO issuer frequently pledges all of its tax-raising powers. Typically, local governments secure the obligation with their ability to levy an unlimited ad valorem property tax; state governments, which have different tax structures, usually pledge unrestricted revenue streams.

GO bonds remain essential financing instruments of tax-supported capital projects. Examining four basic analytical areas enables Standard & Poor's Ratings Services to assess the capacity and willingness of municipal governments to repay tax-secured debt. Those areas are:

- Economy,
- Financial performance and flexibility,
- Debt burden; and
- Management.

Economic Base

The economic base is one of the most critical elements in determining an issuer's rating. It incorporates local and national economic factors and trends. The foundation of an entity's fiscal health is its economy. Financial growth prospects and volatility of major revenue sources depend on the performance of the local economy, as do the affordability and range of services delivered by a government. An issuer's geography and proximity to transportation networks, cities, and markets play a key role in economic development. The infrastructure of an area, including the road network, utility systems, and transportation facilities, will also be important. These two areas provide background about how a specific economy has developed to date, but also provide information on future growth prospects.

Demographic characteristics factor heavily into economic analysis. The population base is analyzed in terms of age, education, labor skills and competitiveness, and wealth and income levels, and how these factors are changing over time. Demographic analysis also considers the impact of annexations and the effect of migration patterns. Wealth characteristics are a highly critical element of a demographic review. High wealth and income characteristics are viewed very favorably and can contribute to superior debt-repayment capabilities. Common ratios used to analyze economic factors include per capita effective buying income, which measures resident incomes net of personal income tax and non tax payments and median household effective buying income, which measures after tax income on a household basis.

An entity's tax base is initially evaluated for size, structure, and diversity. Assessed- and market-valuation trends are analyzed historically, as is building-permit activity. The tax base composition is reviewed to identify proportionate contributions from residential, commercial, and industrial tax-revenue sources. To determine the degree of concentration, the leading taxpayers are profiled and assessed for their direct and indirect effects on the local economy. If a tax base is concentrated, in either taxpayer or employment sectors, there may be a vulnerability to any changes in one or a few taxpayers' assessments, especially when property taxes comprise a large portion of the revenue base. Significant changes in the tax base are analyzed to determine whether the causes are structural or cyclical. Common ratios used by Standard & Poor's to evaluate the tax base include total market value and market value per capita.

The composition, output, and diversity of the employment base are prime considerations in evaluating economic strength. The employment base provides the primary growth engine of a community and can be an attraction or a deterrent for continued economic development and viability. Specifically, the factors Standard & Poor's analyzes include, but are not limited to:

- The industry mix and employment by sector to identify diversification trends or structural changes in the economy over time. Specifically, contributions from the manufacturing, services, trade, construction, government, health care, higher education and agriculture sectors and how these have changed over time relative to national and state trends;
- Concentration in major employers or reliance on particular industries;
- Employer commitment to the community--importance of local facilities and employees to the overall strategy of local employers, business-development plans, age of plant, and industry prospects;
- Unemployment patterns and labor force growth, to gauge the cyclicality of the underlying base;
- The regional patterns of employment and growth to the extent that a municipality participates in a regional economy; and
- The level of retail sales as well as growth trends over time, particularly when communities rely on sales tax revenues.

Specific comparisons of the general factors outlined above are made with available economic data. Where appropriate, these data also are compared with metropolitan statistical area (MSA), state, and national data. Historical trends and their likely development are much more valuable than data comparisons for a specific point in time.

Generally, entities with higher income levels and diverse economic bases have superior debt-repayment capabilities, reflecting better protection from economic changes or unexpected volatility than other communities. Nevertheless, a strong economy does not always ensure a strong ability to meet debt payments. It is extremely important for an issuer to be able to capitalize on its primary economic strengths in terms of revenue collection, leading to another highly critical factor in credit evaluation: the financial management and performance of an entity.

Financial Indicators

Financial analysis involves several areas:

- Accounting and reporting methods;
- Revenue and expenditure structure and patterns;

- Annual operating and budgetary performance;
- Financial leverage and equity position;
- Budget and financial planning; and
- Contingent financial obligations, such as off-balance sheet debt, pension liabilities and other post-employment benefits.

An analysis of these factors will present a clear indication of the financial strengths and weaknesses of an issuer. Such analysis also will provide the framework for judging capacity to manage economic, political, and financial uncertainties.

The first important variable in judging financial performance is the method of accounting and financial reporting. Based on the guidelines of Generally Accepted Accounting Principles (GAAP), Standard & Poor's assesses an entity's financial reports. Emphasis is placed on the government's primary government/major funds (general, debt-service, and special-revenue funds), which under GASB Statement 34 are now called fund financial statements and its government-wide statements, which provide a broad overview that provides an all-encompassing view of the government's finances.

Further, Governmental Accounting Standards Board (GASB) interpretations of accounting rulings are considered in evaluating the organization of funds, accruals, and other financial reporting methods. GAAP reporting is considered a credit strength, and the ability to meet the Government Finance Officers Association's (GFOA) Certificate of Conformance reporting requirements also is viewed favorably. Enhancing public disclosure is a government's Comprehensive Annual Financial Report (CAFR), which includes significant financial data and various statistical data to supplement the accounting statements.

Issuers are expected to supply adequate and timely financial reports. Financial reports prepared by an independent certified public accountant are preferred. Lack of an audited financial report prepared according to GAAP could have a negative impact on an issuer's rating, since questions about reporting will be raised. If state agencies or other internal government units prepare financial reports, Standard & Poor's is interested in any deviation from GAAP standards and the independence of the auditors preparing the reports.

Operating-account analysis includes an examination of operating trends, focusing on the structure of revenue and expenditure items, primarily within the primary/major fund category including general fund and debt-service funds. If other funds are tax supported or include revenues related to general government purposes, they also have relevance in developing a complete understanding of financial performance.

Diverse revenue sources are preferable, as they can help to strengthen financial performance and enhance stability. The use of fees not only creates new revenue streams, but also places the burden for municipal services on the users of the services. Special taxes, such as sales or excise taxes, allow for further revenue diversification. Although a balanced composition of revenues gives an issuer the flexibility to meet all of its financial obligations, it does not necessarily protect against the impact of a general economic decline. For example, if a government's tax collections depend on several major revenue sources, the direct and indirect effects of an economic downturn can be broad enough to affect revenue performance. Revenue sources are examined over a three- to five-year period, with particular focus on unusual patterns in revenue performance that could lead to significantly different financial performance in the future.

Similarly, expenditure composition and stability are analyzed in the context of revenue patterns. Large expenditure items are identified and examined to determine if continued expenditure growth could endanger existing services or require additional budget actions to maintain balance. To the extent that certain spending items are extraordinary or nonrecurring, the effect on long-term financial performance is discounted; conversely mandated expenses can limit flexibility and decision-making. Discretionary spending, such as pay-as-you-go capital, is evidence of operating flexibility.

The effect of any transfers among other governmental and capital funds is considered in the review of financial performance. When inter-fund transfers support the general fund and/or debt-service fund, Standard & Poor's reviews the policy guidelines and historical transfer practices. Volatility in transfers that represents a deviation from past policy could be viewed as a sign of fiscal stress in both the transferring and receiving funds.

The balance-sheet examination focuses on liquidity, fund-balance position, and the composition of assets and liabilities. In Standard & Poor's consideration of appropriate fund-balance levels, several variables are important:

- The makeup and liquidity of the fund balance, particularly as related to the volatility and patterns of the revenue stream;
- The predictability of government spending;
- The availability of unencumbered reserves or contingency funds; and
- The ability of public officials to sustain a strong financial position.

The fund-balance position is a measure of an issuer's financial flexibility to meet essential services during periods of financial strain. Standard & Poor's considers an adequate fund balance and policies determining fund-balance goals to be credit strengths. A common ratio used to evaluate fund balance is the unreserved fund balance expressed as a percent of operating expenditures. This provides a measure of how much of the fund balance is not committed to spending and is available for contingencies.

With the implementation of GASB Statement 34, Standard & Poor's also evaluates issuers' Statement of Net Assets, which measures all assets and liabilities (similar to a private sector business) and the statement of activities, which presents how net assets have changed over the prior year. Over time increases or decreases in net assets provide an indicator of how a government's financial position is changing. Increases in net assets may indicate an improved overall financial position while decreases in net assets may reflect a changing manner in which a government may have used previously accumulated funds.

The analysis of financial performance also takes into account the role of short-term financing and its implications. As available cash balances decrease, cash flow difficulties can become more prominent. Nevertheless, conservative financial strategies and management practices can enable an issuer to minimize cash flow difficulties.

In reviewing an issuer's cash management and investment practice, Standard & Poor's considers the types of investments, security precautions, and uses of investment income.

Debt Factors And Long-Term Liabilities

The analysis of debt focuses on the nature of the pledged security, the debt repayment structure, the current debt-service burden, and the future capital needs of an issuer. Manageable debt levels are an important consideration, since accelerated debt issuance can overburden a municipality while low debt levels may indicate under-investment in capital facilities.

Investment in public infrastructure is believed to enhance the growth prospects of the private sector. Neglecting critical capital needs may impede economic growth and endanger future revenue generation. Although some capital projects are discretionary and can be deferred in difficult economic periods, the failure to maintain existing facilities can create a backlog of projects. Eventually, when the backlogged projects are funded, the cost may prove burdensome to future taxpayers.

In difficult fiscal situations where municipalities face operating deficits, some entities choose long-term financing of accumulated deficits as a solution. Standard & Poor's believes that the "bonding out" of financial problems is not a permanent cure and may complicate the ultimate resolution of the fiscal strain.

The specific security pledged is analyzed. A GO pledge takes various forms that provide different degrees of strength. Unlimited ad valorem property-tax debt, secured by a full faith and credit pledge, usually carries the strongest security. However, in all ad valorem pledges, during a period of fiscal stress, debt service competes with essential services. Limited ad valorem tax debt, or a limited-tax pledge, carries legal limits on tax rates that can be levied for debt service. Standard & Poor's views this type of security more as a means to limit debt issuance than as a strict cap on revenues available to retire debt.

In a limited-tax situation, the tax base's growth, the economy's health, and the entity's fiscal balance position are often more significant credit factors than the limited source of payment. In fact, a limited-tax bond can be rated on par with unlimited-tax bonds if there is enough margin within the tax limit to raise the levy, or if other available balances or tax revenues are available for debt service. An enterprise system's revenues, such as water or sewer user charges, as well as a full faith and credit pledge, secure double-barreled bonds. Taxing power is used only if the enterprise's revenues are insufficient. Standard & Poor's approach is to review both security pledges.

GO bonds are considered self-supporting when the enterprise can pay debt service and operating expenses from its own operating revenues. Such a self-supporting enterprise could use the full faith and credit support of a municipal government without diminishing the credit quality of the government's GO debt.

The debt maturity schedule can become important in certain circumstances. Prudent use of debt dictates that the debt's term matches the useful economic life of the financed assets. An average maturity schedule for capital projects is one in which 25% of the debt rolls off in five years and 50% is retired in 10 years. A faster maturity schedule may be desired to avoid increased interest costs; however, it can place undue strain on an operating budget. Statutory provisions governing debt retirement are also important considerations in evaluating payout.

Standard & Poor's looks for realistic debt limitations that permit an issuer to meet ongoing financing needs. A city near

its debt limit has less flexibility to meet future capital needs, but more importantly, may be unable to borrow money in the event of an emergency. Restrictive debt limitations often necessitate the creation of financing mechanisms that do not require GO bond authorization or voter approval.

Standard & Poor's examines the community's future financing needs; a capital improvement plan indicating both funding needs and anticipated funding sources is a useful planning tool for determining future borrowing needs. Municipalities should regularly review their critical capital needs and schedule capital improvements for assets' life. The history of past bond referendums is one indication of the community's willingness to pay for such improvements.

Standard & Poor's also measures the debt burden against a community's ability to repay. Three indicators of this ability are:

- The tax base;
- The wealth and income of the community; and
- Total budget resources.

Ratios used by Standard & Poor's to measure debt burden include:

- Debt to market value, which measures overall debt to all taxable property within the government's jurisdiction;
- Debt per capita, which measures overall debt by population;
- Debt as a percentage of personal income (which is available on the state level but not on the local level); and
- Debt as a percentage of operating expenditures.

Each of the first three debt burden ratios are also measured net of self-supporting obligations for the purpose of ascertaining the true debt obligation supported by no other sources.

In general, a debt burden is considered high when debt-service payments represent 15%-20% of the combined operating and debt-service fund expenditures. This benchmark will vary with the structure of government and the level of services that an entity provides.

Pension Liabilities

Pension liabilities remain a significant credit factor for state and local governments. Standard & Poor's views pension obligations as long-term liabilities that should be managed in a way that will not adversely affect the bond issuer's ability to make debt service payments. Although various debt instruments may have a lien position that is senior to pension obligations, benefit payments carry with them a political reality that adds to any legal protections. While debt levels are usually more predictable due to long-term capital plans and the largely fixed-rate nature of the obligations, unfunded pension liabilities tend to be more volatile.

It is important to consistently monitor the key variables of the issuer's retirement systems. Accordingly, Standard & Poor's reviews pension trends related to funding progress. This analysis includes changes in assets and liabilities, funded ratios, unfunded actuarial accrued liabilities (UAAL) and the relationship of the UAAL to payroll. Pension asset valuations can change, as can actuarial liabilities. The higher contribution requirements that result from unfunded liabilities could make any preexisting fiscal stress more acute, especially if the increase was dramatic. Therefore,

Standard & Poor's will evaluate the sponsor's pension funding strategy, and the current and projected cost implications on its financial profile. As part of this analysis, Standard & Poor's will review the track record annual required contributions (ARC) and the percent of the ARC made. The historical and forecast trends in pension funding are as important, if not more so, than the specific liability level at a single point in time.

Other Post Employment Benefits Liabilities

GASB Statement 45 will require the disclosure of Other Post Employment Benefits (OPEB) in a manner similar to pensions starting in fiscal period beginning after December 15, 2006. Currently, OPEB expenditures are included in a government's general fund and detailed in an audit note, with funding generally on a pay-go basis. Under the new statement, the liabilities attributable to OPEB and the annual required contribution for employers would be actuarially determined and reported. GASB Statement 45 does not require funding of the liability. From a credit standpoint, OPEB liabilities and funding strategies will be evaluated in a similar way to pension obligations. This analysis will include a review of the historical and projected pay-go costs for OPEB, the newly quantified un-funded liabilities and current funded status, and the plan for managing ongoing annual required contributions. Also, the impact of projected annual OPEB costs on the current and future budgets will be assessed. This review would also include the legal and practical flexibility a specific government has in managing these obligations from both the asset and liability perspectives.

Management Factors

An understanding of the organization of government is critical. The powers of a municipality establish the entity's ability to plan for changes in the political, economic, and financial environment, and the capacity to respond in a timely fashion. The entity's degree of autonomy is affected by home-rule powers, as well as legal and political relationships between state and local levels of government.

The range and growth potential of services provided by the entity are also examined in relation to the capacity to provide such services. The ability of officials to implement timely and sound financial decisions in response to economic and fiscal demands can depend on the tenure of government officials and frequency of elections. The background and experience of key members of the administration are important considerations if they affect policy continuity and the ability to reformulate plans.

Financial management is a major factor in the evaluation of state and local government creditworthiness. Past performance against original plans, depth of managerial experience, and risk profiles of key leaders all have an impact on the bottom line.

Financial Management Assessment

Standard & Poor's analyzes the impact of financial management policies and practices through the use of the Financial Management Assessment (FMA). The FMA attempts to provide a transparent assessment of a government's financial practices and to highlight aspects of management that are common to most governments in a consistent manner. The

FMA is an analytic enhancement that improves the definition of our analysis of management practices and policies, and expand our methods of communicating analytic conclusions about policies and procedures.

A government's ability to implement timely and sound financial and operational decisions in response to economic and fiscal demands is an important component of credit quality. The FMA makes certain aspects of our analysis of management more transparent, specifically those concerned with policies and practices that are considered most critical to credit quality. FMAs are assigned only to general government tax-backed and annual appropriation-backed issues.

The FMA encompasses seven areas most likely to affect credit quality:

- Revenue and expenditure assumptions
- Budget amendments and updates
- Long-term financial planning
- Long-term capital planning
- Investment management policies
- Debt management policies
- Reserve and liquidity policies

The overall FMA assessments are communicated in our analyses using the following terminology:

- "Strong" indicates that practices are strong, well embedded, and likely sustainable.
- "Good" indicates that practices are deemed currently good, but not comprehensive.
- "Standard" indicates that the finance department maintains adequate policies in most, but not all key areas.
- "Vulnerable" indicates that the government lacks policies in many of the areas deemed most critical to supporting credit quality

The FMA focuses on a government's policies and practices. It is neither an evaluation of the competency or aptitude of individual finance professionals nor an evaluation of a finance department's ability to handle either ordinary occurrences or unique challenges. The purpose of the FMA is to highlight the most transparent aspects of management that are common to most governments in a consistent manner. Even with this narrow definition, other possible practices could be considered, such as accounting and disclosure practices, internal controls, and policies for knowledge retention and staff turnover. While each of these has the potential to affect credit quality, factors considered in the FMA are those that Standard & Poor's considers the most critical in determining credit quality.

It is important to keep in mind that the FMA is one component of a rating; we will continue to evaluate all of the other factors—economic, financial condition, debt and management. Given what the FMA measures, it is possible that an entity with a strong FMA may be better able to tolerate weakness in the basic credit areas, or conversely, may be better able to take advantage of improving conditions. As a result, the practices that are captured by the FMA could contribute to rating changes, or allow a community to better prevent a downgrade.

State Ratings

State credit ratings

Standard & Poor's analysis of states includes all of the factors considered in any GO rating. State governments have sovereign powers and therefore possess unique administrative and financial flexibility which translates to a higher credit profile for state ratings in many cases. Generally states have broad powers to establish their own tax structures and expenditure responsibilities. Tax structure, or the ability of a state to benefit from the economic activity within its boundaries, is an important rating factor, as well as the degree of flexibility existing in this structure, both legally and politically. States also enjoy flexibility in setting and modifying tax rates, deductions, exemptions, and collection dates. These discretionary powers can immediately and favorably influence a state's fiscal condition.

While states generally have broad service responsibilities, they also enjoy considerable discretion in establishing or changing disbursement dates and funding levels for state assistance. This affords a high level of control over budgets and cash flow which, given the absolute level of these disbursements, can positively impact fiscal standing. These sovereign characteristics can be limited, however. For some states, the voter initiative or referendum process is very active and its effects are important from a credit standpoint. Where decisions about specific tax/revenue levels and spending allocations are placed in the hands of the electorate, states have reduced flexibility to respond to changing economic or financial situations.

State/local relationships

States' relationships with their localities continue to evolve and are part of the credit review process for both levels of government. How services and programs are provided across governments and what the funding relationship has been over time are important considerations. Successful legal challenges to some states' funding of primary and secondary education have bolstered state aid to schools, and in turn placed significant pressure on state budgets. Conversely shifting responsibilities to local government units can ease a state's financial burden, but will pressure credit ratings of local governments unless accompanied by new local revenues or mandate relief.

Special GO Situations

In addition to traditional general obligation ratings, Standard & Poor's rates a number of GO securities that carry many of the characteristics of general obligation analysis but may also have their own nuances. For example, in certain parts of the country, library, park, fire, forest preserve, municipal utility, and water and sewer districts issue bonds backed by some form of general obligation taxing powers. Analysis for this type of debt follows the same basic principals of GO tax backed analysis including the four factors (economy, debt, management and finances) but also factors in the uniqueness of the individual districts. These may include the limited service functions, and in some cases the limited revenue raising capabilities or specific millage limitations. Since service functions are often limited (such as providing library services or fire services), budgets are often smaller in size and capital intensive. Often times the fixed portion of the budget dedicated to debt service is a much larger component than would be typical for a larger, full service operating budget of municipality.

Many of these types of districts are often coterminous with the municipality or county they lie within. In some cases they lie within more than one municipal boundary. In those cases where they are coterminous and share the same economic base, it doesn't necessarily mean the rating will be the same. While the economic factors may be the same,

management practices, financial position and debt profiles may be very different and could result in higher or lower ratings. In particular, financial position will be an important determinant in assigning the rating.

Certain districts also carry, in addition to their full faith pledge, the ability to levy rates and charges for specific services provided. In the case where user charges are also used, Standard & Poor's evaluates the GO factors while also looking at the revenue stream of the user charge and factors that into the rating. In some instances, the history of using user charges that translate into strong financial position has contributed to higher ratings.

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Criteria | Governments | U.S. Public Finance: Rating Government Department Appropriation-Backed Debt In U.S. Public Finance

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(Editor's Note: This criteria article was originally published on Nov. 7, 2007. We are republishing this article following our periodic review completed on Dec. 9, 2014.)

Appropriation-backed obligations come in various forms, but the most prevalent are lease revenue bonds, certificates of participation, and service contract bonds. Timely principal and interest payments for these obligations depend on annual appropriations by the obligor, which is usually a state or local government.

These obligations are typically rated one notch lower than the GO rating as long as they conform to Standard & Poor's Ratings Services' lease and appropriation criteria. Occasionally, we are asked to review appropriation-backed structures for capital facilities that are less direct annual payment obligations of a state or local government, but are supported by that government's annual appropriations from departments or agencies. We review these transactions on a case-by-case basis to assess the appropriation process for the payment obligations, project/financing authorization, level of state/local government involvement, how the financing structure conforms to our criteria, and for where the obligation will be accounted.

For these less traditional annual appropriation obligations, the rating outcome can be the same as a traditional appropriation-backed obligation or it may fall more than one notch below the government's GO rating depending on the structure. Rating these obligations may also require evaluating the credit of the specific department or agency responsible for the payments.

Key Issues To Be Considered

Standard & Poor's typically assigns lease and appropriation ratings one notch below the GO rating. Although not legally debt, when government departments or agencies issue these types of obligations, these premises need to be evaluated at a different level of government:

- Payment on these obligations is typically handled at a high level of the government;
- Key decision makers at the government are fully aware of the issuances;
- When entities review and discuss debt levels and affordability, these obligations are considered;
- Despite appropriation risk, controls and mechanisms are in place to ensure the payments flow without disruption; and
- These obligations are typically a critical component of the entities' capital structure.

Obligations May Be Rated As High As Traditional Appropriation Structures

If the obligor is a department or agency of the state or local government, the same rating can be achieved as if the state was the direct obligor. For this to occur, the department or agency must have authority to enter into the

contractual agreement by a legislative act or resolution. It is also important that the state or local government recognize the long-term obligation. Whether a government considers the bonds being issued an obligation can be evidenced in several ways, including:

- The relevant department recognizes that the issue in question will be monitored and appropriations sought in a similar manner as other appropriation-backed obligations;
- Determining how and where lease rental payments equivalent to the debt service on the issued bonds will appear in the budget;
- Analyzing financial statements to assure that prior appropriation-backed obligations of a similar nature have been recorded in a manner that meets GAAP standards; and
- A legal opinion from the obligor's legal counsel or the government's Attorney General clarifying the nature of the obligation.

The following examples illustrate how debt ultimately backed by state revenues but not issued directly by the state were rated one notch below the state's rating:

Mississippi Development Bank

The Mississippi Development Bank's bonds are secured by individual loan agreements between various counties in the state and the Mississippi Development Bank. These loans provide funding to the Mississippi Transportation Commission for construction of highway projects in the respective county that is party to the loan agreement. The basis for the 'AA-' rating (Mississippi is rated 'AA') includes enabling legislation that authorizes the commission to enter into cooperative agreements to accelerate the completion date of scheduled highway construction projects. In addition, under the terms of the loan agreements, the counties have pledged project revenues received from the Mississippi Department of Transportation (MDOT). The revenues, which are subject to annual appropriation, are directed from MDOT directly to the trustee and provide ultimate bond security. In this case, even though the state is not the direct obligor, the Legislature specifically authorized the projects and the method of finance. The projects fund statewide infrastructure requirements. The obligations will be included in the state's Comprehensive Annual Financial Report (CAFR) along with other long-term debt and contractual obligations, and the state auditor classifies it as state debt.

Bay Area Infrastructure Financing Authority

The Bay Area Infrastructure Financing Authority, California, was assigned an 'A' rating one-notch below that of the state ('A+' GO). The notes are secured by state appropriations from various state transportation-related funds for the seismic retrofit of the San Francisco-Oakland Bay Bridge. Although not structured as a typical state lease appropriation security, there was statutory authorization for the project and identification of dedicated statewide revenues to fund debt service annually, subject to appropriation.

In addition to the strong coverage of debt service from transportation funds that were identified as the source of pledged appropriation, the state enacted statutes that authorized revenues in future years that can be used for debt retirement. The notes are secured by state appropriations for the San Francisco-Oakland Bay Bridge seismic retrofit project, pursuant to a funding agreement between the state, the California Department of Transportation (Caltrans), and the Bay Area Toll Authority (BATA). The funding agreement specifies various state transportation funds that will be appropriated at different dates, subject to submission of the appropriate requisition documentation by BATA. State

law and the funding agreement provide that the California Transportation Commission, in consultation with Caltrans and BATA, may update and revise the schedule of appropriation payments, which are pledged to the debt based on the project construction schedule. BATA pledges under a contribution agreement to remit all future state funds appropriated for the San Francisco-Oakland Bay Bridge project to the note trustee.

Bonds Rated More Than One Notch Below The GO Rating

If a department of a state or local government has received the legislative authority to enter into a contractual obligation for capital purposes, but the state or local government does not consider it debt or a direct long-term contractual commitment, the rating can fall more than one notch below the GO rating of that government. Here is an example:

Kentucky Administrative Office of the Courts

Bonds issued by various Kentucky county public property corporations are secured by lease-rental payments from the Kentucky Administrative Office of the Courts (AOC). These bonds are rated 'A', two notches below Kentucky's 'AA-' rating. In this instance, there is legislative authorization for these projects, but the state does not recognize it as debt or a long-term contractual obligation. In addition, the lease provisions do not conform fully to Standard & Poor's criteria. The primary credit factor supporting the rating is the commonwealth's statutory obligation to provide for court facilities in every county and its long history of doing so through the AOC. Use allowance payments from the AOC, subject to legislative appropriation, will pay debt service on the bonds as long as the AOC maintains occupancy of the financed facilities. Under the lease agreement, both the participating county and AOC express their intent to renew the lease annually through the life of the bonds; the AOC also covenants to annually seek sufficient legislative appropriations to pay debt service. Under each agreement, the respective county is responsible for maintenance and insurance, and paying all taxes and utilities on the leased property. While a traditional lease would have these costs funded by the state, under Kentucky law and the lease agreement, the AOC is required to reimburse the county for all costs incurred

When The Government Is Not The Obligor

We have been asked to rate capital lease transactions in which a department of state government is the issuer, but an independent agency is the obligor. The revenues from a department of state government can be the basis for a debt rating issued by another agency if the transaction received formal approval from the state government. However, in those instances where no formal approval has been received, this revenue becomes a part of the issuer's revenue stream and is incorporated in the analysis as another source of revenues available to fund the debt service on any appropriation-backed bonds issued. In this case, an evaluation of the issuer will likely be necessary. The following is an example:

Regional Planning Agency

We were asked to provide a rating on bonds issued by a department of state government secured by lease payments from a regional planning agency. When we performed the analysis of the structure, we determined that there was no formal link between the security pledged to the bonds and the ratings of the two states that formed the bi-state agency,

which were the obligor on the bonds. The analysis was based on the evaluation of the agency and its covenants, credit and practices. Included in our analysis was:

- A majority of the agency' revenues were derived from the participating state governments;
- An historic regional commitment to the functions of the agency;
- Stable financial operations of the agency; and
- The legal structure of the lease, that includes a funded debt reserve, abatement for non-use, and 24 months of rental interruption insurance;
- The lack of any formal approval of the transaction from any of the participating state governments ;
- The inherent fiscal and political uncertainty associated with state appropriations for non-core programs;
- Failure of either state to recognize the obligations as debt; and
- A reliance on tenant lease revenue for approximately half of the annual debt service payment.

Assigning Ratings

Less traditional appropriation-backed obligations can assume an array of structures. In some cases, the structures closely resemble traditional appropriation or lease revenue-backed bonds while in others, payments from the state or local government are little more than one of the lessor's pledged revenues. The transaction's structural features and the extent to which it is recognized as an obligation of the state or local government will determine the strength of the relationship the financing has to that entity. Those with a stronger relationship will be rated closer to the traditional appropriation-backed rating of one-notch below the GO rating. Structures that lack state or local government recognition of the obligation, or where the underlying obligor is an independent agency will tend to be rated multiple notches below--or may be assigned ratings largely unrelated--to the state or local government's GO rating. Common to Standard & Poor's approach regardless of the structure is the focus of our credit analysis on the entity that recognizes the obligation. In some cases, the rating will bear some relation to the state or local government GO rating, but in others, the rating will reflect the obligated agency's credit quality and may not be linked in any way to the related state or local government's GO rating.

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Criteria | Governments | U.S. Public Finance: Idaho School Bond Standing Appropriation Credit Enhancement: Methodology And Assumptions

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Idaho School Bond Standing Appropriation Credit Enhancement: Methodology And Assumptions

(Editor's Note: This criteria article was originally published on April 5, 2012. We're republishing this article following our periodic review completed on Feb. 23, 2015. As a result of our review, we updated the author contact information.)

I. INTRODUCTION

1. Standard & Poor's Ratings Services is communicating its methodology and assumptions for rating bonds covered by the Idaho School Bond "Guaranty" program, which we consider a form of state standing appropriation credit enhancement. The enhancement is available to qualifying school districts in the state under Idaho Code 33-5304. We are publishing this article to help market participants understand our approach to reviewing credit quality under the program, which provides credit enhancement to specific obligations rather than all of a district's obligations of a particular type. This article is related to our criteria article "Principles Of Credit Ratings", which we published on Feb. 16, 2011, and "State Credit Enhancement Programs", which we published on Nov. 13, 2008.

II. SCOPE OF THE CRITERIA

2. These criteria apply to all bonds covered by the Idaho School Bond "Guaranty" program.

III. IMPACT ON OUTSTANDING RATINGS

3. We do not expect any changes to existing ratings as a result of these criteria because we do not maintain credit opinions based on participation in this program.

IV. EFFECTIVE DATE AND TRANSITION

4. These criteria are effective immediately for all new and outstanding obligations that have received the enhancement of the program.

V. METHODOLOGY AND ASSUMPTIONS

5. State standing appropriation programs provide potential additional security for bondholders through state oversight and the requirement to use legally available monies of the state to pay debt service on a timely basis. Bond issues meeting all of the criteria outlined below will receive a rating equivalent to the state's issuer credit rating, unless we deem the credit quality of the bond issue independent of the standing appropriation mechanism to be higher -- in which case we will assign a rating reflecting our view of the underlying security. If one or both of the provisions

outlined below are not met, then we will assign a rating reflecting the underlying security of the bond.

6. To receive a rating commensurate with the state standing appropriation mechanism, the following conditions must be present:
 - a. Certification from the office of the state treasurer that a district is eligible for participation in the Idaho School Bond "Guaranty" program; and
 - b. Evidence of the applicability of the state credit enhancement to the proposed bond series, such as a certification letter that refers to an eligible covered principal amount that equals or exceeds a district's proposed debt issuance.
7. Bonds that receive credit support from both the standing appropriation program and the state's Credit Enhancement Program for School District Bonds will receive the higher rating of the two enhancements.

VI. RELATED CRITERIA AND RESEARCH

- Principles Of Credit Ratings, Feb. 16, 2011
- State Credit Enhancement Programs, Nov. 13, 2008

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

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Criteria | Governments | U.S. Public Finance: Key General Obligation Ratio Credit Ranges – Analysis Vs. Reality

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GO Ratio Definitions

Key General Obligation Ratio Credit Ranges – Analysis Vs. Reality

(Editor's Note: This criteria article was originally published on April 2, 2008. We've republished it following our periodic review completed on Nov. 18, 2014. As a result of our review, we updated the author contact information.

This article has been partially superseded by U.S. Local Governments General Obligation Ratings: Methodology And Assumptions, published Sept. 12, 2013, for issuers that are in the scope of that criteria.)

Municipal governments maintained strong ratios in key general obligation (GO) performance measures through 2007, despite continued concern about current economic conditions and the impact on governments. The representative ranges of ratios for GO debt issuers in table 1 provide an indication, through the use of descriptors, of what constitutes a high to low ratio from an analytical credit perspective. The selected ratios represent key factors Standard & Poor's Ratings Services uses in the credit rating process and an indication of their weighting.

These key ratios complement Standard & Poor's annual release of historical median ratios for local governments (see "U.S. GO Rating Distributions And Summary Ratios: Year-End 2007," published Jan. 2, 2008). Our annually calculated medians are broken out by types of government, rating categories, and population. The medians represent recent measures of economic, financial, and debt characteristics for rated credits. These statistics will drift up and down during the economic cycle, as Standard & Poor's analysis is forward looking. In recent years, the medians have outperformed analytic guidelines.

Reading Behind The Numbers

Medians, particularly for lesser-weighted ratios, may give a false impression in certain cases that Standard & Poor's is concerned by deviations from the medians, when in fact there may be analytical comfort in a broad band of numbers for a particular ratio.

Examples of this phenomenon are evident when comparing key ratio ranges (see table 1) to the 2007 medians for similar ratios (see table 2). While the median GO credit had a household effective buying income (EBI) equal to 99% of the U.S. level, the key ratio ranges show that a credit with household EBI equal to 91% of the U.S. level would still be considered as having good income levels for supporting the typical tax burden associated with government services. While a credit with a general fund balance less than 21% of expenditures would be technically below the median, we would nevertheless view it as having a very strong balance.

Similarly, a credit with per capita net debt in excess of \$2,000 would be above the average, but Standard & Poor's would generally view levels as high as \$5,000 per capita to be moderate.

Key Rating Factors

The relative weight of individual criteria elements is discussed in detail in Standard & Poor's Public Finance Criteria published on RatingsDirect. When evaluating GO credits, Standard & Poor's examines four main factors in the following order:

- Economic factors;
- Administrative factors;
- Financial factors; and
- Debt factors.

Variation in any of these factors can influence a bond rating. The description of key ratio ranges below will help clarify the significance of variations among ratios. They will also serve as a stable guide to what is considered high or low regardless of the economic cycle.

A note of caution

Ratios do not tell the whole story -- they are only a portion of what Standard & Poor's uses in its analysis. Economic, administrative, structural, and other qualitative factors may outweigh any of these ratios when a rating is assigned. Numbers alone can not determine an entity's willingness to meet its financial obligations, nor can they reveal a history of late budgets or the operating restraints presented by the state/local framework.

The key ratios below do not represent a complete set of the ratios Standard & Poor's uses in its analysis. We also incorporate information from many internal and external databases. Depending on various credit conditions, certain ratios can take on more significance than others. In addition, a municipal entity's trends in any of these ratios may be more important than the historical ratios. A rating, after all, is prospective in nature.

Table 1

Analytical Characterization Of Ratios	
Household/Per Capita Effective Buying Income As % Of U.S. Level	
Low	Below 65%
Adequate	65%-90%
Good	90%-110%
Strong	110%-130%
Very strong	Above 130%
Market Value Per Capita	
Low	Below \$35,000
Adequate	\$35,000-\$55,000
Strong	\$55,000-\$80,000
Very strong	\$80,000-\$100,000
Extremely strong	Above \$100,000
Top 10 Taxpayers	
Very diverse	Below 15%
Diverse	15% - 25%

Table 1

Analytical Characterization Of Ratios (cont.)	
Moderately concentrated	25% - 40%
Concentrated	Above 40%
Available Fund Balance	
Low	Below 0%
Adequate	1%-4%
Good	4%-8%
Strong	8%-15%
Very strong	Above 15%
Debt Service As % Of Expenditures	
Low	Below 8%
Moderate	8%-15%
Elevated	15%-20%
High	Above 25%
Overall Net Debt Per Capita	
Very low	Below \$1,000
Low	\$1,000-\$2,000
Moderate	\$2,000-\$5,000
High	Above \$5,000
Overall Net Debt As % Of Market Value	
Low	Below 3%
Moderate	3%-6%
Moderately high	6%-10%
High	Above 10%

Table 2

Selected 2007 Medians For All Standard & Poor's Local Government GO Ratings	
Per capita EBI as % of U.S. level	95%
Household EBI as % of U.S. level	99%
Market value per capita	\$73,960
Top 10 taxpayers as % of assessed valuation	8.10%
Total general fund balance as % of expenditures	21%
Debt service as % of expenditures	7%
Overall net debt per capita	\$1,999
Overall net debt as % of market value	2.62%

GO Ratio Definitions

Table 3

GO Ratio Definitions	
Household/per capita effective buying income (EBI) % of U.S. level	Effective buying income measures income after taxes. Household EBI measures income on a household basis, regardless of the number of family members and compares it on a ratio basis to the national average. Per Capita EBI measures the same on a per person basis. Source: Claritas Inc.
Market value per capita	Total market value of all taxable property within the jurisdiction divided by population.
Top 10 taxpayers	This measures total assessed valuation of the 10 largest taxpayers as a percentage of the total taxable assessed valuation of the jurisdiction.
Available fund balance	The annual dollar amount of available reserves a municipality has in its operating and reserve funds at fiscal year-end.
Debt service as a percentage of expenditures	The portion of operating expenditures consumed by debt service costs.
Overall net debt per capita	This ratio measures net debt to population.
Overall net debt as a percentage of market value	A ratio of net debt to the taxable market value of the tax base.

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Criteria | Governments | U.S. Public Finance:
**Standard & Poor's Refines Its
Limited-Tax GO Debt Criteria**

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Standard & Poor's Refines Its Limited-Tax GO Debt Criteria

(Editor's Note: We originally published this criteria article on Jan. 20, 2002. We're republishing this article following our periodic review completed on March 3, 2015.)

GO bonds are one of the traditional ways for governments to obtain market access and are generally considered to have the broadest and soundest security among tax-secured debt instruments. GO debt possesses two unique attributes:

- It is the obligation of a governmental unit with the power to levy and collect taxes and is repayable, in the first instance, or ultimately, from general revenues; and
- It is backed by a pledge of the full faith and credit of the issuer.

Sometimes, as in New York, the phrase is "faith and credit." For most municipalities, and in some states, such as New Jersey, the ultimate backup security will be a levy on the property tax roll of so much as is necessary, together with other revenues, to meet debt service payments on time.

The pledge of the full faith and credit does not, in itself, make a bond a GO, although the issuer is pledging all of its legally available revenues. Although other types of borrowers use these pledges, this piece refers specially to those bonds issued by governmental entities. The powers of taxation and the availability of revenues are key considerations since the power of taxation is basic to the concept of a government's GO.

Some local governments across the country issue GO bonds but have legal property tax rate limitations. Limited-tax GO bonds lack the strong inherent protection of an unlimited-tax obligation; but their presumed claim on all resources of the government, subject only to the property tax limitation, gives them support lacking in strictly special or non-GO limited-tax obligations.

Standard & Poor's has long recognized that financial flexibility can result in limited- and unlimited-tax debt being rated at the same level for issuers with sufficiently strong credit characteristics, as has been the case in states such as Texas and Ohio.

Due to the 1978 "Headlee" amendment to the Michigan Constitution, however, Standard & Poor's has often differentiated GO unlimited- and limited-tax debt ratings in Michigan. This approach is being revised based on the performance of Michigan credits. The Headlee amendment restricts overall mill rates to certain levels while excluding from those limits all voter-approved property taxes, such as those approved for debt service on unlimited-tax secured bonds and levies to pay debt service on bonds issued prior to Headlee's enactment. Tax rates can only be increased above these limits if authorized by the electorate. The aggregate tax levy for a taxing entity may not grow by more than the CPI, excluding new construction. The school reform measures of 1993-1994 further restrict growth in assessments by tying maximum annual growth, exclusive of new construction, to some measure of inflation. Whereas Headlee had linked increases in taxation to the annual change in the CPI, Act 145 restricts assessment growth to the

lesser of CPI or 5%. Furthermore, assessment limits apply to individual parcels of property, not to an aggregate tax base, as with Headlee. These stricter limits apply to a parcel only until it is transferred, at which time the assessment reverts to state equalized value, or 50% of true cash value. Assessment growth caps, much like tax limits, restrict the growth in tax revenues received by a government, resulting in budgetary pressure.

From a credit perspective, the stricter assessment growth limits of Act 145 have had a minimal effect on municipal credits. Michigan credit ratings have generally trended upward despite the tax limits. During periods of low inflation, tax revenue growth should slow but should be offset somewhat by slower growth in operating expenditures. Furthermore, as properties are sold or transferred, assessments will be relieved of the temporary restraints.

In general, the credits in the categories of single-'A' and up should possess the financial stability necessary to sustain identical ratings on their unlimited- and limited-tax GO bonds. For credits with unlimited-tax ratings in the triple-'B' category, the decision to differentiate between limited- and unlimited-tax GO ratings will continue to be based on the following factors:

- Revenue or tax rate flexibility: Standard & Poor's will examine the dollar amount that could be levied if the issuer increased its tax rate up to its cap, measured as a proportion of total budget. Also included in the analysis is the amount of predictable revenues coming from other local sources, such as a steadily growing income tax, and expense flexibility, which can be used if needed. If the combined potential effect of expense and revenue flexibility is substantial, then the risk of a municipality not being able to meet its debt obligations due to short-term budgetary stress is reduced.
- High reserve levels: In a fiscal emergency, or following an extended period of budgetary imbalance, despite the inability to further tap into its tax base, a municipal government may use accumulated fund balance reserves in the general fund or in other unrestricted funds to cover fixed costs. Because reserve levels can change quickly, however, only issuers with a track record of consistently strong reserve levels that can be expected to be maintained may achieve equivalent limited- and unlimited-tax ratings.

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

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Criteria | Governments | U.S. Public Finance:

U.S. Local Governments General Obligation Ratings: Methodology And Assumptions

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U.S. Local Governments General Obligation Ratings: Methodology And Assumptions

(Editor's Note: We originally published this criteria article on September 12, 2013. We're republishing this article following our periodic review completed on August 13, 2015. As a result of our review, we updated the author contact information. On Nov. 21, 2013, we replaced the link in paragraph 13 to "Methodology And Assumptions: Request For Comment: Ratings Above The Sovereign--Corporate And Government Ratings" with a link to the new criteria published on Nov. 19, 2013, after the review process. The new criteria article is titled, "Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions.")

1. Standard & Poor's Ratings Services is updating its methodology and assumptions for assigning issuer credit ratings (ICRs) and issue credit ratings based on general obligation (GO) pledges of local governments in the United States. This update follows our request for comment (RFC), "Request For Comment: U.S. Local Governments: Methodology And Assumptions," published on March 6, 2012. This update provides additional transparency and comparability to help market participants better understand our approach to assigning local government ratings, to enhance the forward-looking nature of these ratings, and to enable better comparisons between U.S. local government ratings, local government ratings in other countries, and all other ratings. The "Principles of Credit Ratings", published on Feb. 16, 2011, form the basis of this criteria.
2. For the ratings in scope, this criteria supersede the following articles:
 - GO Debt, Oct. 12, 2006
 - Key General Obligation Ratio Credit Ranges – Analysis Vs. Reality, April 2, 2008
 - Does Bigger Always Mean Better? Sizing Up The Impact Of Size On Municipal Ratings, April 22, 2008
 - Location, Location, Location: What Does It Mean For My Community's Rating? April 22, 2008
3. All capitalized terms are defined in the glossary, section X, paragraphs 90-97.

I. SCOPE OF THE CRITERIA

4. The criteria apply to all U.S. local government issuer credit ratings and issue ratings on GO bonds issued by municipal governments that are not special purpose districts. Examples of local government entities in the scope include cities, counties, towns, villages, townships, and boroughs, called municipalities in the criteria. Examples of special purpose districts excluded from the scope include school districts, library districts, park districts, and forest preserve districts, among others. The criteria also do not apply to U.S. states or territories but do apply to the District of Columbia.

II. SUMMARY OF CRITERIA UPDATE

5. The criteria use the same major elements as our criteria for rating local and regional governments outside the U.S. (see "Methodology For Rating International Local And Regional Governments", published Sept. 20, 2010). Specifically, the

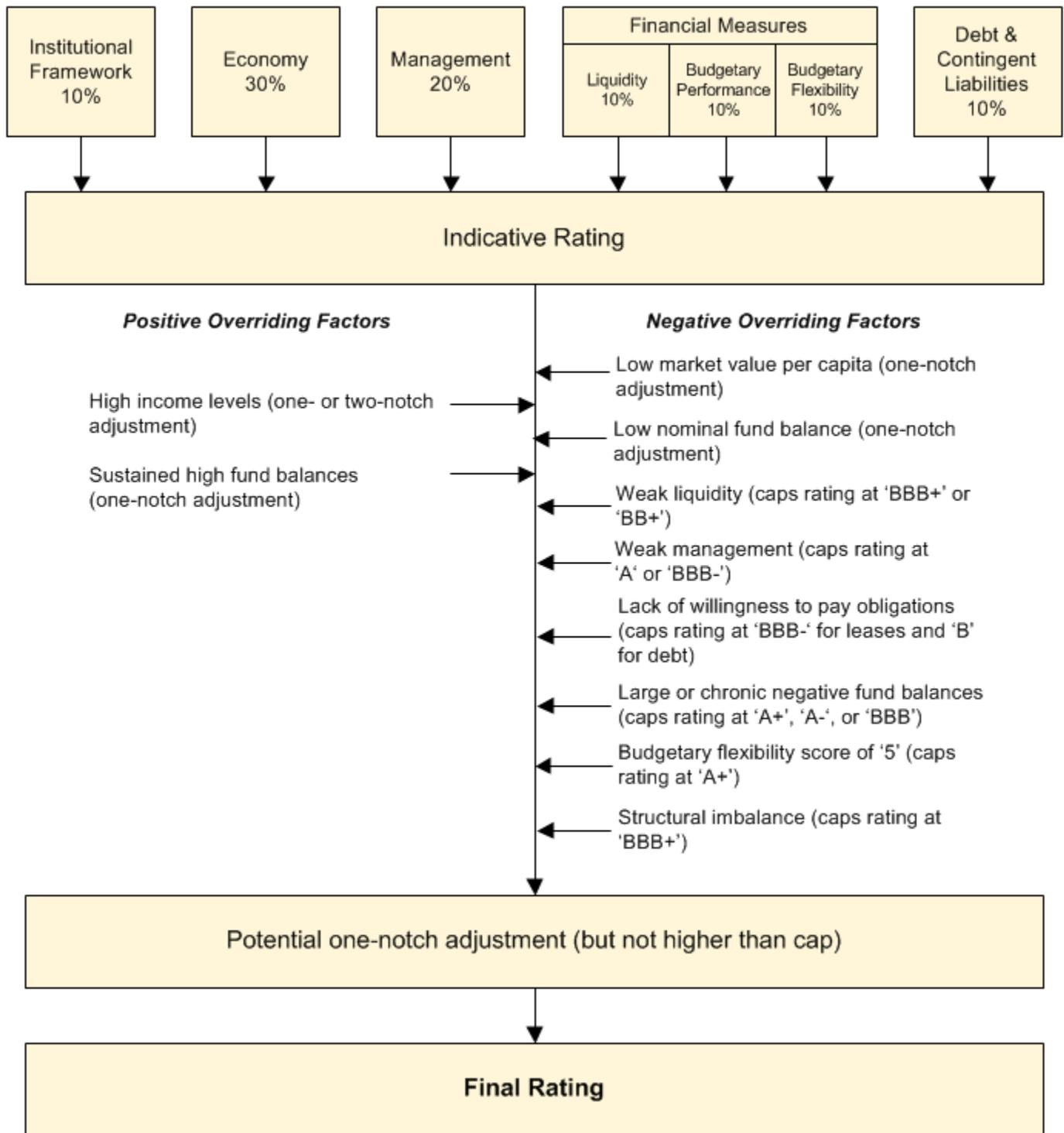
criteria assign ratings based on the assessment and scoring of seven key factors:

- Institutional framework;
- Economy;
- Management;
- Budgetary flexibility;
- Budgetary performance;
- Liquidity; and
- Debt and contingent liabilities.

Although the criteria assess the same factors, the measures used to assess these factors are detailed in a manner consistent with the characteristics and reporting conventions of U.S. public finance obligors.

6. The initial indicative rating results from a weighted average of the factors detailed above. The economy score receives a 30% weight, and the management score receives 20%. The financial-related scores, liquidity, budgetary performance and budget flexibility, each account for 10% of the total score. The institutional framework score also receives a 10% weight, as does the debt and contingent liabilities score. Certain score levels result in ratings different from those suggested by the weighted average. Chart 1 outlines a summary of the analytical framework for assigning a local government's GO rating.

Chart 1
Analytical Framework For Local GO Ratings



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III. SUMMARY OF CHANGES FROM THE REQUEST FOR COMMENT

See Appendix III in Section IX.

IV. IMPACT ON OUTSTANDING RATINGS

7. Standard & Poor's maintains issuer credit ratings or ratings on GO debt (or debt equivalent to or based on the GO rating) for more than 4,000 governments included in the scope of the criteria. Assuming that governments maintain their current credit characteristics, testing suggests that about 60% of the ratings would remain unchanged under the criteria while about 30% of the ratings would increase and about 10% would decrease, generally by one notch.

V. EFFECTIVE DATE AND TRANSITION

8. The criteria described in this article are effective immediately and apply to all new and outstanding ratings within scope. We intend to complete our review of issuers affected within the next 12 months.

VI. METHODOLOGY

A. Local Government Rating Calibrations

1. Local Governments Globally

9. Local governments exist to provide services to the population. Services may be mandated by a higher-level government, but often the levels and choice of services to be provided are at the local government's discretion. Governments may rely on locally levied and collected taxes or user charges, or on taxes, grants, or aid distributed from higher levels of government to fund services. Local governments often have little direct control over funds distributed from higher levels of government, and higher-level governments may place restrictions on local taxing levels--if local taxes may be levied at all.
10. A local government's ability and willingness to make fiscal adjustments and its legal and political relationships with higher levels of government can be more important to its ability to meet debt service than its economic trends or financial position. An overall economic decline can threaten the ongoing paying ability of a company more directly than a government because the company may find it difficult to raise prices or reduce costs due to demand elasticity. Although unpopular, governments with sufficient autonomy may raise taxes or cut services without seeing mass outmigration from the jurisdiction relative to the demand volume reduction faced by a company. For governments without such autonomy, relationships with higher-level governments are key for restoring balance.
11. Variables such as economic conditions, debt levels, and financial performance can suggest when difficult decisions to restore fiscal balance might become necessary, but do little to suggest whether prudent decisions will be made. Different government responses can therefore produce different default outcomes for periods with the same level of

stress. Accordingly, predictions of precise default amounts and probabilities become more suspect. This complicates the calibration of criteria to economically-based stress scenarios but does not prohibit it. The long-term and repeating trend of higher local-government defaults following periods of significant economic stress is well-established and dates back to ancient Greece.

2. The Specific Case Of U.S. Local Governments

12. From a global perspective, U.S. local governments have a fairly high degree of autonomy. Virtually all U.S. local governments levy some sort of tax and levy various other fines, fees, and charges. U.S. census data show that own-source revenues account for 63% of local general government revenues. However, this total includes school districts which typically receive a large amount of state funding. For municipalities and counties specifically, data for credits rated by Standard & Poor's suggest this percentage is 79%. Direct funding from the federal government represents only about 4% of total local government revenues, much of which represents funds designated for capital spending.
13. Due to the federalist structure of the U.S. government, individual states, rather than the U.S. government, make most of the laws regarding what taxes local governments may raise, how much debt they can issue, and other matters of local government finance. A local government rating is not automatically constrained by the U.S. sovereign rating or its respective state rating. The economic and fiscal relationships, dependencies, and/or interdependencies between levels of governments will determine the credit linkages along with our framework to rate entities above a sovereign rating (see "Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions" published Nov. 19, 2013).
14. Although states do have significant power over their local governments, their use of this power pales in comparison to the use of such powers by sovereign or regional governments in other countries. Although states have at times tinkered with the mix of local government revenues and imposed various limits or regulations around the use of debt and taxes, the basic tenets of U.S. local government finance have remained largely in place since colonial times. Neither American independence, the American civil war, nor severe economic downturns, such as those witnessed in the late 1830s, late 1870s, and early 1930s, have changed the basic premise of local governments relying largely on own-source revenues to fund different service levels of their own choosing. Some studies suggest to us that this self-reliance drives the low debt levels and fiscal stability observed in U.S. local governments and similar jurisdictions (see Jonathan Rodden in Related Research).
15. Property taxes remain a cornerstone of U.S. local government finance and often provide stability to finances. This stability results from laws in many states that delink tax base growth from overall market volatility. In addition, the lag between market cycles and their effect on revenues allows public officials to adjust rates to offset market effects. The recent downturn illustrates this. Property tax revenues actually grew in 2009, while income tax revenues declined 17% and sales taxes declined 7.5%. Owing to the aforementioned lag, analysis done by the Pew Charitable Trusts using U.S. Census data shows that property tax revenue did decline in 2010, but only by 1.05%. Although conditions vary, data from local governments rated by Standard & Poor's show no decline in property tax revenues for the average government in fiscal 2010. For more information, see Lutz, Molloy, and Shan in Related Research.

3. The Strength Of The General Obligation Pledge And State Level Incentives For Debt Payment

16. A general obligation pledge usually obligates a local government to use all legally available funds to pay debt service and--if such current funds are not sufficient--to take actions necessary to increase those funds. This includes an obligation to levy additional property taxes specifically for debt service, although state tax caps may limit this pledge. A limited tax pledge may affect the rating (see "Standard & Poor's Refines Its Limited-Tax GO Debt Criteria", published Jan. 10, 2002).
17. In addition, some states have laws that empower state governments to take over local governments when their financial position deteriorates significantly or to direct state-appropriated monies for debt repayment. Even temporary relief from debt payments may elude local governments if GO debt enjoys the additional benefits of dedicated taxes or other "special revenues". About one-half of states' statutes either fail to provide specific authorization for municipalities to file for bankruptcy, as currently required for a bankruptcy filing under the U.S. Bankruptcy Code, or prohibit such a filing. Of the remaining 28 whose statutes authorize bankruptcy, 15 states only authorize municipal bankruptcy subject to approval or other conditions, and many states have used this approval power to intervene before a bankruptcy can occur.
18. While the nature of the GO pledge may best explain the miniscule net losses experienced on municipal debt during the Great Depression (net losses amounted to 0.4% of debt outstanding), in our view the limitations associated with Chapter 9 bankruptcy, and states' use of their additional oversight powers also contribute to the sector's extraordinarily low default rate by reducing political risk. Faced with the potential for longer-term costs of reduced market access and reputational damage for state and local officials, nonpayment of debt, in our view, makes little sense for most governments experiencing fiscal stress.

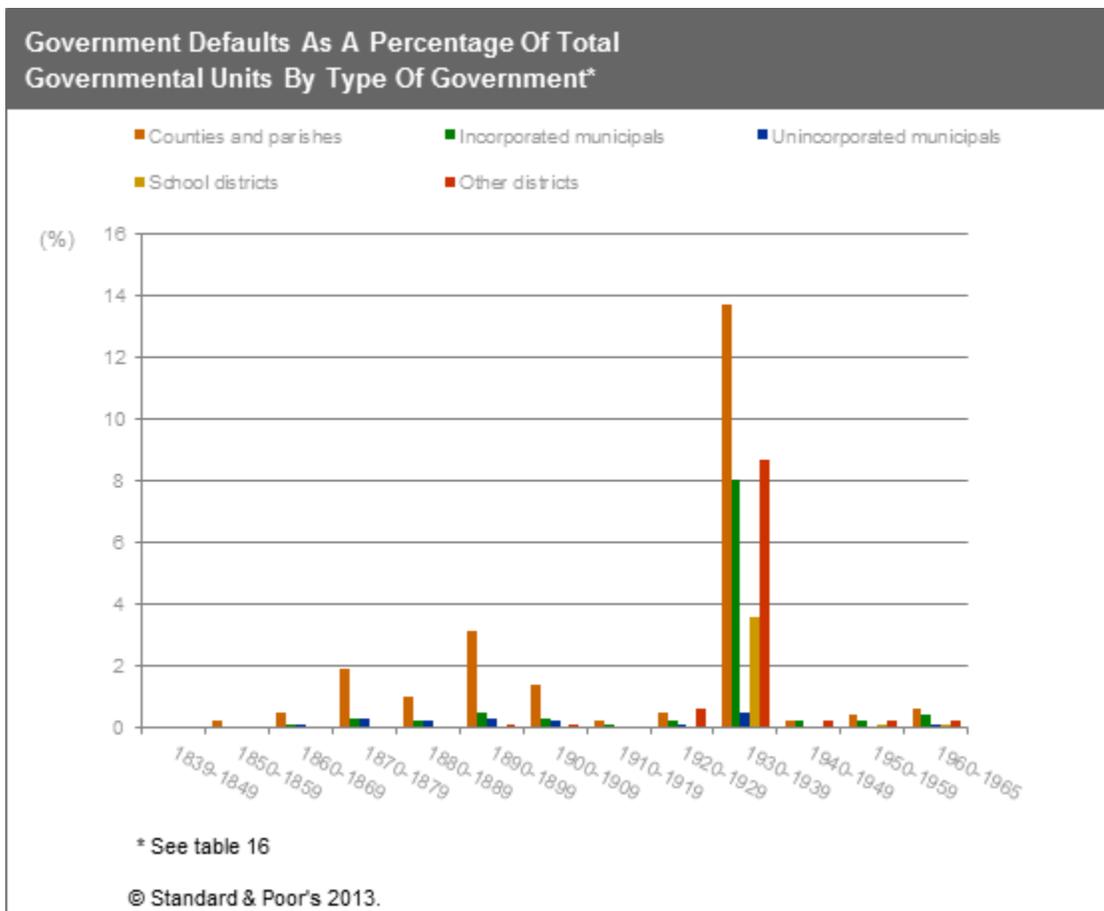
4. U.S. Local Government Payment Performance

19. Some proponents of current local government stability criticize references to local government defaults in periods such as the Great Depression or earlier. They cite changes such as lower government debt levels, improved revenue diversification, stronger state oversight, and fundamental changes to the economic and banking sectors as reasons why such previous default performance is less relevant. While the criteria recognize and incorporate many of these changes, such statements, in our view, overlook important reasons to consider past payment performance. First, given the experience of the recent recession and current economic challenges, the idea that the municipal performance seen only since World War II will continue regardless of future conditions is itself suspect. Rather than blind speculation, past performance provides observable data with which to compare and contrast different scenarios. Second, the period since World War II generally does not provide sufficient stressful periods with which to calibrate general obligation criteria (see "Understanding Standard & Poor's Rating Definitions", published June 3, 2009). Although the recent recession may demonstrate that municipal credits in general are investment grade, it provides little insight as to whether the current criteria appropriately differentiate 'A', 'AA', and 'AAA' credits as suggested by the article above. That evaluation requires more stressful periods.
20. Several studies provide what we consider to be good summaries of past municipal credit performance. The work most often quoted is George Hempel's "The Postwar Quality of State and Local Debt", published by the National Bureau of Economic Research (NBER) in 1971. The criteria also take Hempel's 1964 University of Michigan dissertation, "The Postwar Quality of Municipal Bonds", on which the NBER publication is based as a resource because it provides a bit

more detail. A major source for Hempel's work that focuses specifically on local government debt is Albert M. Hillhouse's "Municipal Bonds: A Century of Experience". Both works provide summaries and discussion, but do not present the underlying data. Hillhouse's "Defaulted Municipal Bonds (1830-1930)", lists every recorded default over the 100-year period referenced. When considering relationships between state and local governments, William A. Scott's "Repudiation of State Indebtedness" provides details on the actions of states under stress.

21. Hillhouse and Hempel come to similar conclusions on municipal defaults. On the one hand, local government defaults occur across all types of governments (see Appendix I in Section VII), in both good and bad economic times. On the other hand, the number of local government defaults becomes worrisome only during very stressful periods, and even then a majority of governments continue to pay their debts (see chart 2 and Appendix I). Both agree that the ultimate repayment record for local governments when they default is very strong.

Chart 2



22. The criteria consider the overall strong payment performance even after adjusting for differences in economic stress. The criteria are calibrated to provide rating results consistent with the extraordinarily historically low levels of local government defaults.

23. We do not expect a change in the historically extraordinarily low default rates in this sector. When there is a rapid deterioration, we do expect to continue to see multiple-notch downgrades. Please see "The Time Dimension Of Standard & Poor's Credit Ratings", published Sept. 22, 2010, for a description of potential ratings migration.

B. Framework For Determining A U.S. Local Government Rating

24. The criteria assess seven factors:

- Institutional framework (see paragraphs 36-40);
- Economy (see paragraphs 41-47);
- Management (see paragraphs 48-58);
- Budgetary flexibility (see paragraphs 59-64);
- Budgetary performance (see paragraphs 65-68);
- Liquidity (see paragraphs 69-77); and
- Debt and contingent liabilities (see paragraphs 78-84).

Scores for each factor range from '1' (the strongest) to '5' (the weakest). The economy score receives a 30% weight and management receives 20%. These scores receive the highest weight because of management's ability to tap the local economic base for additional revenues if it chooses to do so in a timely manner. The financial scores combined receive 30%, with liquidity, budgetary performance, and budgetary flexibility each accounting for one third of the 30%. The institutional framework score and debt and contingent liabilities score each receive 10% (see chart 1). Table 1 shows the indicative rating outcomes that result from the weighted average of these scores. Absent the overriding factors detailed in table 2, the final rating assigned to the GO issue or the ICR will be within one notch of the indicative rating shown in table 1, with one-notch differentials determined based on trends and comparisons with similarly rated peers. When the overriding factors detailed in table 2 notch the rating (rather than cap the rating), the one-notch differentials of the prior sentence can still be applied. Importantly, certain data are adjusted to facilitate comparability and consistency. Please refer to paragraphs 94 to 102 for a list of defined terms and related adjustments. In addition, please refer to the article, "S&P U.S. Public Finance Local GO Criteria: How We Adjust Data For Analytic Consistency," published Sept. 12, 2013, for a more extensive summary of data adjustments.

Table 1

Indicative Rating Outcomes Resulting From The Weighted Average Of Seven Factors	
Factor Score Weighted Average	Indicative Rating
1.00 – 1.64	AAA
1.65 – 1.94	AA+
1.95 – 2.34	AA
2.35 – 2.84	AA-
2.85 – 3.24	A+
3.25 – 3.64	A
3.65 – 3.94	A-
3.95 – 4.24	BBB+
4.25 – 4.54	BBB
4.55 – 4.74	BBB-

Table 1

Indicative Rating Outcomes Resulting From The Weighted Average Of Seven Factors (cont.)	
4.75 – 4.94	BB
4.95 – 5.0	B

The indicative rating results from the weighted average outcomes as shown above. The final rating may differ from the indicative rating above by one notch based on trends and comparisons with peers in that range. The final rating may also differ from the indicative rating due to the presence of overriding factors described in paragraphs 25-35. For ratings below 'B-' please see "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings" published Oct. 1, 2012, and "Standard & Poor's Ratings Definitions", published June 17, 2013.

Overriding Factors

25. The criteria employ a series of overriding factors that can result in the final rating assigned to the local government being different from the indicative rating outcome suggested by table 1. Table 2 summarizes these factors. Certain conditions result in the final rating moving a specified number of notches above or below the indicative rating. If multiple notch overrides exist, the final rating is based on the net effect of those overrides.
26. Certain other conditions result in the final rating being capped at a certain level. When such conditions exist, the final rating could be lower than the cap depending on the severity of the condition present, and the final rating could be lower than the indicative rating even if the indicative rating is lower than the ratings cap in table 2. Rating caps are absolute, meaning that the positive relative adjustments described below do not allow ratings to exceed the cap. If multiple cap overrides exist, the rating cap used is the lowest cap of all the individual overrides that apply.
27. If multiple overrides involving both caps and notches exist, the final rating will be based on the lower of the lowest rating cap or the indicative rating as adjusted by the notch overrides. For example, a local government could have an indicative rating of 'A', a negative one-notch override, and a condition that results in a capped rating of 'A+'. In such a case, the indicative rating as adjusted by the notch override would equal 'A-'. Since 'A-' is lower than the rating cap, the final rating could be at most 'A' (if the one-notch adjustment described in paragraph 24 were applied) or any lower rating given that a cap override applies. If, instead, the indicative rating were 'AA' in this example, then the indicative rating as adjusted by the notch override would be greater than the rating cap of 'A+'. Therefore, the rating outcome could be no higher than 'A+' (the one-notch adjustment cannot increase a rating above a rating cap), but could be any lower rating given that a cap override applies. We acknowledge that the assignment and removal of caps may cause an increase in ratings volatility and potentially steeper rating transitions.

Table 2

Summary Of Overriding Factors (see paragraphs 25-35)	
Overriding Factor	Result
Notch Overrides	
Projected per capita EBI* > 225% of U.S. projected per capita EBI	Final rating one notch higher than that suggested by table 1
Projected per capita EBI* > 300% of U.S. projected per capita EBI	Final rating two notches higher than that suggested by table 1
Total Market Value per capita < \$30,000	Final rating one notch lower than that suggested by table 1
Available Fund Balance > 75% of general fund expenditures for the most recently reported year, the current year and next year and is expected to continue	Final rating one notch higher than that suggested by table 1

Table 2

Summary Of Overriding Factors (see paragraphs 25-35) (cont.)	
Available Fund Balance < \$500,000	Final rating one notch lower than that suggested by table 1
Cap Overrides (rating capped)	
Liquidity score equals '4'	Final rating capped at 'BBB+'
Liquidity score equals '5'	Final rating capped at 'BB+'
Management score equals '4'	Final rating capped at the lower of 'A' and one notch lower than that suggested by table 1
Management score equals '5'	Final rating capped at the lower of 'BBB-' and two notches lower than that suggested by table 1
Management score equals '5' due to a lack of willingness to support unconditional debt obligations	Final GO rating on debt not in default capped at 'B'
Available Fund Balance < -10% of general fund expenditures for the most recently reported year or budget flexibility score equals '5'	Final rating capped at 'A+'
Available Fund Balance < -5% of general fund expenditures for the two most recently reported years	Final rating capped at 'A-'
Available Fund Balance < -5% of general fund expenditures for the three most recently reported years	Final rating capped at 'BBB'
Budget performance: For local governments that exhibit characteristics of structural imbalance expected to continue and the government does not have a credible plan to restore balance	Final rating capped at 'BBB+'

*EBI--Effective Buying Income (see glossary)

Factors That Notch From The Indicative Rating

a) Rating adjustments for certain economic measures

28. When variables measured as part of the overall economic score take on extreme values, adjustments from the indicative rating occur. When projected per capita Effective Buying Income (EBI) as a percentage of the U.S. projected per capita EBI exceeds 225% (50% higher than the top income threshold in table 8), the final rating is raised by one notch to account for the extreme income levels in the tax base. When projected per capita EBI exceeds 300% of the U.S. level, the final rating is raised by two notches. No similar adjustment applies to Total Market Value (TMV) per capita because high scores often result from concentrated tax bases. When TMV per capita is less than \$30,000, however, the final rating is lowered by one notch to reflect the limited tax base supporting debt.

b) Sustained large positive fund balances

29. An abnormally large sustained Available Fund Balance signifies heightened flexibility if projections suggest that it will endure. Accordingly, the maintenance of an Available General Fund Balance exceeding 75% of general fund expenditures for the most recently reported year, the current and next year, and that is projected to continue at that level raises the final rating by one notch.

c) Low nominal fund balances

30. The Available Fund Balance as a percentage of expenditures measure, used in the budgetary flexibility score, can mask vulnerability when absolute nominal levels of reserves are low. Accordingly, when the Available General Fund Balance for the most recently reported year is below \$500,000 (but above a level that causes a rating cap to occur -- see paragraph 34), the final rating is lowered by one notch to reflect this vulnerability.

Factors That Cap The Final Rating

d) Liquidity

31. Although liquidity receives limited weight in determining the indicative rating because of a local government's ability to make fiscal adjustments, its importance grows as the liquidity score weakens. A liquidity score of '4' caps the final rating on a local government at 'BBB+' regardless of other strengths. An overall liquidity score of '5' limits the final rating to no higher than 'BB+'.

e) Management

32. The decentralized and autonomous nature of U.S. local governments creates a stronger link between management and credit quality, particularly when limited or weak management exists. Accordingly, an overall management score of '4' results in a final rating at least one notch below the indicative rating outcome and limits the rating to no higher than 'A'. A score of '5' results in a final rating at least two notches below the indicative rating outcome and limits the rating to no higher than 'BBB-'.
33. When a management score of '5' results from a current lack of willingness to pay a debt, capital lease obligation, or a moral obligation pledge (see paragraph 53), the rating cap depends on the nature of the obligation. A current lack of willingness to pay an unconditional debt obligation of the government would cap the final rating on other GO debt of the government at no higher than 'B' and would likely be lower. While the ICR of a local government would fall to 'D' or 'SD' following a default on an actual debt obligation, the payment prospects for other GO debt may remain stronger (such as when the default results from insufficient funds for limited-tax GO debt and other GO debt enjoys an unlimited-tax pledge). Consistent with our criteria for appropriation-backed obligations, a failure to pay a capital lease obligation also caps the GO rating (see "Appropriation-Backed Obligations", published June 13, 2007). A current lack of willingness to pay a capital lease or other obligation subject to annual appropriation by the government, including a moral obligation pledge, would limit the GO rating to no higher than 'BBB-' even though the government was not legally obligated to make payment on the appropriation obligation without the appropriation.

f) Large or chronic negative fund balances

34. A government's Available Fund Balance forms the initial score for budgetary flexibility. Even when other forms of flexibility exist, however, a nontrivial fund balance deficit signifies heightened pressure, especially when the deficit endures. The presence of such pressure is consistent with the capped ratings suggested by table 2, even though the government may retain a significant capacity to repay debt. Accordingly, an Available Fund Balance of less than negative 10% of general fund expenditures in the most recently reported year caps the final rating at 'A+'. Ratings above 'A-' are typically for cases where we believe the Available Fund Balance will not be less than negative 5% beyond the most recently reported year. A budget flexibility score of '5' signifies limited flexibility and also caps the final rating at 'A+'. An Available Fund Balance of less than negative 5% for the two most recently reported years caps the final rating at 'A-'. Ratings above 'BBB' are typically for cases where we believe the Available Fund Balance will not be less than negative 5% beyond the most recently reported year. The existence of such Available Fund Balance for the three or more of the most recently reported years signifies to us a chronic problem and caps the final rating at 'BBB-'.

g) Structural imbalance

35. The final rating is capped at 'BBB+' when the entity has structural imbalance. For this purpose structural imbalance is determined over a four-year horizon (past two years, current year, and next fiscal year). Additionally, management does not have a credible plan to adequately correct the imbalance. Characteristics of structural imbalance include:
- Significant use of one-time revenue,
 - Borrowing for ongoing operations,
 - Unplanned fund balance drawdowns,
 - Recurring unbudgeted expenditure and revenue mismatch, and
 - Significant dependence on volatile revenue.

C. The Institutional Framework Score

36. The institutional framework score assesses the legal and practical environment in which the local government operates. Accordingly, all governments of the same type within the same state receive the same score. Since state constitutions and state laws generally dictate the terms under which local governments may operate, the score reflects these state-specific elements. To enhance comparability with local governments outside the U.S., the criteria assess the same areas as detailed in paragraph 39 of our criteria, "Methodology For Rating International, Local, And Regional Governments", published Sept. 20, 2010. Specifically, these areas include predictability, revenue and expenditure balance, transparency and accountability, and system support. Scores for each area, however, use slightly different measures that are more specific and more relevant to the U.S. and range from '1' (the best) to '5' (the worst). The criteria then average each of the scores equally to determine the overall institutional framework score as detailed in table 3.

Table 3

Institutional Framework Score Outcomes	
Score Range	Institutional Framework Score
1 – 1.5	1 (very strong)
1.75 – 2.75	2 (strong)
3.0 – 3.75	3 (adequate)
4 – 4.5	4 (weak)
4.75 – 5	5 (very weak)

The institutional framework score results from the average of the scores for predictability, revenue and expenditure balance, transparency and accountability, and system support (see paragraphs 37-40). Each score receives equal weight in the average.

1. Predictability

37. Predictability assesses the extent to which a local government can forecast its revenues and expenditures on an ongoing basis. The ability and frequency of changes to municipal responsibilities or revenue raising capabilities resulting from state or statewide voter actions can complicate local government decision making. An inability to sufficiently plan and implement strategies to accommodate these changes can affect a government's fiscal position. Table 4 details the scoring for predictability.

Table 4

Assessing Predictability	
Score	Description
1 (very strong)	None of the following elements are true: voter initiative or referenda rights exist to automatically alter revenues or expenditure responsibilities; the state has significantly changed its statutes governing local government revenues or expenditure responsibilities in the past eight years (to the detriment of this type of municipality); the state has changed the disbursement pattern of state-shared revenues in the past eight years (to the detriment of this type of municipality) and these revenues are a major portion of local government revenues.
2 (strong)	One of the elements in 1 is true, but such events are not frequent from a long-term perspective. The nature of deliberation and implementation of change allow sufficient time for local government planning and adjustment.
3 (adequate)	More than one of the elements in 1 is true, or at least one of the elements is recurring. The nature of deliberation and implementation of change allow sufficient time for local government planning and adjustment.
4 (weak)	At least one of the elements in 1 is true, but the pace of change does not allow for planning and adjustment.
5 (very weak)	The system is volatile, with ongoing and ill-prepared large-scale transformations that do not allow for planning and adjustment. Legal rights and obligations between the state and local level are unclear, adding to the lack of clarity.

2. Revenue and expenditure balance

38. Revenue and expenditure balance assesses the extent to which local governments have the ability to finance the services they provide. The focus is on revenue raising capability in scores one, two and three under the presumption that most municipalities have significant control over their expenditures. Only when revenue raising capacity is limited, and there are significant unfunded or partially unfunded expenditure mandates, are scores of four or five likely. Additionally, the criteria treat state provisions that require minimum balances as enhancing flexibility, while those that limit balances diminish it. Table 5 details the scoring for this measure.

Table 5

Assessing Revenue And Expenditure Balance	
Score	Description
1 (very strong)	Local governments within the state have statutory flexibility to raise local source revenues for operating purposes without voter approval. Where limits on the ability to raise revenues exist, they are such that most governments within the state still retain significant capacity to raise revenues.
2 (strong)	Local governments within the state have some flexibility to raise local source revenues for operating purposes without voter approval. Limitations (such as property tax caps) restrict flexibility, but still allow for most local governments to raise such revenues.
3 (adequate)	Virtually no ability exists to raise local source revenues for operating purposes without voter approval. Additional flexibility may come from state revenue sharing.
4 (weak)	No ability exists to raise local source revenues even with voter approval, or there are significant unfunded or partially unfunded expenditure mandates that overwhelm the average entity's budget.
5 (very weak)	No ability exists to raise local source revenues even with voter approval, and there are significant unfunded or partially unfunded expenditure mandates that overwhelm the average entity's budget.

A statutory minimum fund balance improves the score by one point and a statutory maximum fund balance worsens the score by one point.

3. Transparency and accountability

39. Transparency and accountability assess the overall institutional framework's role in encouraging the transparency and comparability of relevant financial information. When states require annual audits, this increases the likelihood that audits will be done and that late audits will be noted. States' regulations requiring audits and strong accounting standards such as generally accepted accounting principles (GAAP) usually enhance reporting detail and consistency across municipal credits, making it easier to have a sufficient uniform method of interpretation. States that allow cash

accounting tolerate a lesser degree of completeness and consistency. Table 6 details the scoring for this measure.

Table 6

Assessing Transparency And Accountability	
Score	Description
1 (very strong)	State statutes or other provisions require annual financial statements that comply with GAAP.
2 (strong)	State statutes or other provisions require audited annual financial statements, but no GAAP requirement exists. Most audits utilize accrual and/or modified accrual accounting.
3 (adequate)	State statutes or other provisions require annual financial statements, but no GAAP requirement exists. Most audits utilize cash or modified cash accounting.
4 (weak)	No requirement for annual financial statements exists or there is no requirement for an audit. Interim reports provide the only source of financial information for most local governments in some years.
5 (very weak)	No requirement for financial statements exists. Cash-basis reports provide the sole source of financial information for most local governments in most years.

4. System support

40. System support addresses the extent to which local governments receive extraordinary support from a state government when the local government is under extreme stress. Forms of extraordinary support range from state government control and oversight to emergency loans or other liquidity assistance. Table 7 details the scoring for this measure.

Table 7

Assessing System Support	
Score	Description
1 (very strong)	A tested, formal mechanism for providing extraordinary support for local governments exists, which has restored fiscal stability. Such mechanisms may help with liquidity, capital market access, government management, or capital funding.
2 (strong)	Mechanisms for providing extraordinary support are less formalized, untested, or have not consistently restored fiscal stability but ongoing mechanisms to help with liquidity, capital market access, government management, or capital funding do exist.
3 (adequate)	No mechanisms for providing extraordinary support exist, but state statutes do not authorize local governments to file for bankruptcy or require further state approval.
4 (weak)	No mechanisms for providing extraordinary support exist and state statutes specifically authorize local governments to file for bankruptcy without state approval.
5 (very weak)	No mechanisms for providing extraordinary support exist, and the state has recently passed legislation that threatens the solvency of local governments without providing adjustment capabilities.

D. Economic Score

41. The economic score assesses both the health of the asset base relied upon to provide both current and future locally derived revenues as well as the likelihood of additional service demands resulting from economic deterioration. Projected per capita EBI as a percentage of the U.S. level, and TMV per capita combine to form the initial economic score due to the data availability of these statistics at the local level and their correlation with overall economic activity and local government revenues. Table 8 details the manner in which different values of these two statistics combine to form the initial economic score.

Table 8 Assessing The Economic Score (see paragraphs 41-47)					
	Total Market Value Per Capita				
Projected per capita effective buying income as a % of U.S. projected per capita EBI	>\$195,000	\$100,000 to \$195,000	\$80,000 to \$100,000	\$55,000 to \$80,000	<\$55,000
>150	1	1.5	2	2.5	3
110 to 150	1.5	2	2.5	3	3.5
85 to 110	2	2.5	3	3.5	4
70 to 85	2.5	3	3.5	4	4.5
≤70	3	3.5	4	4.5	5
A score of '1,' 2,' 3,' 4,' and '5' means very strong, strong, adequate, weak, and very weak, respectively.					
Qualitative factors with a positive impact on the initial score			Qualitative factors with a negative impact on the initial score		
Participation in a larger broad and diversified economy (see paragraphs 45-47).			Negative budget impact from demographic profile: population decrease and/or high share of dependent population (>55%) have a material negative impact on future revenue growth and expenditure needs.		
A stabilizing institutional influence with a longstanding role as a major employer, such as higher education, health care, military, or large and stable corporate presence.			High county unemployment rate (>10%).		
			If employment concentration where an individual sector (excluding education/health, government, and transportation, trade and utilities) represents more than 30% of the nonfarm work base, or tax base concentration where the top 10 taxpayers represent more than 35% of the tax base exists, the score worsens by one point (1). If the top 10 taxpayers exceed 45% of the tax base, the score worsens by two points (2.0).		
The adjustment impact of each qualitative factor counts for one point (1.0), except for employment and tax base concentration, where the score may differ by two points (2.0) as described above. The final economic score equals the initial score adjusted up or down based on the net effect of the qualitative factors. Metrics that equal a cut-off point between two initial scores will equate to the worse score. To calculate the market value per capita, the criteria use the most recent estimate available. To calculate projected per capita EBI, the criteria use the most recent local level EBI available, adjusted for per capita personal income growth expectations for the next five years. IHS Inc.(known as Global Insight) or another similar source is used for county-level data and U.S. income projections, while Nielsen (Claritas) or another similar source is used for local level data. To measure unemployment, the criteria use county-level data from the Bureau of Labor Statistics and take the annual rate for the last calendar year. For local governments located with multiple counties, county-level data is weight-averaged based on the percentage of the population of the local government in each county.					

42. The final economic score will vary from that suggested by the initial score depending on the presence of one or more conditions, as shown in the table 8.
43. Local income and TMV statistics may underestimate fundamental economic strength. For example, local TMV statistics will not accurately reflect the economic activity and stability brought by a university, nor will student income

levels reflect their additional spending power coming from parent financing or student loans. Participation in a broader metropolitan area may bring nonresident spending into a community or provide additional job opportunities for residents beyond its borders--especially when the metropolitan area is economically strong.

44. By contrast, income and TMV per capita may fail to account for additional risks. The impact on income and economic activity from job losses may not immediately show up in income levels and market prices, and such losses are more likely to occur in more cyclical and concentrated tax bases. Because they do not exhibit strong cyclicality, concentration in the education/health, government, and transportation, trade and utilities sectors are not considered for this adjustment. County-level unemployment rates are used to reflect the wider view of the local economy. Population declines may also dampen the impact on per capita measures, and high Dependent Population levels can mean additional service requirements or different levels of willingness to support tax increases.
45. We assess participation in a larger broad and diversified economy at the Metropolitan Statistical Area (MSA) level. When the MSA is deemed to be broad and diverse, a positive adjustment of one point is applied to the initial economic score. The determination is based on an evaluation of three components--employment diversity, employment growth, and the employment base. Each of the three components is scored as strong, moderate, or weak and is equally weighted. Strong and weak scores offset each other, while a moderate score remains neutral. MSAs are considered to be broad and diverse when the net score of the three components is strong, and are not considered broad and diverse when the net score is weak. If the net score is moderate, applying the broad and diverse adjustment to the initial economic score may be warranted if we determine the local government benefits significantly from participation within its respective MSA.
46. Employment diversity within an MSA is primarily assessed using a Herfindahl Index that includes the share of total employment distributed across 12 general employment sectors. For this index, we consider less than 0.15 to be strong, between 0.15 and 0.18 to be moderate, and greater than 0.18 to be weak. Employment growth is primarily measured by the percentage change in total employment within an MSA for the prior five-year period. For this measure, we consider an MSA with a rate better than the sum of all MSAs as strong; if the MSA's rate is worse but within three percentage points of the sum of all MSAs it is considered moderate, and a rate more than three percentage points worse is considered weak. The employment base measures total employment within the MSAs across all sectors. For this measure, we consider population greater than 250,000 to be strong, between 100,000 and 250,000 to be moderate, and less than 100,000 to be weak.
47. Additional considerations include employment concentration within specific sectors if: 1) the Herfindahl index is greater than 0.067, excluding the education/health, government, and transportation, trade, and utilities sectors, or 2) any volatile sector is more than double the level found in the sum of all MSAs and a large 10-year percentage decline in total employment (greater than 10%). If any of these considerations exist, they may reduce the overall score from strong to moderate or moderate to weak.

E. Management Score

48. The rigor of a government's financial management practices is an important factor in Standard & Poor's analysis of

that government's creditworthiness. Managerial decisions, policies, and practices apply directly to the government's financial position and operations, debt burden, and other key credit factors. A government's ability to implement timely and sound financial and operational decisions in response to economic and fiscal demands is a primary determinant of near-term changes in credit quality. The management score assesses the impact of management conditions on the likelihood of repayment. The score does not measure individual managerial quality, organizational efficiency, or any other performance indicator associated with management. Table 9 summarizes the scoring for the management score.

49. The Financial Management Assessment (FMA) methodology (see "Financial Management Assessment", published June 27, 2006) used in U.S. public finance forms the starting point for the management score. The FMA assesses only the policies and practices of a local government. Our criteria recognize the mere development of such practices as a principal method for preventing default as early as the 1930s evidenced in Hillhouse.

Table 9 Assessing The Management Score (see paragraphs 48-58)	
Score	Characteristics
1 (very strong)	FMA score of "Strong" and none of the factors in scores '4' or '5' are present.
2 (strong)	FMA score of "Good" and none of the factors in scores '4' or '5' are present.
3 (adequate)	FMA score of "Standard" and none of the factors in scores '4' or '5' are present.
4 (weak)	FMA score of "Vulnerable" or any of the following is present: there is a financial reporting restatement that has a material negative impact; any of the conditions in score '5' existed within the past three years; the structural imbalance override condition exists or existed within the past three years; or a very high debt, pension, and OPEB burden.
5 (very weak)	Regardless of the FMA score, any of the following is present: a management team that lacks relevant skills resulting in a weak capacity for planning, monitoring, and management; an auditor has delivered a going concern opinion; the government is exhibiting an unwillingness to support a debt or capital lease obligation; or the government is actively considering bankruptcy in the near term.
Qualitative factors with a positive impact on the initial score	Qualitative factors with a negative impact on the initial score
Consistent ability to maintain balanced operations.	Frequent management turnover inhibiting a current understanding of the government's financial position and its ability to adjust, or political gridlock, or instability that brings the same results.
Government service levels are limited.	Consistent inability to execute approved structural reforms for two consecutive years.
For each relevant qualitative factor, the score changes by one point. The final management score equals the initial score adjusted up or down based on the net effect of the qualitative adjustments. Qualitative adjustments cannot improve an initial management score of '5' or, in certain cases, a score of '4' (see paragraph 57).	

50. Regardless of the initial management score resulting from the FMA and any adjustment factors, certain conditions automatically cap the score at '4' or '5'. A capped score of '4' can occur if the financial reporting of the municipality is subject to material restatements to an extent that the uncertainty created is consistent with ratings no higher than 'A'. This does not include required accounting adjustments such as required changes by the Governmental Accounting Standards Board (GASB). Another instance when a capped score of '4' may occur is within three years after a condition that would cause or caused a management score of '5'. In such cases, the uncertainty surrounding management's ability to rebound from the condition(s) is also consistent with ratings no higher than 'A'. The same result can exist while the local government's finances are structurally imbalanced (see paragraph 35) or during the three-year period thereafter when management is rebounding from the structural imbalance condition. Finally, a capped score of '4' may result from having a debt, pension, and other postemployment benefits (OPEB) burden that is considered very high and management's lack of a credible plan to address the situation. Characteristics of a very high burden include:
- Total governmental funds debt service plus required annual pension payment plus annual OPEB payment as a percentage of total governmental funds expenditures above or expected to exceed 50%;
 - A growing recent and near-term expected trend of these fixed-cost charges; and
 - Fiscal flexibility unable to compensate for these elevated fixed-cost charges;
51. The first instance in which a municipality can receive a capped score of '5' occurs when a management team lacks the relevant skills to adequately plan, monitor, and manage the government's finances. Although rare, these conditions usually occur when the management organization concentrates nearly all management functions with one individual who then leaves. To receive a score of '5', a lack of qualified subordinates and delays in replacing the departed individual usually exist. As this period lengthens, the government's true financial position becomes less clear, and an auditor may have difficulty rendering an opinion on the government's financial statements.
52. The second instance occurs when an auditor has delivered a going concern opinion with the most recent review of the government's financial position. Other forms of qualified audit opinions do not result in a score of '5'.
53. The third instance occurs when a government shows an unwillingness to support a debt, capital lease obligation, or moral obligation pledge. A current lack of willingness to pay vendors, vendor leases, or other commercial obligations would not automatically result in a score of '5', although it could indicate increased financial pressure that could bring lower ratings through the other elements considered by the criteria. A current lack of willingness may or may not be clearly established before the actual payment date of the obligation concerned. Even before a government has formally chosen not to pay an obligation, downward rating adjustments could result from the expectation of such events.
54. The fourth instance occurs when representatives of the government take actions that indicate active consideration of bankruptcy filing in the near-term.
55. Various qualitative factors may raise or lower the final management score relative to the initial score, as shown in table 9.
56. Even when limited policies exist, the risk management poses to credit quality may still be limited. First, management may excel in consistently balancing operations despite the absence of formal policies. Second, when the government provides limited services, operational risk declines. The management score improves by one point when either of

these conditions exist. The criteria measure government operational risk by distinguishing between the following two categories:

- **Typical services:** the municipal government provides public safety, roads, basic planning and permitting, and some utility services. Governments providing significantly higher levels of complex or resource-intensive services also receive a score of 'typical'.
- **Limited services:** the municipal government maintains roads and provides only limited additional services that are mostly administrative or non-labor-intensive. It either does not provide public safety services or contracts them out to other governments. Any other services are limited and could be scaled back or discontinued if they became a burden.

57. No qualitative adjustment may raise the score if the initial score equals '5'. In some instances a score of '4' cannot be adjusted in a positive direction. No improvement in the final score occurs when a capped score of '4' is assigned because of the conditions described in paragraph 50.
58. Negative adjustments to the initial management score address circumstances or obstacles that prohibit management from planning and executing. Such conditions could include rapid management turnover or political gridlock or instability. The criteria also recognize that not all obstacles can be foreseen and use two consecutive years of failure to implement planned structural reforms as evidence that such an obstacle exists even if it has not been precisely identified.

F. Budgetary Flexibility Score

59. The budgetary flexibility score measures the degree to which the government can look to additional financial flexibility in times of stress. Table 10 details the scoring for budgetary flexibility.

Table 10 Assessing The Budgetary Flexibility Score (see paragraphs 59-64)					
	Available Fund Balance As A % Of Expenditures				
%	>15	8-15	4-8	1-4	≤1
Score	1	2	3	4	5
A score of '1', '2', '3', '4', and '5' means very strong, strong, adequate, weak, and very weak, respectively.					
Qualitative factors with a positive impact on the initial score:			Qualitative factors with a negative impact on the initial score:		
If projections for the current year and the following year suggest a better initial score.			If projections for the current year and the following year suggest a worse initial score.		
Ability to avoid financial imbalances with demonstrated capacity and willingness to cut operational spending (by more than 2%), resulting from a flexible cost structure, flexible legislation, and/or widespread political support.			High levels of questionable receivables or amounts due from other funds with deficit balances.		
Existing state tax caps do not apply to the government, or the government retains substantial flexibility under the caps.			Limited capacity to cut expenditures due to infrastructure or operational needs or political resistance.		
Demonstrated ability and willingness to raise taxes when needed (and voter support is usually obtained when such approval is required).			Limited capacity to raise revenues due to consistent and ongoing political resistance which can include self-imposed restrictions through charter or local initiative processes.		
Timing of fiscal year and tax billing dates result in high cash with abnormally low fund balance levels.			Where cash accounting is used, the criteria use cash balances instead of fund balances and the score is worsened by one point.		
Maintenance of an available fund balance exceeding 30% of general fund expenditures for the most recently reported year, the current year and next year.					
For each relevant qualitative factor, the score changes by one point. The final budgetary flexibility score equals the initial score adjusted up or down based on the net effect of the qualitative factors. A metric that equals a cutoff point between two initial scores will equate to the worse score.					

60. Various qualitative factors may raise or lower the final budget flexibility score relative to the initial score, as shown in table 10.
61. The existing Available Fund Balances reflect the most obvious and measurable form of flexibility. However, we recognize that municipalities may have ongoing balances legally available for operations outside the general fund. Therefore, the Available Fund Balance in the initial score reflects all available funds legally available for operations. The initial score is the Available Fund Balance as a percentage of general fund expenditures. The measure uses data from the most recent reported year.
62. Qualitative adjustments to the budgetary flexibility score generally compensate for shortcomings in the fund balance measure or assess other forms of flexibility. GASB Interpretation No. 5 specifies how much of taxes already levied and possibly even collected must be deferred from a recognition perspective based on the timing of these elements relative

to the fiscal year. In some jurisdictions, this results in the accounting creation of low fund balances in a small number of credits that in reality have substantial resources. On the other hand, high fund balances as a percentage of expenditures may overestimate flexibility if the quality of receivables recognized is suspect. The Available Fund Balance measure will be net of any Available Fund Balance that includes questionable receivables that we do not expect to be collected, but if receivables are unable to be projected with confidence, the negative "questionable receivables" score adjustment is used instead of making an adjustment to the data (see table 10). For entities that report on a cash basis, the criteria use cash balances instead of fund balances. The score is worsened by one, however, to compensate for the lack of clarity on what funds are truly available. The maintenance of a consistently high fund balance -- exceeding twice the level associated with the top score -- that we expect to continue represents a positive adjustment that may offset a negative adjustment when both conditions exist.

63. Other forms of flexibility primarily include the ability to raise additional revenues or reduce expenditures. These tools are at least equal in power to the use of existing balances, but qualitative adjustments better suit their complexity due to the various forms they can take. With regard to tax caps, the institutional framework score incorporates the extent to which statewide tax caps exist, but the budgetary flexibility score differentiates those credits that retain flexibility despite the tax caps. The criteria separately assess local political support for increases, including cases where there are self-imposed limitations as a result of local charter initiatives or referenda.
64. The option to use fund balance in the near term can provide fiscal flexibility although fund balance drawdowns may impair future fiscal flexibility. Likewise, increasing fund balances can enhance fiscal flexibility. Our forward-looking analysis evaluates the budget performance for the current and next fiscal year. If our projections result in a score change, either up or down, the score is adjusted by one point in the relevant direction.

G. Budgetary Performance Score

65. The budgetary performance score measures the current fiscal balance of the government, both from a general fund and total governmental funds perspective. Table 11 details the scoring for this measure.

Table 11 Assessing The Budgetary Performance Score (see paragraphs 65-68)					
	Total Governmental Funds Net Result (%)				
General Fund Net Result (%)	> -1	-1 to -5	-5 to -10	-10 to -15	≤ -15
(> 5)	1	2	3	3	4
(-1 to 5)	2	3	3	4	5
(≤ -1)	3	4	4	5	5
A score of '1', '2', '3', '4' and '5' means very strong, strong, adequate, weak, and very weak, respectively.					
Qualitative factors with a positive impact on the initial score:			Qualitative factors with a negative impact on the initial score:		
Expected structural improvement: if projections for the current year and following year suggested a better initial score, the score would improve by one point. The score would improve by two points only if required adjustments to revenues or expenditures to produce the result were already approved.			Expected structural deterioration: if projections for the current year and following year suggested a worse initial score, the score would worsen by one or two points. To worsen by two points, expected performance must fall to the commensurate level within the current year.		
			Deferred payments on a cash basis: in cases where good ratios hide significant underspending due to deferred payments, the deferral produces a better score.		
			Significant historic volatility in performance because of very cyclical revenues, (e.g. oil & gas or sales taxes on luxury goods and/or dependence on volatile state transfers) or exposure to event-related risks, and the sources of volatility remain.		
For each relevant qualitative factor, the score changes by one point, except for expected structural improvement or deterioration which could result in a difference of two points relative to the initial score. The final budget performance score equals the initial score adjusted up or down based on the net effect of the qualitative factors. Metrics that equal a cut-off point between two initial scores will equate to the worse score.					

66. Various qualitative factors may raise or lower the final budget performance score relative to the initial score, as shown in table 11.
67. The budgetary performance score begins with a measure based on the most recent year reported because it is observable and verifiable. The criteria will usually smooth planned capital expenditures to arrive at a more sustainable view of ongoing performance by eliminating the spending of borrowed funds for capital expenditures. Adjustments are also made for net transfers to identify the structural result.
68. However, future credit quality is dependent on current and future performance. Accordingly, the score can be adjusted by one or at most two points if actions or events subsequent to the date of the measure suggest different results in the coming years. Examples of actions warranting such adjustments include updated current-year estimates, new budgets, or budget amendments featuring approved revenue or expenditure adjustments. The criteria also compensate for artificially positive outcomes resulting from deferred expenditures, such as underfunding required pension

contributions, with a negative adjustment of one point. A negative adjustment of one point also exists for the uncertainty associated with governments facing increased volatility in revenues with a more-than 10% year-to-year decline, such as those highly dependent on oil and gas-related revenues or sales taxes on luxury goods or subject to event-related risk. The criteria include financial reporting restatements that are not material enough to warrant a management score (see paragraph 50) of '4' but inject a degree of uncertainty to the performance score, as a one-point negative adjustment. Event-related risk can also include sudden and material negative financial performance from enterprises owned by the entity.

H. Liquidity Score

69. The liquidity score measures the availability of cash and cash equivalents to service both debt and other expenditures. Table 12 details the calculation of the initial score, as well as the manner in which other factors affect the liquidity score. The measure uses data from the most recently reported year.

Table 12 Assessing The Liquidity Score (see paragraphs 69-77)					
	Total Government Available Cash As % Of Total Governmental Funds Debt Service				
Total Government Available Cash As % Of Total Governmental Funds Expenditures	>120	100 to 120	80 to 100	40 to 80	≤40
>15	1	2	3	4	5
8 to 15	2	2	3	4	5
4 to 8	3	3	3	4	5
1 to 4	4	4	4	4	5
<1	5	5	5	5	5
A score of 1, 2, 3, 4 and 5 are very strong, strong, adequate, weak and very weak, respectively.					
Qualitative factors with a positive impact on the initial score:			Qualitative factors with a negative impact on the initial score:		
If projections for the current year (and the following year) suggest a better initial score, the score improves by one point.			If projections for the current year (and the following year) suggest a worse initial score, the score worsens by one point.		
If access to external liquidity is 'exceptional' as defined in table 13, the score improves by two points; if 'strong', the score improves by one point.			If access to external liquidity is 'uncertain' as defined in table 13, the score worsens by two points; if 'limited', the score worsens by one point.		
Very robust and stable internal cash flow generation capacity compared with peers in this category.			High refinancing risk over the next 24 months.		
			Aggressive use of investments.		
			Exposure to non-remote contingent liability risk that could come due within 12 months.		
See paragraph 77 for circumstances resulting in an automatic score of '4' or '5'. Extraordinary proceeds (such as unused short-term borrowing) that span fiscal years or that are otherwise dedicated will be adjusted out of Total Government Available Cash.					
For each relevant qualitative factor, the score changes by one point, except for access to external liquidity which could change the final score by two points and contingent liability exposure which could cap the score at '4' or '5'. The final liquidity score equals the initial score adjusted up or down based on the net effect of the qualitative factors. Metrics that equal a cut-off point between two initial scores will equate to the worse score.					

70. Various qualitative factors may raise or lower the final liquidity score relative to the initial score, as shown in table 12.

71. Because governments hold monies in various funds that may be accessed for short-term liquidity, the measure uses Total Government Available Cash held by the government and recognizes most governments' ability to engage in interfund borrowing. Undrawn amounts under committed bank lines and other facilities are included as cash, and drawn amounts are included with both debt service and total expenditures if due within the next 12 months.
72. Through adjustment factors, the criteria also recognize the role that capital markets and bank financing can play in local government liquidity, as well as the strengths and weaknesses associated with other conditions.
73. The access to external liquidity score detailed in table 13 measures a local government's access to capital market and bank financing.
74. Availability of liquidity varies and in part is a function of the current and near term financial condition. Our forward-looking analysis evaluates the cash, expenditures and debt service for the current and next fiscal year. If our projections result in a score change, either up or down, the score is adjusted one point in the relevant direction.

Table 13

Assessment Of Access To External Liquidity (see paragraph 75)

Access To External Liquidity	Typical Characteristics
Exceptional	There is well-tested access to capital markets through different capital financing programs as well as a history of tapping these markets for over 15 years through different economic cycles.
Strong	There is a record of sufficient access to capital markets, and no reason to believe access has diminished.
Satisfactory	There is no record of access to the capital markets in the last 20 years, but there is also no reason to believe that external financing could not be obtained at a price acceptable to the government.
Limited	Legal or market obstacles to the use of debt instruments for liquidity management exist; the availability of bank loans is limited.
Uncertain	Access to external liquidity is highly questionable, considering both capital market and bank sources.

75. Although local governments in general have enjoyed good market access even through the last economic downturn and credit tightening, the score assesses access relative to the specific local government rather than to the sector as a whole. Absent a market-based or issuer-specific reason to question future market access, the score will use the government's own record of market access in addition to any state-specific sources.
76. The criteria also recognize that future cash balances may be understated for credits with strong cash flow generation capabilities. Often, this results from conservative budgeting procedures that consistently produce positive budget variances.
77. By contrast, projected cash balances may be more at risk under certain conditions, including aggressive use of investments, high refinancing risk over the next 24 months, or exposure to other contingent liability risk that could come due within the next 12 months. Aggressive use of investments includes the use of derivatives for investment rather than hedging purposes, a focus on return over preservation of principal and liquidity, and the use of nontraditional instruments without an ability to articulate their risks and how they will be mitigated. High refinancing risk includes instances where the issuer could be forced to access outside financing due to a lack of internal liquidity, but the issuer will have limited warning when the need arises and has no credible plan to do so on a timely basis. Other contingent liquidity risks include payments resulting from rating triggers, legal judgments, deficits of other enterprises,

or other events that are foreseeable within our current-year estimate. When such events are likely, the coming year's cost of these obligations exceeds 25% of general fund revenues, and the government lacks a commitment to implement a credible plan to finance the obligation, the final liquidity score is capped at '5'. When such events are likely, the coming year's cost of these obligations exceeds 10% of general fund revenues, and the government lacks a commitment to implement a credible plan to finance the obligation, the final liquidity score is capped at '4'. Otherwise, the presence of such obligations worsens the liquidity score by one point. Any such element deemed certain is included as an expenditure in total cash as a percentage of total governmental funds expenditures. If the event would result in a higher debt obligation, the criteria also include the item as debt service in the total government cash as a percentage of total governmental funds debt service measure. For more information on contingent liquidity risks, see "Contingent Liquidity Risks In U.S. Public Finance Instruments: Methodology And Assumptions", published March 5, 2012.

I. Debt And Contingent Liabilities Score

78. The criteria form the initial debt and contingent liabilities score from the combination of two measures: total governmental funds debt service as a percentage of total governmental funds expenditures and net direct debt as a percentage of total governmental funds revenue. Debt service as a percentage of expenditures measures the annual fixed-cost burden that debt places on the government. Debt to revenues measures the total debt burden on the government's revenue position rather than the annual cost of the debt, which can be manipulated by amortization structures. Net direct debt is calculated as of the date of our analysis, including any debt issuance we are currently rating. Debt to expenditures is measured similarly, recognizing any near-term changes due to the government's debt structure. Table 14 details the scoring for the debt and contingent liabilities score. For more information on debt measurement, see "Debt Statement Analysis", published Aug. 22, 2006.

Table 14 Assessing The Debt And Contingent Liabilities Score (see paragraphs 78-84)					
Total Governmental Funds Debt Service As A % of Total Governmental Funds Expenditures	Net Direct Debt As % Of Total Governmental Funds Revenue				
	<30	30 to 60	60 to 120	120 to 180	≥180
< 8	1	2	3	4	5
8 to 15	2	3	4	4	5
15 to 25	3	4	5	5	5
25 to 35	4	4	5	5	5
≥35	4	5	5	5	5
A score of 1, 2, 3, 4 and 5 are very strong, strong, adequate, weak and very weak, respectively.					
Qualitative factors with a positive impact on the initial score:			Qualitative factors with a negative impact on the initial score:		
Overall net debt as a percentage of market value below 3%.			Significant medium-term debt plans produce a higher initial score when included.		
Overall rapid annual debt amortization, with more than 65% coming due in 10 years.			Exposure to interest-rate risk or instrument provisions that could increase annual payment requirements by at least 20%.		
			Overall net debt as a percentage of market value exceeding 10%.		
			Unaddressed exposure to large unfunded pension or OPEB obligations leading to accelerating payment obligations over the medium term that represent significant budget pressure (see paragraph 82). If there is a plan to address the obligations, the final score worsens by one point; otherwise the score worsens by two points.		
			Speculative contingent liabilities or those otherwise likely to be funded on an ongoing basis by the government representing more than 10% of total governmental revenue .		
For each relevant qualitative factor, the score changes by one point, except for unaddressed exposure to unfunded pension or OPEB obligations which can worsen the final score by two points. The final debt and contingent liabilities score equals the initial score adjusted up or down based on the net effect of the qualitative factors. Metrics equal a cutoff point between two initial scores will equate to the worse score.					

79. Qualitative adjustments may raise or lower the final debt and contingent liabilities score relative to the initial score, as shown in table 14. The criteria consider pending debt issuance through an upward score adjustment when including

the planned or recently issued debt results in a worse score.

80. The criteria improve the final score by one point when above-average annual debt amortization (based on total direct debt) inflates the debt service as a percentage of expenditures score and masks the future flexibility stemming from an early deleveraging. The criteria do not apply this adjustment when the early amortization results from a near-to-medium term bullet maturity that will not be retired with funds on hand. Exposure to interest-rate risk or instrument provisions that cause amortization or interest-rate changes beyond the issuer's control increase the score by one point, reflecting additional uncertainty as to whether current debt service levels are representative of those going forward. Examples include unhedged variable-rate debt or higher interest rates resulting from failed remarketings in instruments such as auction-rate securities, variable-rate demand bonds, and certain direct purchase obligations.
81. An overall net debt to TMV level of above 10% worsens the score by one point, while a low level, below 3%, improves the score by one point. This statistic captures the burden of the local government's debt in addition to that of overlapping jurisdictions on the overall tax base. An atypical debt burden can present extra challenges or flexibility over and above that suggested by the individual government's debt burden alone.
82. The impact of pension and OPEB obligations depends on the degree to which such costs will likely escalate and whether the government has plans to address them. Relative to debt, governments have a higher level of flexibility to address these costs, both from a temporal payment perspective and from an obligation level perspective. Many governments have the flexibility to alter benefit levels, and some governments already have availed themselves of this ability. Most governments also can pay less than the annual required contribution without leaving the fund unable to meet actual payments in the current and following year. On the other hand, such delays accelerate the growth rate of future payments. When the potential for such accelerations exists and the increased payments increase budget stress, the final debt and contingent liabilities score worsens by one point when a specific and credible plan to address this burden is in place. Otherwise, the score worsens by two points relative to the initial score. Among the areas of analytic focus when assessing the pension and OPEB burden will be:
 - The required annual pension payment plus annual OPEB payment as a percentage of total governmental funds expenditures. A combined carrying charge of 10% or more will be considered elevated, however, we will consider whether we expect the elevated payments to result in lower future obligations.
 - The actuarial funded ratio(s) of the pension plan(s) a local government participates in or sponsors. If the ratio(s) are less than 80%, they will receive further review especially when the carrying charge is elevated. We also consider the magnitude of the unfunded obligation in tandem with the funded ratio(s) when assessing the potential for stress.
 - The contributions actually made to all pension plans a local government participates in or sponsors. The degree to which a local government contributes less than its full required contribution(s) could be an indication of either short-term cash flow issues or a willingness of management to defer difficult decisions.
 - The OPEB costs exceed 5% of total governmental funds expenditures and the local government has limited flexibility to change or amend these benefits.
83. Finally, another adjustment considers additional future contingent liabilities not yet requiring government support. While our debt burden calculation already considers other nondirect debt requiring government support and our liquidity score considers the near-term impact of any contingent liabilities, the adjustment to the debt score results

from a likelihood of ongoing payment obligations not yet occurring that represent more than 10% of total governmental funds revenues. Once the payment obligations become reality, they are included in the debt measure. Examples of contingent liabilities include potential legal judgments, currently self-supporting government enterprise debt that is likely to require support in the near future, guaranteed debt likely to need support in the near future, and additional costs resulting from pending changes in law.

84. As discussed in paragraph 50, a very high debt, pension, and OPEB burden can lead to a management score of '4', which caps the final rating at the lower of 'A' and one notch lower than that suggested by table 1. In cases where these liabilities are not determined to be excessive, the one-notch flexibility described in paragraph 24 may be used to account for the impact that elevated levels of these liabilities can have on credit quality.

VII. APPENDIX I: Selected Historical Statistics

85. Selected historical statistics on local government defaults taken or derived from George Hempel's "The Postwar Quality of State and Local Debt" are shown in tables 15 and 16.

Table 15

Number Of Recorded Defaults From 1839-1965 By Type Of Governmental Unit						
Year	States	Counties and parishes	Incorporated municipals	Unincorporated municipals	School districts	Other districts
1839-1849	9		4			
1850-1859	2	7	4	4		
1860-1869	1	15	13	9		
1870-1879	9	57	50	46	4	2
1880-1889		30	30	31	5	1
1890-1899		94	93	50	9	12
1900-1909		43	51	33	11	11
1910-1919		7	17	5		7
1920-1929	1	15	39	10	14	107
1930-1939		417	1,434	88	1,241	1,590
1940-1949		6	31	7	5	30
1950-1959		12	31	4	23	42
1960-1965		17	70	20	41	44
Total defaults	22	720	1,867	307	1,353	1,846
Total state and local governmental units in 1963	50	3,043	17,997	17,144	34,678	18,323

Table 16

Government Defaults As A Percentage Of Total Governmental Units By Type Of Government					
Year	Counties and parishes (%)	Incorporated municipals (%)	Unincorporated municipals (%)	School districts (%)	Other districts (%)
1839-1849	0	0	0	0	0
1850-1859	0.2	0	0	0	0
1860-1869	0.5	0.1	0.1	0	0

Table 16

Government Defaults As A Percentage Of Total Governmental Units By Type Of Government (cont.)					
1870-1879	1.9	0.3	0.3	0	0
1880-1889	1	0.2	0.2	0	0
1890-1899	3.1	0.5	0.3	0	0.1
1900-1909	1.4	0.3	0.2	0	0.1
1910-1919	0.2	0.1	0	0	0
1920-1929	0.5	0.2	0.1	0	0.6
1930-1939	13.7	8	0.5	3.6	8.7
1940-1949	0.2	0.2	0	0	0.2
1950-1959	0.4	0.2	0	0.1	0.2
1960-1965	0.6	0.4	0.1	0.1	0.2

To derive the percentages, the table uses the study's total number of governments in 1963 for the total number of governments in all periods because this statistic is not available for all periods and the number of governments did not vary dramatically over these periods. The percentages above will overestimate annual default rates in many cases due to the multiyear nature of the periods.

VIII. APPENDIX II: Relationship To The State Rating

86. Local governments have a number of connections to their state governments. State governments may change the levels of funding provided to local governments. State legislatures may also change laws on local government funding, debt issuance, or even expenditure responsibilities. In smaller or more concentrated states, the nature of the economic bases may also be similar.
87. Given the historical record and ongoing localized nature of local government finance, the criteria measure the impact of additional stress by state governments through the standard scores. Were a state to alter local government funding statutes or mechanisms for its own fiscal purposes, such decisions could result in changes to the predictability, revenue and expenditure balance, and system support scores for all related local governments (see paragraphs 37-40). As the direct impact on a local government's fiscal balance becomes clear, changes to the budgetary flexibility and budgetary stress scores could occur.
88. Probably due to the historical trends of ongoing local control described in subsection A, there is limited data to show that state credit stress directly brings local government stress. Where correlation does exist, there is little evidence to suggest causation. Hempel notes that following the panic of 1837, nine states defaulted, namely Arkansas, Florida, Illinois, Indiana, Louisiana, Maryland, Michigan, Mississippi, and Pennsylvania. He cites only two municipal defaults following the panic, only one of which was in these states (Mobile, Ala. and Detroit, Mich.). The low level of municipal debt outstanding at the time, however, also likely limited defaults.
89. By the time of the depression of 1873 through 1879, local government debt had also significantly increased, in part because of prior restrictions on state debt issuance following the 1837 experience. Based on statements from Hempel and Scott, 12 states appear to have defaulted on or repudiated their debt during this period. Exact numbers of local government defaults by state during this period are elusive. Hillhouse's "Defaulted Municipal Bonds (1830-1930)" provides perhaps the best source. The author does not provide dates for the more-than 860 defaults cited, but instead provides citations for pieces that provide further information on these defaults. Using these citations as a proxy for the

period in which these defaults occurred allows for an analysis of whether credits presumably defaulting in this period were also in states that defaulted. Table 17 provides this detail.

Table 17

Reported Local Government Defaults In Defaulting And Nondefaulting States Over Various Periods (see paragraphs 19-23)

	Local defaults 1837-1843	Local defaults 1873-1880	Local defaults 1936
In states that defaulted	0	56	290
In states that did not default	2	85	2,869

Source: "Defaulted Municipal Bonds and Municipal Bonds, A Century of Experience"

90. Finally, Hillhouse's primary work, "Municipal Bonds, A Century of Experience", also lists municipal defaults by state during the Great Depression. Of the 3,159 credits in default as of January 1936, 290 were in Arkansas, the one state experiencing payment difficulties. Of this total however, 279 were school districts or other special districts. With regard to cities with populations of 10,000 or more in default, Arkansas had one out of nine such cities in default. In comparison, Ohio had 24 of 61 such cities in default, Michigan had 21 of 41, and New Jersey had 18 of 54.
91. Of course many other municipal defaults occurred between the periods referenced in table 17, and others have followed since, despite the lack of periods generating additional state payment defaults. Common reasons for these defaults include periods of overleveraging followed by a decline in local revenues, real estate or other development speculation, and fraud or mismanagement. Sometimes these defaults occurred in a regional pattern, while other times they were idiosyncratic.
92. Although no additional state defaults have occurred recently, several were significantly tested during the last recession. Despite budget gaps too large for one-item solutions, state cutbacks have posed no serious credit threat to municipal governments. The reduction of aid in some states has resulted in the need for local government adjustment, but, in our view, the size of these cutbacks in no way threatened the outright solvency of municipalities or their ability to service debt.

IX. APPENDIX III: Changes Since The Request For Comment

93. On March 6, 2012 Standard & Poor's published "Request For Comment: U.S. Local Governments: Methodology And Assumptions". Market participants who responded were generally positive about the increased transparency and clarity of the criteria. Some of them provided specific comments about certain metrics, data sources, and weighting of analytical factors (see "What's Happening With The Proposed U.S. Local Government Criteria? An Update On Feedback And Implementation", published Sept. 19, 2012). These comments and further analysis led to the following main changes between the criteria and the proposal presented in the RFC:
 - Several overriding factors have been added (see table 2). Among them are: Available Fund Balance of less than \$500,000, a budgetary flexibility score of '5', and exhibiting characteristics of structural imbalance.
 - The positive qualitative adjustment for participation in a broad and diversified economy in the economic score has been modified to reflect a more-robust analysis of MSAs to help determine if the adjustment will be made.
 - To further augment the forward-looking nature of our analysis, positive and negative qualitative adjustments have

been added to the budgetary flexibility and liquidity scores to account for situations when projections suggest better or worse scores. These adjustments had previously existed only in the budgetary performance score in the RFC.

- The liquidity score can be capped at '4' or '5' if certain levels of non-remote contingent liability risks exist to capture the significant stress these obligations can pose.
- Chiefly due to the changes listed above, the ranges for the indicative rating outcomes in table 1 were changed slightly to keep consistent our view of credit quality for the sector.
- Finally, additional characteristics were added to the description of the management score of '4' to capture situations where management is enduring or has recently endured conditions that pose credit stress.

X. GLOSSARY

94. Available Fund Balance: the sum of the Available General Fund Balance + any other fund balances of the government legally available for operations. For entities that report on a cash basis, the criteria use cash balances instead of fund balances.
95. Available General Fund Balance: the portion of the general fund balance that is legally available for operations. Based on GASB 54 designations, this generally includes assigned and unassigned balances but may include committed if committed for emergencies or other uses intended to support operations if necessary.
96. Dependent Population: the total population of an area that is younger than 15 years plus the total population of an area older than 65.
97. Effective Buying Income (EBI): personal income (wages, salaries, interest, dividends, profits, rental income, and pension income) - federal, state, and local taxes and nontax payments (such as personal contributions for social security insurance).
98. General Fund Net Result (%) (total general fund revenues - total general fund expenditures + transfers in from other funds - transfers out to other funds) divided by general fund expenditures.
99. Metropolitan Statistical Area: geographic entities delineated by the federal government that contain a core urban area of 50,000 or more population. MSAs consist of one or more counties that include the core urban area as well as any adjacent counties that are highly integrated.
100. Total Government Available Cash: total cash (cash, and cash equivalents + investments (when grouped with cash in the audit)) – proceeds of borrowings that are otherwise dedicated – other encumbered cash + liquidation of certain highly liquid securities.
101. Total Governmental Funds Net Result (%): (total governmental revenues - total governmental expenditures) divided by total governmental fund expenditures.
102. Total Market Value: the estimated market value of all real and personal property within the jurisdiction, typically determined as part of a government or other independent appraisal to determine taxable or assessed value.

XI. RELATED CRITERIA AND RESEARCH

Related Criteria

Articles complementing the criteria

- Appropriation-Backed Obligations, June 13, 2007
- Contingent Liquidity Risks In U.S. Public Finance Instruments: Methodology And Assumptions, March 5, 2012.
- Debt Statement Analysis, Aug. 22, 2006
- Financial Management Assessment, June 27, 2006
- Methodology For Rating International Local And Regional Governments, Sept. 20, 2010
- The Time Dimension Of Standard & Poor's Credit Ratings, Sept. 22, 2010
- Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings, Oct. 1, 2012

Related Research

- What's Happening With The Proposed U.S. Local Government Criteria? An Update On Feedback And Implementation, Sept. 19, 2012)
- Municipal Bankruptcy: Standard & Poor's Approach And Viewpoint, Oct. 4, 2012
- Hempel, George Henry, "The Postwar Quality of Municipal Bonds", University of Michigan doctoral dissertation, 1964
- Hempel, George Henry, "The Postwar Quality of State and Local Debt", National Bureau of Economic Research, 1971
- Hillhouse, A.M., "Defaulted Municipal Bonds (1830-1930)", Municipal Finance Officer's Association of the United States and Canada, December 1935
- Hillhouse, A.M., Municipal Bonds, "A Century of Experience", Prentice-Hall, New York, 1936
- Hoene, Christopher W. and Pagano, Michael A., "City Fiscal Conditions in 2010", National League of Cities Research Brief on America's Cities, October 2010
- Lutz, Byron, Molloy, Raven, and Shan, Hui, "The Housing Crisis and State and Local Government Tax Revenue: Five Channels", Finance and Economics Discussion Series, Divisions of Research and Statistics and Monetary Affairs, Federal Reserve Board, Washington D.C., August 2010
- Rodden, Jonathan, "The Dilemma of Fiscal Federalism: Grants and Fiscal Performance around the World", MIT Draft Working Paper, Sept. 28, 2001
- Standard & Poor's Refines Its Limited-Tax GO Debt Criteria, Jan. 10, 2002
- Understanding Standard & Poor's Rating Definitions, June 3, 2009
- Standard & Poor's U.S. Public Finance Local GO Criteria: How We Adjust Data For Analytic Consistency, Sept. 12, 2013
- Methodology And Assumptions: Request For Comment: Ratings Above The Sovereign—Corporate And Government Ratings, April 12, 2013

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new

empirical evidence that would affect our credit judgment.

(And watch the related CreditMatters TV segments titled, "Standard & Poor's New Methodology For Rating U.S. Local Governments Features Institutional Framework Scoring," and "What's Behind Standard & Poor's Revised Criteria For Rating U.S. Local Governments," dated Sept. 12, 2013.)

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Criteria | Governments | U.S. Public Finance: Lottery Revenue Bonds

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(Editor's Note: This criteria article originally was published on June 13, 2007, replacing criteria published on Oct. 10, 2006. We're republishing it following our periodic review completed on April 20, 2015. As a result of our review, we updated the author contact information.)

Strong growth in lottery sales nationwide, reflecting the overwhelming popularity of the games, and ample legislative support provide assurance as to the stability of lottery revenues as a source of debt service payments. Lottery receipts for rated transactions have shown strong growth and only small dips during isolated downturns over the last 10 years. To date, lottery revenues show little apparent effect from the growth of casino gambling. The stability of these receipts from a legally imposed statewide monopoly can support strong ratings for properly structured lottery revenue bonds.

The ratings for lottery-secured bonds incorporate a review of historical operations and collections of lottery game receipts, as well as an evaluation of the legal covenants for the bonds. The level of pledged revenue coverage of future maximum annual debt service, and the legal covenants restricting additional debt issuance are very important credit considerations. Before assigning a rating to lottery-backed bonds, the stability and magnitude of the pledged revenue stream are closely evaluated.

Competition

The growth in public gaming's popularity has led to increased competition for gaming dollars among many states. The extent to which other gaming that is not used to secure the debt exists in the state, as well as the availability of gaming in nearby states, can reduce pledged revenues. For these reasons, effective management of a diversity of gaming products is an important consideration. As a competitive strategy, many state lotteries vary the composition of gaming products, odds, and pay-offs every year. State lotteries that offer a variety of instant and online gaming products, as well as the larger prizes possible for small states from multi-state pools, are better able to maintain interest, popularity, and participation among state lottery players. The ultimate measure of the success of these management factors is the historical growth and stability of lottery revenues.

The novelty associated with the introduction of a new game or a variety of new games can boost lottery sales. However, it would be considered a major credit strength if the revenues for any new or additional games also were pledged for the bonds. This will ensure that the implementation of new games does not diminish the strength of the pledged revenue stream and, most important, dilute coverage. If this concern is not addressed, the addition of new and alternative games that are not pledged to debt service will lead to a decline in pledged lottery revenues and debt coverage.

Lottery Management

Standard & Poor's Ratings Services appraisal of management focuses primarily on industry expertise, experience, and

quality. Attention is placed on the historical effectiveness in developing and promoting hands-on, innovative approaches to keep the state's lottery games competitive. A well-seasoned team that is well informed of developing industry innovations in marketing and vending technology, foresees potential challenges, and can adapt to a rapidly changing environment, is a positive rating factor. Also important is the autonomy of the management body.

Typically, management and control of a state lottery is the responsibility of an administrative team appointed by the governor and confirmed by the state legislative body. The team directs the adoption of rules, oversees the operation of the lottery, and is responsible for the honest and fair operation of the games.

Financial Operations

To assess a state lottery's financial position, Standard & Poor's analyzes trends in historical revenue growth with particular attention paid to cyclical fluctuations, overall volatility, and length of history. Historical pledged revenues that provide higher coverage offer some protection from cyclical factors.

Based on the relative inexpensiveness of lottery games as an entertainment item and the attraction of potential winnings, state lottery games have remained popular and have been somewhat insulated from recessionary cycles.

Lottery revenue projections depend on a number of underlying demographic and economic factors, including state population, state income, statewide employment, and job growth trends. Although Standard & Poor's considers future projections of lottery revenue growth, it does not use projections as a major basis for determining a rating.

Legal Provisions

Lottery-backed debt typically is secured by a pledge of net revenues after collections, payment of prize money, and administrative expenses, as well as certain allocations to the state general fund. Variability in the distribution procedure can be mitigated by statutorily controlling expenses and by establishing allocation formulas or caps.

Lottery-secured debt typically has an open flow of funds, whereby net revenues not needed to pay debt service will revert to the state general revenue fund for other purposes so that the pledge of new or additional lottery revenues will not hamper funding of other state programs.

The lien position of pledged revenues is very important. If there is no formal cap or dedication of revenues, Standard & Poor's will analyze the state's historical financial position and how revenue shortfalls, if any, were met in order to gauge the potential that a state may be compelled in the future to redirect a greater share of lottery revenues for general fund purposes.

The additional bonds test is important, as it ensures a minimum level of debt service coverage of future maximum annual debt service before additional debt can be incurred. Additional bonds tests should be historical in nature, generally specifying that revenues must cover future maximum annual debt service on historical and proposed debt by a fixed percentage before new bonds can be issued. All other things being equal, a higher additional bonds test and coverage level usually lead to a higher rating, unless the issuer's lack of adequate revenue collection history or revenue

volatility becomes a limiting factor. If an additional bonds test allows for the issuance of variable rate debt or a bullet maturity that will need refinancing, the additional bonds test coverage multiple ideally would be sufficient to protect against possible future swings in interest rates. If the additional bonds test coverage multiple is low, the use of prevailing short-term interest rates when calculating future debt service for purposes of the additional bonds test would not be as favorable as using some extra factor anticipating a rise in rates. A good alternative might be to use instead prevailing long-term rates, or prevailing long-term rates plus an extra adjustment factor, allowing a coverage margin for a potential rise in interest rates.

Given the discretionary nature and quality of the pledged revenue stream, a debt service reserve fully funded from bond proceeds is a rating factor.

Suggested documentation

- Official Statement.
- Trust indenture.
- State authorizing legislation.
- Audited historical revenues for 10 years, if available.

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Criteria | Governments | U.S. Public Finance:

Mississippi Development Bank Community And Junior College State Aid Intercept Program: Methodology And Assumptions

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Mississippi Development Bank Community And Junior College State Aid Intercept Program: Methodology And Assumptions

(Editor's Note: This criteria article was originally published on Dec. 12, 2010. We are republishing this article following our periodic review completed on Dec. 4, 2014.)

1. Standard & Poor's Ratings Services is communicating its methodology for rating bonds issued by community and junior college districts in Mississippi that have qualified for participation in the state's credit enhancement program as outlined in Section 31-25-27(13) of the Mississippi Code. We are publishing this article to help market participants understand our approach to reviewing credit quality under this new enhancement program. This article is related to our criteria articles, "Principles Of Corporate And Government Ratings," June 26, 2007, which was published on June 26, 2007, and "USPF Criteria: State Credit Enhancement Programs," which was published on Nov. 13, 2008.

SCOPE OF THE CRITERIA

2. This criteria applies to all bonds issued by community colleges and junior colleges created as such pursuant to Mississippi state law.

IMPACT ON OUTSTANDING RATINGS

3. We do not expect any changes to existing ratings as a result of these criteria because we do not currently rate any bond issues that have qualified for participation under this program.

EFFECTIVE DATE AND TRANSITION

4. These criteria are effective immediately for all new obligations issued by Mississippi community colleges and junior colleges.

METHODOLOGY AND ASSUMPTIONS

5. We view state aid intercept withholding mechanisms as creating potential additional security for bondholders through state oversight, independent notification of pending payment deficiencies, and the requirement to divert appropriated monies on a timely basis to pay debt service. Bond issues meeting all of the criteria outlined below will receive a rating equivalent to that of debt backed by the state's own annual appropriation pledge, unless we deem the credit quality of the bond issue independent of the withholding mechanism to be higher -- in which case we will assign a rating reflecting our view of the underlying security. If one or more of the provisions outlined below are not met, then we will

assign a rating reflecting the underlying security of the bond.

6. To receive a rating on par with and reflective of the rating on debt backed by the state's appropriation pledge, the following conditions must be present:
 - The borrower must receive monies or appropriated monies from the State of Mississippi;
 - The borrower must have agreed in writing to enter into an intercept agreement with the Mississippi Development Bank;
 - State-appropriated monies received by the borrower must provide at least 2x maximum annual debt service (MADS) coverage on the proposed debt service and any other debt issued by the borrower under the program;
 - The Mississippi Development Bank must have approved the borrower's proposed project.
 - Provisions contained in the bond indenture must require the district to make sinking fund payments sufficient to pay upcoming debt service at least 35 days prior to any debt service due date.
 - Sinking fund payments must be deposited with a trustee (acting as an independent paying agent);
 - The documents must require the trustee to immediately notify the State Treasurer of a payment insufficiency 35 days before debt service is due and to request monies to cure the deficiency; and
 - The documents must require the State Treasurer to remit withheld or intercepted monies directly to the trustee, within 30 days of receipt of the insufficiency notice from the trustee.

RELATED CRITERIA AND RESEARCH

- USPF Criteria: State Credit Enhancement Programs, Nov. 13, 2008
- Principles Of Corporate And Government Ratings, June 26, 2007

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

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Criteria | Governments | U.S. Public Finance: Moral Obligation Bonds

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Moral Obligation Bonds

(Editor's Note: This criteria article was originally published on June 27, 2006. We're republishing this article following our periodic review completed on Feb. 24, 2015. As a result of our review, we updated the author contact information.)

Moral obligation debt differs from other debt obligations in that there is no legal requirement to make debt-service payments. A moral obligation pledge represents a promise by a government obligor to seek future appropriations for debt service payments, typically in order to make up deficits in a reserve fund should it fall below its required level. Usually a government official will request an appropriation and the legislative body may grant it.

In practice, moral obligation debt is customarily issued by the following municipal entities:

- State governments wishing to enhance the creditworthiness of their agencies' revenue indebtedness;
- State bond banks that lend bond money to local municipal subdivisions for infrastructure projects; and
- Local units for financing projects, ranging from downtown redevelopment, to job training, to public housing.

Standard & Poor's Ratings Services criteria for moral obligation debt are strict, and all requirements must be met to achieve a rating based on the obligor. Moral obligation bonds are typically rated one full category below an issuer's GO bond rating.

Rating Methodology

In rating any moral obligation bonds, Standard & Poor's expects a standard structure to be in place:

- A reserve fund, funded at maximum annual debt service at the time of issue, either by proceeds or other available moneys;
- Language in the resolution (local) or statutes (state) that outlines the duty and process of monitoring this fund and notifying an appropriate official in the event the money in the reserve fund falls below the required level. Such notification must be made in a timely manner as to meet the budgetary requirements of that government;
- A requirement that the appropriate budgetary official request an appropriation to return the reserve fund to its maximum debt-service required level whenever there is a draw on that fund; and
- Language that provides the appropriate body of elected officials the option to make such an appropriation.

In assigning a rating, Standard & Poor's not only will verify that this structure is in place, but will evaluate the essentiality of the financing's purpose to the issuer. The legislative history will be evaluated--how important it is to ongoing operations, and how motivated the issuer would be to live up to its moral obligation, even if it comes under political pressure to allocate scarce resources in other ways. The government must also:

- Represent that it fully intends to satisfy future moral obligation payments; and
- Provide evidence of legislation authorizing the project or program being financed, also detailing the requirements with respect to deficiency payments.

Most bond issues supported by a moral obligation pledge are structured to be fixed rate instruments with a debt

service reserve sized to maximum annual debt service. In some instances, bonds have been issued in a variable rate mode, which suggests some unique credit concerns and issues. Since variable rate debt payments may fluctuate over time given changing interest rates, the appropriate sizing of the debt service reserve is an issue.

In order for Standard & Poor's to base the rating of such debt on the moral obligation pledge of the government obligor, one solution is to set the debt service reserve at the maximum allowable interest rate or cap rate under the transaction. Such a solution would eliminate the concern that in a rising interest rate environment the debt service reserve would not be sufficient to cover a full year of debt service. Another method of resolving this issue is to increase the times that a request to replenish a debt service reserve that has been drawn upon is made. This would require the ability of the government obligor's appropriate budgetary official to seek interim appropriations from the elected officials. Sufficient time must be present for those elected officials to meet and react to such a request. The timing of these events must be written into the appropriate documents supporting the bonds.

In general, moral obligation bonds are included in an issuer's debt ratio if the underlying non-moral obligation security stream is not self-supporting on its own. Similar to appropriation-backed debt, a moral obligation bond default could result in a downgrade of a state or local government's GO rating. If a properly structured moral obligation defaulted, despite clear original legislative support, the state's willingness to pay on its other debt would need to be examined.

Under certain circumstances moral obligation debt may warrant a rating above the traditional full category, providing there are other security features present. These additional security features include but are not limited to the following:

- Additional excess assets;
- Strong historical track record of the underlying assets;
- A large pool of assets providing cross collateralization; and
- Strong community support/essentiality for the assets.

Weaker moral obligation bonds may fall further below the issuer's GO rating, potentially even into the non-investment-grade rating categories, usually as a result of significant project risks, lack of clear governmental statement of intent, or structural concerns.

Standard & Poor's has noted two types of moral obligation bonds. In the first (and most common) case, moral obligation bonds are issued by governmental or special purpose entities on behalf of governmental units or authorities. Taxes or fees that are legislatively or administratively mandated support the repayment of such bonds. Less common are instances where moral obligation bonds are issued to support loans made to private companies. Repayment of such "private purpose" moral obligation bonds is based on revenues generated by such private companies. This latter type of moral obligation bond can raise rating concerns.

It is conceivable that in the event of a bankruptcy by the company for whom the moral obligation issuer has essentially served as a conduit, any debt service reserves pledged as security for the bonds might be viewed as "property of the estate" of that company, and not be immediately available to pay debt service on the bonds. To mitigate this risk, Standard & Poor's will request comfort that all debt service reserve funds or other credit support for the bonds will not be treated as "property of the estate" of the company and will not be stayed from being applied to debt service payments, if otherwise needed.

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Criteria | Governments | U.S. Public Finance: Non Ad Valorem Bonds

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General Creditworthiness

Criteria | Governments | U.S. Public Finance:

Non Ad Valorem Bonds

(Editor's Note: This criteria article originally was published Oct. 20, 2006. We're republishing this article following our periodic review completed on Jan. 29, 2015. As a result of our review, we updated the author contact information.)

Non ad valorem debt has become a popular alternative to GO bonds for many reasons. In addition to bypassing referendum requirements, many issuers believe that non ad valorem bonds spread the burden of repayment more equitably among residents and non-residents, including tourists and business travelers. This is attributable to the fact that many non ad valorem revenues are user-based, including sales and other special taxes, intergovernmental revenue sources, charges, and fees.

Because some non ad valorem revenues, such as sales taxes, are economically sensitive, pledging several of them together may reduce the overall volatility of the bond repayment revenue stream, and give the issuer access to more favorable interest rates. However, a broad-based non ad valorem revenue pledge is not, by definition, stronger than an individual pledge. One must consider the issuer's overall debt profile, as discussed below.

Many cities and counties use a secondary pledge of non ad valorem revenues to enhance the creditworthiness of debt secured by a more narrow, and possibly volatile revenue source that would potentially have a weaker credit rating on a stand-alone basis. This pledge takes the form of a direct payment of non ad valorem revenues to fund debt service, or a deficiency make-up provision to fund debt service or replenish a debt service reserve if the primary revenue source is insufficient.

Standard & Poor's Ratings Services generally views the covenant to budget and appropriate available non ad valorem revenues as being second only to a full-faith-and-credit pledge in terms of creditworthiness, and has rated most such debt one notch below an issuer's GO bond rating if certain legal provisions are present.

The general creditworthiness of the issuer provides a basic underpinning for its non ad valorem bond rating. Accordingly, if no published GO rating exists, Standard & Poor's assigns a shadow GO bond rating that it will release to the general public only at the issuer's request.

Determining the creditworthiness of non ad valorem debt for the purpose of assigning a rating entails a blended approach of assessing the nature and strength of the pledged revenue stream and what other competing claims there may be on the non ad valorem revenue stream. Below is a summary of the major facets on which investors should focus.

General Creditworthiness

As in a GO bond analysis, main areas of interest include the nature of the issuer's economic base; financial controls and performance; investing policies and performance; administrative factors, such as taxing authority; and debt management, including capital planning procedures.

Pledged revenues

Differences exist in bond/legal documents providing for non ad valorem debt. One common thread is: statement of the issuer's "covenant to budget and appropriate legally available non ad valorem revenues." Therefore, how "legally available non ad valorem revenues" is defined is of critical importance.

Legally available generally means that obligations payable from one or more specific non ad valorem sources are net of amounts necessary to fund "essential government services." Reviewing the mix of revenues and their historical performance is an important part of the analysis. It is also important to verify that the specific revenues under the pledge are authorized for the duration of the debt service obligations outstanding. The expiration of a major non ad valorem tax source could be a significant credit weakness. The funds subject to the non ad valorem pledge should include at least the main governmental fund of the issuers, which, in most cases, is the general fund. A general fund-only pledge is usually just as strong as one that makes no fund distinction, as most unrestricted non ad valorem revenues are accounted for in the general fund.

One advantage of the general fund-only pledge, from an issuer's point of view, is that new sources of revenues can be placed in other funds for other uses, rather than automatically becoming subject to the lien on non ad valorem revenues. However, once a revenue is considered pledged, the issuer should not be able to reroute it to other uses to the detriment of bondholders. Depending on the timing of the receipt of pledged non ad valorem revenues and when debt service is due during the issuer's fiscal year, a debt service reserve fund may be appropriate.

Prior-lien obligation

Debt secured by one of the revenue sources included in the non ad valorem pledge is seldom noted in the non ad valorem bond resolution. It is important that there be disclosure and analysis of all bond issues that may have a prior lien on any of the pledged non ad valorem revenue sources (such as a sales tax bond issue), as well as a comprehensive assessment of all bonds or other obligations outstanding that may have a direct or indirect pledge of non ad valorem revenues. To find out debt amounts, provisions for additional bonds, and other information concerning prior lien or parity debt, one may have to consult the relevant bond resolutions or other financing documents. This information can be very important in drawing meaningful conclusions about whether non ad valorem revenues will be sufficient to offset debt service through the life of the bonds.

If the issuer does not have any debt outstanding secured by non ad valorem or other revenue sources, it may opt to issue some in the future. It is therefore important to have a clear understanding of the issuer's long-term capital spending plan.

Anti-dilution test

Provisions for anti-dilution are similar to additional bonds test requirements common to revenue bond issues. Usually, the issuer is permitted to issue additional non ad valorem bonds only to the extent that pledged revenues of a given fiscal year are greater than some multiple of debt service. An anti-dilution test based on historical rather than projected revenues, and maximum annual debt service rather than some other measure, usually provides better protection for bondholders.

Debt service coverage

Coverage should be calculated based on available non ad valorem revenues after paying maximum future debt service on prior-lien bonds and should include other debt obligations secured by the non ad valorem pledge. Additional calculations should be made to estimate coverage in the event that the issuer uses all of its prior-lien bonding authority (issues up to the maximum allowed by additional bonds test under prior-lien resolutions).

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Criteria | Governments | U.S. Public Finance: Short-Term Debt

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Note Ratings

Short-term debt instruments rated by Standard & Poor's Ratings Services include cash flow notes such as tax and revenue anticipation notes (TRANs), bond anticipation notes (BANs) and cash flow note pools. Note ratings differ from bond ratings in that many long-term credit risks are mitigated by the comparatively short repayment period. Conversely, liquidity factors that enhance note security may not allay long-term credit concerns or provide additional comfort regarding the issuer's ability to pay its debt obligations over the long-term.

A strong liquidity position is a primary determinant in the assignment of a cash flow note rating. There is no exact debt service coverage benchmark that determines a specific rating. Financial and cash management and the quality of the pledged revenue stream, which includes the reliability of the pledged revenue source, are additional factors considered when determining a note rating. Moreover, the quality of financial reports—including audits, issuer constructed historic and projected monthly cash flow statements, and budget projections—are additional credit factors.

Municipal note issues are divided into two major categories requiring different rating approaches: cash flow notes and bond anticipation notes (BANs). Cash flow notes are generally referred to as tax anticipation notes (TANs), revenue anticipation notes (RANs) or tax and revenue anticipation notes (TRANs).

TRANs, TANs and RANs

State and local governments typically issue cash flow notes to address a mismatch between the receipt of revenues and disbursements for ongoing operations. Many issuers receive major revenues unevenly during a fiscal year, while operating expenditures typically follow a level monthly pattern. For example, a school district may receive the bulk of its annual property taxes in June; however, it needs to make salary and benefit expenditures evenly each month. The district may issue cash flow notes to bridge the gap between receipts and disbursements during the period when cash balances are insufficient.

The ratings on cash flow notes—TRANs, TANs, and RANs—rely on:

- The security pledged to retire the notes;
- The notes' legal structure;
- The issuer's historical and projected liquidity position, as reflected by its cash management and budgetary practices;
- The reliability of the issuer's primary revenue sources; and
- The issuer's overall fiscal health.

Structural Analysis

Security

The specific security pledged to retire cash flow notes plays a role in the assignment of a note rating. State and local statutes governing short-term debt issuance and the resolution authorizing issuance of a particular note usually define the security. The security may range from a single tax or general fund revenue pledge, to a full faith and credit GO pledge. Broad unlimited-tax GO pledges are viewed most favorably since all of the issuer's resources are pledged to note repayment. While the pledge of a specific narrow revenue source may be viewed less favorably than a combination of revenue sources, the analysis hinges on the quality and consistency of the revenue in question. In most cases, a narrow but generally reliable single tax pledge can achieve the same rating as a broader full faith and credit GO pledge.

Flow of funds-segregation of pledged revenues

The monthly flow of funds takes on added importance for cash flow notes because of the potential strain on resources required on one maturity date to repay a note. The issuer must ensure that sufficient resources are available to make the note payment at maturity.

The segregation of pledged revenues in separate note repayment accounts prior to note maturity reduces the likelihood that weak budget and financial performance will interfere with full and timely payment of debt service. However, sufficient resources to pay debt service at note maturity--after all expenditures are made--is most critical in the assignment of a high investment-grade note rating.

Pledged revenues typically are segregated by an issuer in its own accounts. In some cases, pledged revenues may be segregated in accounts in the custody of a third party. Accounts held by a third party do not necessarily strengthen a note issue's structure, especially if funding of the account depends on the issuer's timely transfer of funds to the third party. If the issuer does not have sufficient funds to transfer, the third party will not have adequate resources for note repayment.

Standard & Poor's does not consider debt service segregation structures as substitutes for the sound liquidity and financial positions of issuers. Standard & Poor's considers debt repayment capacity to be enhanced only marginally by the early segregation of pledged revenues. However, the early prepayment and segregation of pledged revenues for note repayment can be an indication of the cash flow strength of an issuer and, in that respect, may affect a note rating.

Fiscal and paying agent requirements

Issuers sometimes use fiscal agents and paying agents to hold and invest funds or to hold securities pledged and segregated for debt service of TRANs. The fiscal agents and paying agents are introduced into a TRAN structure to provide comfort to investors that pledged funds and securities segregated for note repayment are not subject to potential investment risk, even in the event of insolvency of the issuer.

Standard & Poor's does not view the segregation of pledged funds and/or securities with a paying or fiscal agent as enhancement of a TRAN rating, provision of additional security, or protection from investment losses because funds

segregated for TRAN debt service repayment and held by a fiscal or paying agent continue to be general funds of the issuer. Thus, Standard & Poor's does not consider the use of a paying agent or fiscal agent to be a mitigating factor that reduces credit risk for a TRAN issue in the event of an issuer's investment losses or even its insolvency.

Liquidity Analysis

Cash flow statement analysis

The credibility and reliability of cash flow projections, which forecast the amount and timing of the receipt of resources pledged to note repayment, are critical to the assignment of a note rating. Cash flow statements, together with the underlying assumptions upon which the projections are based, provide a foundation for analysis of the reliability and quality of the revenue stream available to pay note debt service. Standard & Poor's analyzes both historic and projected monthly cash flows in the context of the issuer's operating budget, financial statements, cash management practices, pledged revenue segregation, and against prior forecasts. Standard & Poor's analyzes cash flow projections for prior fiscal years, which outline changes in receipt and disbursement patterns over time (see tables 1a and 1b for an example of a monthly cash flow statement). The trend of cash flow borrowing is also important if increases exceed the rate of budget growth, as it may signal deterioration in overall liquidity or a growing structural imbalance.

The sensitivity of the pledged revenue stream to adverse external events over time is evaluated. A note with a property tax pledge usually has a more stable revenue stream than one secured by sales or income taxes. Revenues derived from other governmental entities, such as state aid funding, could exhibit historical volatility, especially in the face of an adverse budget climate, that could make timing and amount of future receipts uncertain. To the extent issuers are reliant on external funding sources with some historical volatility, other revenue sources or cash reserves could serve as mediating factors if those revenues are pledged to debt repayment.

Cash flow projections that are in line with historical projections provide comfort regarding the reliability of an issuer's cash flow projections. Cash flow results that differ significantly from prior-year projections may be an indication of historically volatile revenues or inconsistent management forecasting abilities and can raise questions about the issuer's ability to manage its cash and, therefore, pay note debt service fully and in a timely manner.

The basis for Standard & Poor's analysis of an issuer's ability to forecast its cash flows reliably will be the issuer's own historic accuracy, when available. For statements of monthly operating cash flows, Standard & Poor's will conduct variance analyses of current fiscal cash flow projections submitted in the prior year against actual year-to-date and projected current year-end cash flow performance.

This "actual-versus-projected" performance will then be compared to the most recent fiscal year projected cash flows currently being submitted in conjunction with TRAN rating requests for the ensuing fiscal year. For issuers with projected coverage of less than 1.25x at maturity, a detailed analysis and explanation of the reliability of projected cash flows will be important. Moreover, scrutiny will be applied to issuers who present cash flows that project higher than 1.25x coverage but whose coverage falls to less than 1.25x if actual historic variance is applied to the projected fiscal cash flows. In these cases, Standard & Poor's, in the ratings process, will conduct a thorough review of what caused the variance between projected and actual cash flows and debt service coverage levels.

While this analysis of variance is an important starting point for the rating process, variance and coverage levels alone will not dictate the rating. The actual underlying causes of changing patterns in the monthly cash flows and year-end cash balances is always a central feature to the rating process. In some cases, one-time events that cause a variance in cash flows may not reflect potential future risk or a lack of management foresight, whereas in other cases, such variances may either reflect volatile revenues in general, or problems with forecasting or financial management overall.

Table 1

Sample Projected Cash Flow Fiscal July-December						
General fund (\$000)	July	August	September	October	November	December
Beginning balances (\$)	25,647	30,360	21,661	14,260	12,529	5,270
Receipts property taxes	0	0	0	2,192	694	36,676
Other taxes	674	423	1,123	425	709	953
Licenses/permits	1,854	3,549	4,517	4,376	3,027	3,536
Interest income	109	72	1,199	50	80	1,504
Intergovernmental	17,853	11,343	11,245	16,157	10,649	14,613
Other revenue	20,7991	4,724	3,870	4,748	2,604	2,880
Note proceeds	35,000	0	0	0	0	0
Total	76,289	20,111	21,954	27,948	17,763	60,162
Disbursements						
General government	5,921	2,895	3,192	3,324	2,305	2,780
Public safety	14,957	6,298	6,267	6,579	6,673	6,604
Health & sanitation	14,879	8,296	8,973	9,316	5,534	6,444
Human services	16,724	10,285	10,000	9,503	9,826	9,300
Education	752	491	426	503	501	488
Other expenses	18,3431	545	496	454	182	317
Note repayment	0	0	0	0	0	17,905
Total	71,576	28,810	29,354	29,679	25,021	43,838
Ending balance	30,360	21,661	14,261	12,529	5,271	21,5942
Available resources						
Special revenue funds	7,653	8,120	8,530	7,742	8,760	9,120
Ending balance including special revenue funds	38,013	29,781	22,791	20,271	14,031	30,7143

Includes accrued monies. Monthly general fund ending balance covers December segregation 2.2x and May segregation 1.6x Monthly ending balance including special revenue funds covers December segregation 2.7x and May segregation 2.1x.

Table 2

Sample Projected Cash Flow Fiscal January-June							
General fund (\$000)	January	February	March	April	May	June	Total
Beginning balances (\$)	21,595	15,766	6,777	6,399	36,595	11,976	25,647
Receipts property taxes	0	168	0	36,185	0	9,604	85,519
Other taxes	450	690	4,016	1,400	151	1,056	12,070
Licenses/permits	4,214	3,473	3,618	4,056	3,626	1,179	41,025
Interest income	128	69	1,562	124	66	2,569	7,532

Table 2

Sample Projected Cash Flow Fiscal January-June (cont.)							
Intergovernmental	11,679	8,673	13,391	11,265	13,332	5,116	145,316
Other revenue	2,214	3,569	2,410	2,598	2,484	283	53,183
Note proceeds	0	0	0	0	0	0	35,000
Total	18,685	16,642	24,997	55,628	19,659	19,807	379,645
Disbursements							
General government	2,514	2,672	2,861	2,673	2,854	1,473	35,464
Public safety	6,848	6,325	6,531	6,356	6,727	1,823	81,988
Health and sanitation	5,050	6,517	5,596	5,950	5,419	31	82,005
Human services	9,427	9,474	9,628	9,701	9,549	1,929	115,346
Education	459	450	491	502	459	158	5,680
Other expenses	216	193	268	250	223	50	21,537
Note repayment	0	0	0	0	19,047	0	36,952
Total	24,514	25,631	25,375	25,432	44,278	5,464	378,972
Ending balance	15,766	6,777	6,399	36,595	11,9762	26,3191	26,319
Available resources							
Special revenue funds	8,871	7,954	7,320	8,516	9,416	10,987	10,987
Ending balance including special revenue funds	24,637	14,731	13,719	45,111	21,3923	37,306	37,306

Includes accrued monies. Monthly general fund ending balance covers December segregation 2.2x and May segregation 1.6x. Monthly ending balance including special revenue funds covers December segregation 2.7x and May segregation 2.1x.

Calculating debt service coverage

Standard & Poor's begins the analysis of debt service coverage by measuring debt service due against available cash balances at month's end, after normal operating expenditures are made and without the inclusion of proceeds from additional note borrowings. For debt repayment or early segregation of pledged revenues during the first days of the month, coverage will be measured against the prior month's ending balance. Revenues received early in the month will be considered when detail is available and substantiated. When monies are due late in the month, coverage is measured against the current month's ending balance.

Alternative liquidity

Alternative liquidity refers to unrestricted cash and liquid investments that may not be legally pledged toward TRAN repayment, but are available to be temporarily used--or borrowed through interfund borrowing and repaid to the fund--for that purpose at the discretion of the issuer. In the case of a GO TRAN pledge, all resources of an issuer are available to repay the note. However, when the pledge is more restricted--such as California TRANs, which are secured by current year general fund monies--alternative liquidity can provide comfort to noteholders if an unforeseen event occurs that could affect TRAN repayment. Such events could include delays in the receipt of state aid or an unexpected increase in operating expenditures. The utilization of alternative liquidity to pay TRAN debt service, however, is extremely rare.

Generally, sources of alternative liquidity considered assessable by Standard & Poor's include any funds not subject to legal or other restrictions and not expected to be needed for any other purpose prior to TRAN maturity. Standard & Poor's requires documentation from the TRAN issuer expressly stating the sources of alternative liquidity and the

amounts that are expected to be available at TRAN maturity or segregation dates to make up any deficiency in the note repayment account. Typical sources of alternative liquidity include operating funds accumulated in a reserve fund to finance future capital projects or deposit of proceeds from an asset sale or other unrestricted one-time revenues into a reserve fund for unspecified future uses.

Sources of alternative liquidity not considered by Standard & Poor's as available include bond or other debt proceeds and monies held in trust or in a fiduciary capacity. While legal under certain circumstances, Standard & Poor's does not view reliance on these sources of funds for alternate liquidity as enhancing short-term credit quality. It is important to emphasize that alternative liquidity sources are not a substitute for very strong financial and liquidity fundamentals.

Alternative liquidity will rarely, if ever, impact a TRAN rating in cases where the issuer has poor credit fundamentals. Lower-rated TRANs--'SP-2' and 'SP-3'--have fundamental credit weaknesses that generally cannot be offset with alternative liquidity. For example, a TRAN issuer that expects to incur a general fund operating deficit and which does not have sufficient year-end general fund cash reserves to fully compensate for its expected deficit generally cannot strengthen its TRAN rating with alternative liquidity to reach an 'SP-1' or 'SP-1+' rating.

Cash Flow Note Pools

Multiple-issuer TRAN pools are most often structured as several obligations of various participants--meaning that each participant is responsible for only its own debt service payments. Standard & Poor's bases a TRAN pool rating on either an overcollateralization or weak-link approach. Under the weak-link approach, the TRAN pool rating is equivalent to the creditworthiness of the weakest issuer in the pool--the so-called "weak link." Under the overcollateralization approach, the TRAN pool rating is assigned according to a blended approach of individual issuer quality and common debt service reserve provisions that overcollateralize the total borrowing. In addition, note pool ratings include analysis of a pool's structural and legal strengths, and liquidity facilities, such as state and county guarantees and intercepts that provide for repayment of note debt service. TRAN pool ratings also may be enhanced through liquidity facilities--such as irrevocable bank letters of credit--and bond insurance that unconditionally transfers the credit risk to a higher-rated entity.

Weak-link approach

The weak-link approach assesses each participant's ability to repay its share of the TRAN pool financing. Each participant is evaluated and assigned a TRAN rating as if it were issuing TRANs on a stand-alone basis and not as a member of a pooled financing. Because full and timely debt service repayment is reflected in the rating, this approach results in TRAN pool ratings that are only as strong as the creditworthiness of the weakest participant regardless of the relative size of that issuer's participation in the financing. Where all participants are strong enough to be rated at least 'SP-1' individually, the pool rating assigned is 'SP-1'. In another example, where one pool participant is rated 'SP-1', and the rest of the participants are rated 'SP-1+', the rating assigned to the pool would be 'SP-1'. The 'SP-1' rating based on the creditworthiness of the weakest issuer would be assigned regardless of the magnitude of borrowing by the weakest participant.

Overcollateralization approach

The overcollateralization approach allows issuers to achieve strong TRAN pool ratings even if a wide disparity of credit quality exists among the participants, including, in some cases, noninvestment-grade issuers. This approach also allows TRAN pools comprising very small issuers to achieve higher ratings through structural enhancement.

A common debt service reserve that overcollateralizes the total borrowing results in higher ratings without issuer reliance on a third party to guarantee 100% of principal and interest payments. Cash reserves, a surety bond, or other forms of financial guarantee provide the extra security reflected in the higher rating. While each participant's obligation to repay only its share of the total borrowing remains unchanged, all reserves must be available for note payment on shortfalls from any participant.

Standard & Poor's determines the common debt service reserve level necessary to address the principal portion of a pool that would be rated lower than the desired pool rating. The establishment of the reserve level begins with analysis of the pool's underlying credit quality. The pool participants are segregated into four credit quality categories correlating to 'SP-1+', 'SP-1', 'SP-2', and 'SP-3'. The availability of statutory protections, intergovernmental aid distributions, and institutionalized financial practices will determine the depth of analysis on the individual pool participants. Many pools require a full cash flow analysis of each participant.

Standard & Poor's identifies those pool participants rated lower the desired rating on the entire pool. Please refer to Standard & Poor's criteria for rating TANs and TRANs for detail on the analysis of the individual cash flows. Once that principal portion is determined, the reserve level needed to overcollateralize to the desired rating level is established according to standard requirements. Reserve levels for 'SP-1+' rated pools have ranged between 8%-20%, reflecting the underlying credit quality of the participants or other structural enhancements.

Table 3

Participant rating	Pool rating		
	SP-2	SP-1	SP-1+
SP-3	25	30	35
SP-2		20	25
SP-1			20

Example: Reserve Pool Levels

To illustrate the basic approach to establishing a pool's reserve level (see table 3), consider a \$100 million pool. The desired rating is 'SP-1+', and total principal due comprises 65% 'SP-1+', 25% 'SP-1', 7% 'SP-2', and 3% 'SP-3'. Reserves are necessary only for 35% of principal, or that portion of the pool below 'SP-1+'. The level of reserves for each portion of principal below 'SP-1+' is calculated according to the ratios displayed in the table. Reserves to raise the 'SP-1' portion to 'SP-1+' are set at 20% of the 'SP-1' principal, or 5% of the total pool (20% of 25%). Reserves for the 'SP-2' portion are set at 25% of the 'SP-2' principal, or 1.75% of the total pool (25% of 7%). Reserves for the 'SP-3' portion are set at 35% of the 'SP-3' principal, or 1.05% of the total pool (35% of 3%). As a result, total reserves necessary to achieve an 'SP-1+' rating for the pool financing are 8% of \$100 million, or \$8 million. This reserve level is determined by adding the total of 5% + 1.75% + 1.05%.

Alternatively, consider a \$100 million pool comprising 10% 'SP-1+', 40% 'SP-1', 35% 'SP-2', and 15% 'SP-3'. The rating desired is 'SP-1'. Reserves are needed to cover only the portion of the pool below 'SP-1' or 50% of the par amount. Using the ratios shown in the table will yield reserve levels of 20% for the 'SP-2' portion, or 7% of total principal (20% of 35%); plus 30% of the 'SP-3' portion, or 4.5% of total principal (30% of 15%). Total reserves required to achieve the desired 'SP-1' rating are 12% or \$12 million, the sum of 7% + 4.5%.

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Pool Structure

As with stand-alone cash flow note ratings, Standard & Poor's evaluates the legal security, the lien position, and the flow of funds, including the segregation of pledged revenues into separate debt service repayment accounts for each participant. In addition, for cash flow note pool ratings, Standard & Poor's confirms that all participants are required to make full repayment of principal and interest prior to the maturity date of the note pool itself. In the case of note pools, it is important that segregated pledged revenues are held in accounts under the custody of a third party.

Similar to stand-alone cash flow note ratings, when repayment accounts are held with a third party paying or fiscal agent, Standard & Poor's also confirms that the legal documents insulate the issue from paying agent or fiscal agent risk. All investments, including Guaranteed Investment Contracts, are restricted to maturities that mature no later than the maturity date of the TRAns.

A common approach to investing note proceeds and repayment amounts is to place the money in a guaranteed investment contract—or GIC. These instruments offer the investor a guaranteed return on the amount invested at a time certain. Please refer to Standard & Poor's investment guidelines for information on permitted investments.

Bond Anticipation Notes

Bond anticipation notes (BANs) are generally used as an interim financing vehicle for capital projects. BAN debt service is typically repaid with bond proceeds, which requires the issuer to access the capital markets. Standard & Poor's assumes that most investment-grade issuers have access to the public credit markets to sell bonds to retire BANs and the BAN ratings reflect that assumption. Borderline investment-grade credits or those on CreditWatch or

with negative outlooks, however, are not assumed to have ready market access and the BAN rating assigned may reflect those risks.

When assigning a rating to BANs, Standard & Poor's will consider these factors:

- The issuer's fundamental credit strengths, as reflected in its bond rating; and
- The issuer's demonstrated experience in the public credit markets, including frequency of its debt issuance and the historical demand for its paper.

In all cases, regardless of other strengths, the legal authority to refinance the notes with long term debt or cash must be in place prior BAN issuance. In addition, the issuing entity must carry a Standard & Poor's long-term bond rating, an indication of market access, to secure a BAN rating.

BANs are rated based on an approach that blends the issuer's fundamental credit factors with likely access to the public credit markets to issue debt. The approach emphasizes the issuer's long-term bond rating as a measure of both these factors. Issuers with healthy, stable long-term bond ratings and the appropriate authorization to issue additional long-term debt can usually achieve a high BAN rating.

In most cases, BAN issuance takes place within the context of a well-managed capital plan with particular timing constraints for long-term debt issuance; therefore, BAN issuance does not in and of itself pose a long-term credit concern. In some cases, however, BAN proceeds may be used to fund ongoing expenses unrelated to capital outlay or to finance accumulated deficits. Issuers who use BAN proceeds as the first step in a plan to ultimately bond out these non-capital costs are often experiencing fiscal stress and, possibly, the first stages of long- and short-term credit deterioration. In such instances, BAN issuance may be an indication of potential pressure on the issuer's long-term rating and, in occasions of significant fiscal stress, lack of ready access to long-term capital markets to repay outstanding BANs. In such instances, credit concern could be reflected in a lower short-term BAN and, ultimately, long-term bond rating.

Market access

In certain cases, issuers with lower investment grade bond ratings but ample demand for their paper and market experience may achieve high investment grade BAN ratings. For example, a very active issuer in the long-term credit markets, due to a sizable ongoing capital program or other factors, may exhibit long-term credit risks reflected in a long-term rating that may not necessarily curtail demand for that debt in the public markets. The key factors in such circumstances is the frequency of long-term debt issuance and predictability of market demand. Since the maturity of a BAN is significantly shorter than a series of bonds, the credit risk of a downgrade that would deny an issuer access to the market to issue bonds to retire BANs is significantly reduced, short of BAN issuance for non- capital costs which might actually be a sign of long-term distress.

Cash liquidity

A last factor that can support a high BAN rating is the availability of cash reserves sufficient to repay BAN issuance in case long-term debt cannot or is not issued, providing sufficient cash to repay BANs at maturity without the need to access the long-term capital markets. Such instances are rare, however, given that issuers with sufficient cash reserves on hand to pay off short-term debt would generally also exhibit healthy long-term credit characteristics and, by default,

ability to issue long-term debt on demand. In such scenarios, though, adequate comfort should be achieved the sufficient cash would be in place at the time of BAN maturity, and use of cash for repayment should not significantly impact operations. Availability of cash, however, where other credit factors are weak does not on its own guarantee a high BAN rating.

Suggested Documentation

For cash flow notes and BANs:

- Offering memorandum or official statement;
- Note indenture or resolution;
- Audits for two years; and
- Current and proposed budgets.

For cash flow notes only:

- Cash flow statements, including cash based receipts and disbursements (see example);
- Current projection through note maturity;
- Historical projections and actual results (when available);
- Documentation of resources in other funds available for note repayment;
- Fiscal and paying agent agreement, if applicable;
- Investment agreement, if applicable; and
- Legal opinion.

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Tax Increment Bonds

Tax increment financing, sometimes called tax allocation bonds, has been issued in a majority of states, although California redevelopment agencies continue to account for the bulk of national volume. Tax increment financing is secured by taxes generated from the increase in property value in a district after a redevelopment project has begun. As such, it does not raise the tax rate on district taxpayers, but merely reallocates tax revenues that would otherwise flow to pre-existing taxing entities in favor of a redevelopment agency that issues debt. Tax revenues produced from pre-existing property before the tax increment district was formed continue to flow through to the underlying taxing entities as before; only the taxes attributable to the increase in property values flow to the redevelopment agency and are pledged to bondholders.

Tax increment bonds benefit from several favorable structural elements compared to other special district debt. Unlike special assessment and Mello-Roos bonds, no additional tax burden is created for taxpayers, and tax collection rates are generally less of a concern, unless project area tax payments are concentrated in a few taxpayers. In addition, while undeveloped land in a special assessment or Mello-Roos district can lead to high debt burdens, undeveloped land in a tax increment district is generally a favorable factor, since tax revenue will increase to the extent new development occurs and taxable property values grow. In contrast, revenues do not increase for special assessment or Mello-Roos debt when property values rise because those taxes are not based on land value, although development may lead to more favorable value to debt ratios.

The main credit risk for tax increment districts is that tax rates and the pace of private development in a project area lie outside the control of the redevelopment agency issuing the debt. Actual tax rates generating the tax are set by the underlying taxing entities—cities, counties, school, park districts, and others—that set their tax rates without consideration of the needs of the redevelopment agency. Changes in state tax law, or assessment practices, can dramatically influence tax increment revenue.

Tax increment district bond pitfalls

A typical investment-grade tax increment district already generates sufficient revenues to cover future maximum annual debt service (MADS) at the time of the sale of bonds, a feature sometimes called "coverage in the ground". However, the experience of southern California during the 1990s shows that many different factors can subsequently reduce tax increment revenues. Some of the common pitfalls of these bonds include volatility in commercial real estate values during an economic downturn, particularly for warehouses and hotel properties, widespread tax appeals that can overwhelm county assessment offices, a residential real estate bust, construction risk on projected projects, state tax law changes, plant closures, concentration in a few taxpayers, purchase or foreclosure of land by tax exempt entities, and a high tax increment volatility ratio for recently formed project areas.

Tax Increment Suggested Documentation

- Number of project area acres and a description of the land uses within the project area.
- Five year project area assessed valuation history, if available.
- Project area tax rates and underlying taxing entities.
- Base year assessed valuation.
- Debt service schedule.
- Ten largest taxpayers and each of their assessed values.
- Tax collection rates.
- Major pending assessment appeals.
- When sub-areas of a project area, if any, might expire before bond maturity.
- Cumulative project area tax limit, if any, and how much has been collected under it to date.
- Description of tax-sharing agreements with underlying taxing entities, if any is senior to debt service. If they are, disclosure of any that could cause an increase in prior payments in a future year.
- Additional bonds tests and other legal covenants.
- Bond Indenture.
- If there is a consultant's report, a copy should be provided.

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Project area analysis

Standard & Poor's Ratings Services analysis focuses first on general economic factors that may affect the economic growth of the project area, such as a municipality's population, employment, and income level. Building permits may indicate overall city construction trends. Nonetheless, the general character of a city is not necessarily a barometer of the conditions within a localized project area. In this respect, a site visit may help give credence to rapidly improving economic conditions that are not reflected in assessed valuation numbers. One way to get a description of a new project area is to read the redevelopment agency's plan, which outlines prior economic conditions and project objectives.

Taxpayer concentration

One weakness of many project areas is their small size, leading to taxpayer concentration. Standard & Poor's has no size limit on investment-grade rated project areas. Generally, smaller districts will have weaker credit characteristics and, thus, lower ratings. A larger project area, generally one of over 150 acres, is usually more diverse and more creditworthy. Standard & Poor's analyzes taxpayer concentration by comparing assessed valuation of the top taxpayers to project area incremental value—not project area total value—because revenues rise or fall based on incremental valuation. It is not uncommon to see each of the top taxpayers representing more than 100% of incremental project area valuation in newly formed project areas, even though top taxpayers may appear deceptively diverse when compared to total project area assessed valuation.

Generally, Standard & Poor's requests the assessed valuations of the top 10 taxpayers. It is typical for 40% or more of the incremental tax base to be held by the top five taxpayers, based on the relatively small size of most project areas. Taxpayers may also not appear overly concentrated when considered individually, yet they may still comprise just one shopping mall or condominium development. Market factors can swing the value of such shops and homes together as a result of their common location and function, apart from fire or natural hazard risks of adjacent buildings. Districts concentrated in a particular type of property, such as aircraft or computer equipment capable of being moved to other locations, may also have other vulnerabilities, even if they are diverse by taxpayer. If payment of debt service is

essentially dependent on just a few taxpayers making their tax payments, it may be difficult to achieve an investment-grade rating unless those taxpayers demonstrate creditworthiness, and the property is essential to its operations. Even in the case of a rated taxpayer, however, the property should be highly essential to the taxpayer to get the benefit of the credit rating assigned to the taxpayer. An example would be an important generating plant of a rated investor owned utility.

Assessment practices that may at first appear to "guarantee" tax collections have been shown through experience to not always be reliable. A financially strong company can still remit smaller-than-expected tax payments by appealing its assessment (which can take three years or longer to resolve), not rebuilding after a fire, or delaying initial construction. Taxpayer bankruptcy proceedings can also temporarily forestall legal foreclosure or tax assessment sales, since federal bankruptcy law supercedes local law.

Historical assessed valuation growth

Standard & Poor's prefers to examine at least four years of project area assessed values, when available. One of the virtues of tax allocation bonds is the typically high growth rate of assessed valuation within most new project areas. However, a recent base year may cause deceptive percentage rises in incremental assessed valuation because of the comparison to small early-year incremental values (see the tax volatility ratio chart). Total project area assessed valuation may be a more meaningful indicator of growth trends. In a few states, fire, demolition, or conversion to tax-exempt property may be used to decrease the frozen base assessment—increasing incremental assessed value—without new construction.

Future assessment growth

An important indicator of future assessment growth is the acreage available for new development. A fully developed area, with no redevelopment potential, effectively limits the possibility of assessed valuation growth. However, project areas with large undeveloped land areas are not assured of attaining growth. Construction strikes, changes in market conditions, or higher interest rates can suddenly cancel or delay even the most promising development.

Construction risk, when present, is such a risk factor that most investment grade-rated tax allocation bonds already demonstrate coverage of maximum annual debt service by historical tax revenues (Standard & Poor's will consider next year's tax levy an "historical" revenue if it is based on the current assessor's assessment roll and the current tax levy), although exceptions have been made when debt service could be covered with only limited amount of future growth that seems especially likely. Historical coverage of debt service alone, however, does not necessarily guarantee an investment-grade rating.

Management

Policy control of a redevelopment agency usually lies in a city council, with an executive director responsible for implementation. The agency holds broad authority to acquire, develop, and administer property, as well as eminent domain powers. Often a major portion of tax allocation bond proceeds is used to acquire and consolidate parcels of land. Questions for management may encompass additional debt plans, unusual features of the redevelopment plan, and the land use breakdown when the plan is completed.

Legal considerations

Standard & Poor's analysis of the legal structure of a tax allocation bond focuses on the security pledge, flow of funds, debt service reserve fund, and provisions governing the issuance of additional parity debt. The flow of funds is usually simple. Tax increment pays debt service, makes up debt service reserve deficiencies, and then revenues are released for any purpose. Lack of a fully funded reserve is viewed as a negative rating factor in view of the low debt service coverage of most tax increment bonds.

Additional debt issuance is likely over the life of a bond issue. Tests for additional bonds requiring 1.25x coverage of maximum annual debt service by historical revenues, or revenues to be realized as a result of the most recent finalized assessment rolls, are considered a typical provision. However, stricter additional bonds tests may enhance credit quality. Provisions allowing adjustments to revenues based on construction in progress or a consultant's projection can severely weaken the additional bonds test. The coverage multiple required under the additional bonds test is examined in relation to the number of taxpayers excess cash flow could cover in the event of delinquencies among major taxpayers, assuming a redevelopment agency bonded out to the limit of its additional bonds test. Thus, no one additional bonds test or coverage level can guarantee a specific rating.

More established diverse districts have issued debt with less than a 1.25x additional bonds test without a negative impact on their credit rating as their tax volatility ratio declined and their taxpayer concentration diminished. Standard & Poor's weighs a more permissive test against taxpayer diversity, historical and projected growth trends in assessed valuation, the nature of such growth, and the need and likelihood for additional debt issuance. On the other hand, higher debt service coverage and stronger additional bonds tests may offset weaknesses in district economic diversity.

Aside from an issue's legal structure, Standard & Poor's evaluates tax increment authorization laws and litigation. Standard & Poor's examines all new state authorizing legislation for potential problems. Litigation frequently accompanies tax allocation issues, especially in states newly authorizing such financing, because public entities losing the tax revenues have an incentive to sue. Taxpayers and overlapping units often contest the constitutional validity of new tax allocation legislation; counties may wish to postpone the loss of revenues, and taxpayers may want to delay eminent domain proceedings.

Some tax increment bonds also have a pledge of a city's GO. Standard & Poor's will rate such double-barreled securities based on the higher of the GO or tax increment rating, since both are pledged to debt repayment.

Financial operations

Primarily, financial factors include an analysis of fluctuating tax rates, delinquent collection rates (for the project area, not the city), and historical debt service coverage. No specified level of coverage leads to a particular rating, since taxpayer concentration or legal factors may be much more important. When a particular weakness is identified, it is useful to check coverage sensitivity to such vulnerabilities. For example, if an issuer experiences poor property tax collection, coverage levels and additional bonds tests can be raised to compensate. The lower of the additional bonds test coverage level, or current revenue coverage of maximum annual debt service, is used for analysis. Projected coverage based on construction growth is not always reliable, but worth considering.

Various mathematical considerations concerning the ratio of base to total assessed valuation also may affect the volatility of the revenue stream in the event assessed valuation declines (see chart on the tax volatility ratio). In

general, the smaller a district's base valuation is compared to its total valuation, the lower the revenue volatility.

Cumulative tax limits

Project areas in California are subject to a cumulative cap on tax increment that can be collected from a project area over the life of the project area. Sometimes, higher-than-projected tax increment can cause the cap to be reached before final bond maturity. If this appears to be a significant possibility, Standard & Poor's would prefer a covenant by the redevelopment agency to annually review the total amount of tax revenues remaining and to escrow revenues or not accept tax monies if it would cause the tax limit to expire before final bond maturity.

Tax Increment Bond Volatility Ratio

The mathematical formula used to compute incremental tax revenues does not treat all project areas equally on a general decline in assessed values. Tax increment project areas containing a small amount of incremental valuation in relation to their total assessed value will show greater volatility revenues. This is often the case for recently formed project areas. Thus, two project areas, with the same amount of total assessed value, can have unequal loss of tax increment revenues, even when losing the same amount of total assessed value.

Standard & Poor's uses a revenue volatility ratio to highlight the speed at which revenues can fall in the event assessed values decline. The ratio consists of the project area's base assessment to total assessment. This ratio can serve as a proxy for the speed with which tax increment revenues will rise or fall in the event of a fluctuation in assessed value. Standard & Poor's expresses the volatility ratio of base assessment to total assessment as a decimal fraction between 1.0 and 0.0. A higher number represents more volatility. In other words, revenues will rise or fall more rapidly with a small change in project area assessed valuation when the ratio is high. The ratio is incorporated as part of Standard & Poor's rating process.

The ratio serves as a convenient flag for the most vulnerable districts in times of real estate decline. Most of the tax allocation bonds that experienced troubles during California's real estate downturn of the 1990s had high volatility ratios.

On the other hand, a high volatility ratio can also cause a quick increase in revenues and coverage in the event of even modest assessed value increases.

In the example, project areas A and B have the same assessed value and tax allocation coverage, but would respond very differently to a 10% decline in overall project area AV. Project area A has a low base-to-total assessed value volatility ratio of 0.2, while Project area B displays higher revenue volatility with a change in assessed valuation, with a volatility ratio of 0.8. Project area A, which is older and has a smaller base valuation, suffers a much smaller decline in coverage, from 2.0x to 1.75x if total assessed valuation declined 10%. Project area B's debt service coverage falls from 2.0x to 1.0x with the same percentage decline in assessed value because it was more recently formed and has a high base valuation relative to total assessed valuation.

The volatility ratio is specific to each project area, and is independent of the amount of debt issued by a project area.

One alternative way to look at this volatility ratio is to examine its inverse. The inverse represents the percentage that total project area assessed valuation must fall to produce zero tax increment revenues. Thus, a high volatility ratio of 0.8 means total assessed value would have to fall 20% before there would be no more tax increment revenues.

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Examples Of Different Base To Total Project Area Assessed Valuations

Different volatility with same initial coverage and assessed valuation

	Low volatility Project area A	High volatility Project area B
Total assessed value	\$500 million	\$500 million
Base increment	\$100 million	\$400 million
Incremental assessed value	\$400 million	\$100 million
Tax rate	1.00%	1.00%
Pledged revenues	\$4 million	\$1 million
Maximum annual debt service	\$2 million	\$500,000
Coverage	2.0x	2.0x
If project assessed value fell 10%		
Project assessed valuation	\$450 million	\$450 million
Incremental assessed value	\$350 million	\$50 million
Pledged revenues	\$3.5 million	\$500,000
Coverage	1.75x	1.00x
Base assessed value to total value volatility ratio	0.2	0.8

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Special Assessment Bonds

Special assessment bonds are secured by a special tax, such as a street front-footage assessment, which is levied in relation to the benefit a property receives from an improvement. Consequently, the tax is not based on the actual value of a property and debt burdens, as a percent of the market value of a parcel, can vary greatly from one parcel to another. Since each taxpayer's tax payments are usually fixed and can not be raised to cover the delinquency of any other taxpayer, the credit analysis generally focuses on the exposure to the weakest properties, even if overall average property value to debt ratios are strong districtwide.

In particular, special assessments on undeveloped land may create burdensome tax payments for those properties. Undeveloped land typically carries property value-to-debt ratios of 3:1 or less, while developed properties are generally closer to 20:1. Standard & Poor's expects investment grade special assessment bonds to be able to at least withstand two separate sensitivity analyses: (1) a multi-year tax delinquency by the two to five largest special assessment taxpayers; and (2) a permanent delinquency by all special assessment taxpayers with under a 5:1 value-to-overlapping debt ratio, absent special circumstances.

Sources of money to cover potential delinquencies may come from reserve funds, an ability to raise taxes to a limited degree, over-collateralization of tax payments, back-up support from a city's general fund (often found in Arizona), cross-collateralization with other special districts, a senior/subordinate bond structure, or other revenue sources.

Special assessment bonds have proven very popular in growing areas such as California and Florida, where existing residents may be reluctant to pay for infrastructure improvements in new housing developments. However, special assessment financing is used throughout many areas of the country. Examples of projects funded by special assessment bonds include water and sewer lines, lighting improvements, roadways, and sidewalks.

Financing special assessment projects

The special assessment process is often quite simple. In most cases, property owners in a limited area, or their local representatives, petition for the creation of a special assessment district. A project is specified that will directly benefit property owners within the district and be paid for by fees or assessments based on a measurement related to the benefit, such as street frontage or square footage owned. Bonds are sold to finance the project(s), and security is provided by the assessments.

Most improvements provided by special assessment bond financing are related to local infrastructure, although bonds have been sold to finance parking lots, landscaping, and public parks. These improvements benefit district property owners by improving the quality of their neighborhood and contributing to greater property values.

Usually, bonds are used only for the construction of the project and not for maintenance. Often, the municipality will absorb the maintenance cost, since the project generally is tied into a citywide system, such as water and sewer services.

Standard & Poor's believes that the lack of excess cash flow coverage typical for most special assessment bonds may create risks, particularly for undeveloped districts. However, potentially speculative elements can be mitigated through such factors as:

- An ability to raise assessment tax rates to a limited degree;
- The existence of excess cash flow from reserve earnings, refunding savings, or a senior subordinate cash flow structure;
- Strong taxpayer diversity, and a debt service reserve that can cover simultaneous delinquencies of at least the top two taxpayers;
- The ability to sell tax liens to cover delinquencies, although this is restricted under federal law if a taxpayer declares bankruptcy;
- Particularly strong value-to-lien ratios;
- A lien on parity with or ahead of ad valorem taxes;
- Legal protections within the bond structure;
- Economic incentives for timely payment of special assessment obligations; and
- Low risk associated with the particular project.

Major criteria considerations

District makeup and economic base -- A district largely undeveloped or concentrated in one type of industry is viewed negatively. A special assessment district tied to a stable and diversified economic base is desirable. The effects of employment levels, wealth indicators, and regional trends on payment of assessments are evaluated. A wholly residential district usually exhibits little taxpayer concentration, a very favorable situation if fully developed.

Method of assessment collection. Special assessments collected at the same time and with the same foreclosure methods of ad valorem taxes are preferred. Standard & Poor's also may regard incentives for early payment and disincentives for late payment as positive features. For example, penalties for late payment and discounts for early payment may be worthwhile, depending on their effect on cash flows.

Value-to-debt ratios. High property value-to-debt ratios, typically above 7:1 for investment-grade ratings, increase the likelihood of making assessment payments on a timely basis. Also, the marketability of property in the district points to added security if properties must be sold as a result of foreclosure or bankruptcy. Value-to-lien ratios are examined on a parcel-by-parcel basis for top taxpayers, since tax levies cannot typically be raised on the strong taxpayers to pay for the weak, rendering overall district value to lien ratios problematical in many cases. Standard & Poor's prefers value to lien ratios using county or city assessed valuation, although independent appraisal reports may be evaluated also if deemed reasonable.

Lien position. A lien on parity with or ahead of ad valorem taxes is desirable. Preferably, the general property tax bill should be combined on the same statement as the special assessment tax bill to help collection rates.

Treatment of property sales. Liens typically remain in place upon transfer of property or are extinguished by an immediate acceleration of all outstanding, current, and future special assessments on the property.

Foreclosure/bankruptcy provisions. Assessment collections should not be hindered by foreclosure, bankruptcy, or sales of tax certificates or tax deeds. Action should be taken on a timely basis to ensure that sufficient funds are available to make scheduled debt service payments. The marketability of property is also a concern here; property should have sufficient value that bids will appear for foreclosed property. Requirements allowing and requiring foreclosures to proceed on an accelerated basis compared to that for general property taxes is considered favorably.

Clear right to issue. Public hearings and a deadline for discussion are necessary, within legal requirements, so that there are no legal challenges possible once bonds are offered.

Term and redemption of bonds. The debt service schedule is usually flat or declining over time and is usually within the useful life of the project and improvements.

Debt service reserve. A reserve fund or other security feature that provides for payment of debt service is essential in the event that assessments are not received on a timely basis. The amount of the debt service reserve and the way that it is funded are important, because funds to cover any revenue shortfall are expected to be available at all times.

Cash flow runs. Sensitivity tests that demonstrate the bond structure's strength in the event of delinquency of the largest taxpayers are necessary in evaluating the ability of the bond structure to withstand unexpected events. Standard & Poor's normally expects some excess cash, either in a debt service reserve or through excess cash flow, be available to cover a delinquency by at least the top two to five taxpayers, unless the top taxpayer has itself been rated by Standard & Poor's.

In some cases, Standard & Poor's commercial mortgage group can evaluate the credit quality of an individual development for assessment bond purposes and the rating can be based on a single taxpayer or retail development. Usually, however, Standard & Poor's requests information determining the maximum number of taxpayer delinquencies a district can handle before defaulting and compares this to the concentration of the top taxpayers. Where extremely high taxpayer diversity exists, such as in fully developed residential districts, the debt service reserve alone may be able to cover the permanent loss of the top five taxpayers for a number of years, mitigating excess cash flow needs.

California's Mello-Roos Districts

Mello-Roos bonds, also known as Community Facilities District bonds, are specific to California. They are similar to special assessment bonds in that they levy a charge that is not based on property value, but dissimilar in that they usually have the ability to raise the tax rate up to a maximum level to cover taxpayer delinquencies. Most Mello-Roos districts levy a tax per dwelling unit or per acre, based on development status, but there is no real restriction on the type of tax, other than it cannot be based on property value.

The different types of taxes allowed under the Mello-Roos Act raise varying credit quality considerations, but certain key concerns are common to all Mello-Roos bonds. Probably the greatest credit risks occur in the district's initial phases, when the taxpayer base is concentrated and debt-to-assessed value (loan-to-value) ratios are high because land may be owned by a few developers and largely undeveloped (see Undeveloped Special Districts). As development occurs, credit quality should improve to the extent that ownership becomes more diverse, and loan-to-value ratios decrease. Upon a refunding, several years after a district's creation, credit quality could be vastly improved. Even relatively undeveloped land could receive a favorable initial rating if the area is characterized by numerous taxpayers, good loan-to-value ratios, and flexibility to cover taxpayer defaults by raising tax rates.

Generally, investment grade Mello-Roos districts will show at least close to 1.0x cash flow coverage of debt service from parcels within the district that have an assessed valuation to debt ratio of at least 5:1, with no major taxpayer concentration among these higher value to lien taxpayers.

Easy to implement

Mello-Roos financing is attractive for two reasons. First, unlike special assessment bonds, it allows the financing of general-purpose projects, such as police stations, which may be outside Mello-Roos district boundaries. A second attraction is Mello-Roos districts' easy implementation in undeveloped areas. The Mello-Roos Act declares district landowners to be the voters when 12 or fewer voters reside in a Mello-Roos district, an interpretation that could be subject to future legal challenge if there are actual residents present.

Because districts may be formed in any size or shape, even from noncontiguous parcels, it is relatively easy to form and obtain 'voter' approval of a Mello-Roos district in undeveloped or industrial areas. Different governments, such as school districts or cities, may form separate overlapping Mello-Roos districts as long as each governmental entity is authorized to perform the different service being provided. Practically speaking, district boundaries can be drawn to guarantee that fewer than 12 voters reside in a district or that residents support district formation.

Any type of tax may be imposed in a Mello-Roos district, as long as the tax burden can be evaluated at the time of voter approval and is not levied against property values. Taxes can be designed to mimic property taxes closely, even though by law they can't be imposed solely on the value of a property. For example, a district could tax the number of homes, street frontage, or number of acres. Even a per capita tax can be imposed, using taxes that are fixed or fluctuate up to a cap. An acreage tax or an equivalent dwelling unit tax, are the most popular form of taxation. Taxes may kick in on different dates, and maximum permitted tax rates often escalate 2% per year to accommodate an increasing debt service schedule. Generally, undeveloped land (usually owned by developers) is not taxed, or taxed very little, while future homeowners support actual debt service. As long as bonds are outstanding, the tax cannot be

repealed.

The many possible Mello-Roos tax structures create different risks depending on their structure. However, all districts have some features in common. The strongest districts have economic diversity, with numerous taxpayers and high value-to-loan ratios, and levy a well-designed tax that covers a broad tax base. Such a district could receive a favorable credit rating if the existing tax base can produce favorable coverage of future maximum annual debt service, and an additional bonds test locks in the coverage.

The best additional bonds tests use the maximum permitted tax rate on the existing tax base to calculate a minimum coverage requirement on future maximum annual debt service. Weak additional bonds tests may require only an appraiser's report, subject to possible error, estimating a certain minimum value-to-lien ratio. Additional bonds tests based on building permits granted, while stronger than a wholly projected test, are weaker than tests based solely on revenues from owner occupied homes as determined by a certificate of occupancy or the county assessor, due to the time lag between receiving a permit and actually completing a structure.

Concentration of district taxpayers is a particular risk for small or start-up districts. If payment of debt service depends on payments from a few taxpayers, there are obvious vulnerabilities. Apart from the normal cash flow problems caused by delinquency of a major taxpayer, a federal bankruptcy law filing by a taxpayer can indefinitely forestall local foreclosure action. Taxpayer concentration is particularly important, because most districts were originally formed by a few developers holding undeveloped land. The ability to raise tax rates may mitigate concentration risk if additional levies could cover delinquencies by major taxpayers. Sometimes maximum tax rates are designed to increase a certain percent every year to match an increasing debt service schedule. If so, inflation assumptions should be carefully scrutinized in such a case to ensure that homeowners would not be subject to possibly onerous taxes in later years

Many types of taxes can be imposed and pledged to debt service; therefore, Standard & Poor's will examine each Mello-Roos bond issue on a case-by-case basis. Major rating considerations include:

- Surrounding economic characteristics;
- The nature of the development and the developer's track record;
- Tax-to-property value relationships, with emphasis on the percentage of the tax generated by parcels with value to lien ratios above 5:1;
- Restrictions on additional parity debt;
- Existence of overlapping districts;
- Project feasibility;
- Nature and diversity of items taxed and the tax structure;
- Cash flow timing and sensitivity to taxpayer defaults;
- County assessment and collection practices; and
- The property value added by the funded project.

Certain types of development are subject to more risks than others. For example, multifamily housing projects are more cyclical in their sales patterns than single-family homes, and preleasing may mitigate office building construction risk.

In general, the nature of development risk may introduce varying degrees of speculative characteristics to

undeveloped districts owned by just a few developers. However, credit quality may improve rapidly as development occurs, and homes or commercial development are sold off. The ability to raise tax rates, while limited by reform legislation, still provides Mello-Roos districts with potentially better credit quality characteristics than most special assessment districts, with which they share many similarities.

Special Assessment And Mello-Roos Suggested Documentation

- Size of district.
- General description of the district with estimated build out dates.
- Land use within the district broken out by percent of the tax from taxpayers with less than a 5:1 value to lien ratio, less than 10:1, and greater than 20:1.
- Largest 10 district taxpayers with their assessed values and share of the pledged tax.
- Description of the formula used for generating the pledged tax.
- Debt service schedule.
- Tax collection rates.
- Overlapping tax rates and overlapping debt.
- Median home values in the district.
- Bond Indenture, Bond Resolution, or Fiscal Agent's Agreement.
- Consultant's or Appraiser's report, if any.

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Undeveloped Special Districts

Standard & Poor's has extended its criteria for special districts, Mello-Roos (Community Facility District), and special assessment districts to include noninvestment-grade debt and more clearly delineate the types of development risk involved in largely undeveloped special districts.

Such distinctions are important, since the nature of real estate and construction risk can vary widely among undeveloped districts. Special districts with debt rated below investment-grade display an even greater degree of unique variety than more highly rated debt. Nevertheless, certain commonly found situations would compare in terms of creditworthiness (see chart, "Some Selected Common Characteristics Of Special Assessment And Mello-Roos Bonds"). Fundamentally, creditworthiness for special districts depends on prospects for strong real estate values, reasonable debt levels, and taxpayer diversity.

Legal covenants

Strong structural legal protections regarding taxpayer foreclosure, debt service coverage, or debt service reserves cannot, in and of themselves, raise a rating into the investment-grade category unless favorable real estate conditions exist. Legal covenants providing meaningful bondholder protection can lock in the economic benefits of a strong tax base against future issuer actions, such as additional debt dilution or poor tax collection procedures, but general covenants regarding coverage may not help if the tax base does not first generate adequate revenue.

Therefore, a Mello-Roos bond with a weak tax base will not necessarily be able to improve its bond rating with strong

structural legal covenant protections, since there is little to protect. Conversely, a Mello-Roos district with a strong tax base may be prevented from obtaining a higher bond rating by weak structural protections.

If development occurs, creditworthiness may improve dramatically in an undeveloped district. However, weak legal protections, written in at the time of bond sale, may limit upside rating potential even if the tax base develops as planned. Investors still need to examine legal covenants closely in almost all situations, even before development occurs.

In particular, a fully funded debt service reserve may buy an issuer some time during periods of heavy foreclosures, but cannot cover against ultimate losses. Other legal provisions of importance include:

- Maximum permitted tax rates;
- Additional bonds tests; and
- The timing of foreclosures and tax rate changes.

There are also key legal differences between unlimited tax special districts, Mello-Roos debt, and special assessment debt, although undeveloped districts share similar real estate development risk. Special district and Mello-Roos bonds usually have the flexibility to raise tax rates to cover a taxpayer foreclosure loss. This is a key strength of special district and Mello-Roos debt over special assessment bonds. Special assessment bonds usually have just 1.0x coverage of annual debt service by yearly special assessments and lack any ability to raise tax rates. In such cases, the bond may be only as strong as the ability to receive ultimate repayment from the weakest property taxed.

Exceptions exist. Sometimes debt service reserve earnings can cover foreclosure losses of the top taxpayers if the top taxpayers are small, compared with the total tax base. Another exception occurs in Florida, where the state allows the special assessment tax rate to be raised in some cases, up to a limited amount. This feature makes these Florida special assessment bonds resemble California's Mello-Roos bonds—a positive feature.

Land appraisals

Appraisals of vacant land by private consultants may be problematic. The difficulty is that they are based only on a value at a point in time, and built on a set of assumptions that developers will follow the expected use of the land. If plans do not materialize as anticipated, or new landowners change their expected use of the land, actual values for vacant land could change appreciably. For this reason, private appraisals of raw land can often be considered unreliable. Standard & Poor's looks at the reasonableness of appraisal assumptions and sometimes may discount appraisal conclusions. There are wide distinctions between different types of development districts, and investors more than ever need to distinguish the strong credits from the weak. In particular, investors may want to determine if legal features could preclude a bond from ever moving into the investment-grade categories. The accompanying table, while it does not cover every case, should provide helpful guidelines. Some positive factors, such as debt service coverage, can offset other negative factors, such as taxpayer concentration.

District Size

Standard & Poor's does not have a minimum size limit for an investment-grade rated special district; rather size affects a special district in that a small size may increase taxpayer concentration. A large district concentrated in a few

taxpayers may not be as creditworthy as a small district with little tax base concentration in the top taxpayer. A special district consisting only of a 500-unit single-family housing development, for example, may achieve an investment-grade category rating, depending on the particulars of local real estate conditions.

Special Assessment And Mello-Roos Information

Some Selected Common Characteristics Of Special Assessment And Mello-Roos Bonds

'A' — District is fully or close to fully developed (80% or better), diverse taxpayer base; strong economic location; good maximum annual debt service coverage; debt service reserve may be fully or partially funded, but should ideally should cover the loss of the top five taxpayers for life of the bonds; high value to lien ratios of greater than 20-to-1; strong legal protections regarding additional debt issuance, and prompt property foreclosures.

'BBB' — District is mostly developed (70% or better); some taxpayer concentration but expected to be reduced as development continues; adequate economic base with good prospects for continued economic growth; adequate maximum annual debt service coverage of at least 1.0x; debt service reserve may be fully or partially funded but should cover the loss of the top five taxpayers for seven to ten years; moderate overall value to lien ratios of at least 10-to-1; strong legal protections regarding additional debt issuance, and prompt property foreclosures.

Non-Investment Grade — District is only partially developed; significant taxpayer concentration with the top ten taxpayers accounting for more than 50% of assessed value; developing economic base with uncertain prospects for economic growth in the future; failure of the debt service reserve to cover the loss of the top five taxpayers for at least 10 years; low overall value to lien ratios of at less than 10-to-1 and a significant amount of properties with value to lien ratios of 5-to-1 or less; adequate legal protections regarding additional debt issuance, and prompt property foreclosures.

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Criteria | Governments | U.S. Public Finance: Special Tax Bonds

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Special Tax Bonds

(Editor's Note: This criteria article originally was published on June 13, 2007, and has been updated to include property tax bonds following our periodic review completed on June 2, 2015.)

The key feature of the special tax criteria, which centers on those bonds that are secured by a lien against a tax, is that the tax rate is generally fixed. Pledged tax revenues will rise and fall based only on the economic activity being taxed. In many cases, the use of special tax bond proceeds may also be unrelated to the economic activity that is taxed.

The four most prevalent taxes used to support special tax bonds are:

- Sales tax
- Highway user tax (including gas tax)
- Hotel tax, and
- Income tax

Many other variations are also included in special tax revenues, from cigarette taxes to rental car taxes. Pledged revenue streams will be evaluated based on their unique merits, but all special tax bonds share common characteristics. In general, bond credit quality will depend on:

- The size and depth of the economic base;
- The stability, diversity, and magnitude of the pledged special tax revenue stream;
- The level of debt service coverage -- both coverage of annual debt service and coverage of future maximum annual debt service; and
- Bond covenants, such as funding a debt service reserve; restrictions on additional parity debt issuance; or whether excess revenues after payment of debt service flow back to the bond issuer or are retained under a closed flow of funds exclusively for early debt retirement.

Standard & Poor's is refining its special tax criteria as it relates to sales tax, income tax, and gas tax revenue bonds to place greater emphasis on fundamental economic factors and less on legal features regarding additional debt issuance and reserve funds when, from a practical perspective, prospects are good that debt service coverage will remain high regardless of the legal provisions in bond covenants.

Enhanced recognition of fundamental economic activity for sales tax revenue bonds is supported by retail sales data collected over past recessions, which has generally reaffirmed the stability of sales tax revenues during adverse economic cycles, particularly for large economic bases. As such, higher rating levels can be sustained at lower coverage levels for certain municipalities.

Likewise, the stability of fuel sales during recent and previous price spikes support the relative inelasticity of fuel demand even during periods of high fuel prices. Highway user tax ratings are also buoyed by the fact that a large portion of pledged revenues are typically derived from stable transportation related sources, such as motor vehicle registration fees and motor vehicle license fees, and usually cover a large statewide population base.

In particular, legal tests for additional sales tax parity debt will be weighed less heavily where municipalities rely on

excess sales tax revenues to fund general fund operations. In such cases, there is a disincentive to issue significant amounts of additional sales tax borrowing, regardless of legal protections. For these issuers, heavy sales tax bonding could have the effect of crowding out funding for essential ongoing municipal operations. Analytically, this unlikelihood allows us to place less emphasis on the additional bonds test.

The additional bonds test is also less significant for municipal issuers with a long history of debt restraint and little potential future financing needs. In contrast, additional bonds tests may retain their traditional importance when an authorized sales tax is dedicated only to capital funding or when capital needs are large. Debt service reserves also take on less importance in cases where debt service coverage will be maintained at very high levels, such as 2x maximum annual debt service or higher. In these cases, debt service reserves equal to half of maximum annual debt service, ones only funded when coverage falls below a specified level, or in some cases not funded at all, may be sufficient.

Special Tax Ratings Can Exceed A GO Rating

A special tax bond rating can exceed that of a municipality's GO rating in certain circumstances--when an issuer's base shows broad economic diversity, revenues show good stability in economic downturns, debt service coverage levels are strong, and legal covenants provide strong protection or are analytically less relevant. Special tax ratings may rise above an issuer's GO rating, since as a practical matter, the pledge of special tax revenues may place bondholders ahead of unsecured GO bondholders. Chapter 9 of the U.S. Bankruptcy Code specifically provides that a municipal bankruptcy filing, "does not operate as a stay of application of pledged special revenues, which includes special excise taxes, to payment of indebtedness secured by such revenues". Although case law is limited by the small number of municipal bankruptcy filings, it would appear sales tax bondholders would have a strong priority interest in the event of municipal distress, allowing sales and special tax ratings to exceed a GO rating. However, heavy sales tax bond issuance could potentially weigh down a GO rating. Special tax supported debt is included in Standard & Poor's calculation of an issuer's direct GO debt burden ratio, and could result, in unusual cases, in a downgrade of a GO rating when high debt service costs hamper the ability to balance a general fund budget.

Economic Concerns

The health of the local economy is central to the rating process. As it does when rating other types of municipal issues, Standard & Poor's initially evaluates the diversity and growth potential of an economy. A poorly performing or concentrated economy may limit the upside potential of a bond rating, despite high debt service coverage. The main emphasis is on the breadth of the tax base, both by diversity of retailer, and on the items taxed. Generally, levies on the widest range of items earn higher ratings than those on limited categories of goods and services, (for example, a tax only on restaurant sales may somewhat narrow the tax base, as might a sales tax jurisdiction dependent on a limited number of auto retailers, while inclusion of retail grocery sales may provide greater tax stability). Standard & Poor's reviews cyclical factors, such as tourism, that could cause fluctuations in tax receipts. A large and diverse employment base will provide some protection against swings in retail purchases of area residents. A larger geographic jurisdiction also mean less likelihood that a resident will visit a retailer outside an issuer's taxing jurisdiction if a retailer closes

down.

Under certain conditions, the diversity of retailers can be another rating factor, particularly for narrow retail bases. For instance, in a very small town, a large portion of revenues may come from one shopping mall or an auto dealership that may face future out-of-town competition, or whose proprietor may fold. Standard & Poor's may ask for a list of the top 10 retail outlets as a percentage of total sales to help allay concerns of retail concentration, or provide retail sales by economic sectors. As an example, a concentration in auto dealerships may indicate especially cyclical retail sales. Confidentiality laws may preclude the release of actual names of the largest retail generators. In such cases, Standard & Poor's can review retail figures without the release of the specific name of the retailers. Large population bases may be assumed to contain a diverse retail base, while smaller municipalities may be deemed to carry some risk of concentration when precise retail concentration figures are unavailable.

One positive factor regarding sales taxes is that revenues continue to be remitted when a sales tax vendor declares bankruptcy, but remains in operation; conversely, however, tax revenue will come to a halt if the retail store closes or relocates outside a jurisdiction. In such cases, it is helpful that nearby alternative shopping outlets are still in town. Sometimes, even major cities can suffer when a large retail mall opens in a suburb, drawing off shoppers. For this reason, high retail sales per capita are closely analyzed.

Implications Of Growth Trends

Growth trends may depend on the type of taxes. One of the strongest credit features of sales-tax revenues is that they are inflation driven. Revenues and debt service coverage will increase in inflationary periods, even when a local economy does not grow in real terms. On the other hand, gas taxes are usually derived from a per gallon tax that does not grow with inflation. Nevertheless, gas taxes also tend to remain relatively stable in recessions and depend more on population growth. Income tax receipts also show general stability over time, especially for large economic bases, due to the broad-based nature of the tax. Each type of special tax will be examined on its own merits for possible future growth and cyclicity.

In general, projections of sales tax or special tax revenues tend to be imprecise and depend on a number of assumptions about such variables as the level of future construction. Although Standard & Poor's reviews future projections of sales tax or other pledged revenue growth, it does not usually use them as a major factor for a rating. Recognizing the uncertainties in forecasting precisely when new growth will occur, Standard & Poor's typically bases its ratings primarily on historical revenues generated from an existing economic base that will cover future maximum annual debt service.

Although rating criteria focuses primarily on historical revenues and their ability to cover future maximum annual debt service, pledged tax growth rates are still examined. Standard & Poor's will not try to determine the reasonableness of an exact economic forecast, but note when situations where growth will likely continue based on historical growth trends and ongoing economic conditions. Debt service coverage wholly dependent on high future economic growth, particularly sustained long-term annual growth, suggests a greater risk profile. However, some credit may be gained for rapidly growing areas, if near-term growth assumptions appear reasonable.

Standard & Poor's usually asks for at least five years of historical tax revenues or, if a sales or special tax is newly imposed, five-year, pro forma tax data based on historical retail sales from jurisdictions with overlapping sales-tax levies. Pledged tax data that are merely estimated based on sample surveys lack historical rigor.

Debt Service Coverage And Ratings

A common question asked of Standard & Poor's is, what level of debt service coverage will result in a desired rating level? The answer is that there is no fixed level of coverage that will result in a given rating because coverage levels are only one factor in the rating process, which also includes an assessment of likely additional debt issuance and a municipality's economic vitality, diversity, and cyclical nature. Higher coverage levels may somewhat offset concerns within the other rating factors. Higher ratings generally enjoy higher debt service coverage; however, rating level variations typically correlate more closely with population levels, as a proxy for economic diversity.

Higher coverage can offset a weaker economic base, if coverage levels can be expected to be maintained. Accordingly, issuers may choose to structure in higher coverage and legal features to raise credit quality and offset a weaker economic base. The degree of coverage desired will depend on the desired rating level and the historical and expected fluctuation in sales taxes over an economic cycle.

Variable rate debt, or deals involving swaps with a variable rate should address the potential for interest rate fluctuations and the transaction should show strength during a variety of stress scenarios. A fixed asset stream, such as a sales tax, is potentially vulnerable to variable interest rates, unless initial coverage is sufficient at the time the bonds are issued. One good feature about variable rate sales tax debt is that periods of high interest rates are also often coincident with periods of high inflation, potentially allowing revenues to grow to meet the increased debt service.

Legal Protections

Additional parity bonds tests protect against dilution of future debt service coverage through the issuance of additional parity debt. The strongest additional bonds tests generally specify that historical revenues cover future maximum annual debt service, plus an extra debt service coverage cushion.

Special tax bonds, as well as other types of fixed tax debt, typically have no 'rate covenant' to raise tax rates in the case of a debt service shortfall. As such, there may be somewhat less restraint on issuing additional parity bonds than other types of revenue bonds, unless excess tax revenues are needed for other essential operations, as is often the case for sales tax revenues that flow into a municipality's general fund.

Typical additional sales and income tax parity bond coverage tests range from 1.2x historical coverage of debt service to 3.0x or more, with most tests in the 1.25x-1.5x range. Hotel and gas tax additional parity bonds tests, as well as those for tax revenues with more cyclical revenue streams typically range higher. Some weaker additional bonds tests use average annual debt service coverage instead of maximum annual debt service, although this may be offset by a higher required coverage multiple. Still weaker additional bonds tests may use only projected revenues. Some additional bonds tests allow future variable rate issuance. If so, the additional bonds test coverage multiple ideally

would be sufficient to protect against possible future swings in interest rates. If the additional bonds test coverage multiple is low, the use of prevailing short-term interest rates when calculating future debt service for purposes of the additional bonds test would not be as favorable as using some extra factor anticipating a rise in rates. A good alternative might be to use instead prevailing long-term rates, or prevailing long-term rates plus an extra adjustment factor, allowing a coverage margin for a potential rise in interest rates.

Additional bonds tests regarding subordinate lien debt would ideally be calculated using historical sales tax revenue, divided by combined maximum annual debt service payments of both senior and junior lien debt. Some junior lien tests use only net revenues after prior payment of senior lien debt, and this can effectively dilute the additional bonds test to a lower coverage multiple, unless the required junior lien coverage multiple is high. Analytically, Standard & Poor's discounts this method of coverage calculation and employs a combined coverage ratio to evaluate junior lien debt. Rating distinctions between junior and senior lien are not automatic. Junior lien sales tax debt may be rated on par with senior debt if the senior lien is closed, or if no additional senior lien debt is otherwise expected. No distinction may also be made if combined current and expected future coverage levels are so high that the importance of the lien position becomes minimal given the resulting low risk of insufficient coverage. On the other hand, if junior lien debt service coverage is significantly lower than on senior lien debt, there could be a greater rating distinction.

A debt service reserve fund that is fully funded from a portion of bond proceeds, or through a surety agreement with an investment-grade rated entity, may add liquidity in times of stress but does not enhance fundamental credit quality.

Most special tax bonds typically have an open flow of funds, whereby revenues not needed to pay debt service revert to the municipality. If excess revenues are used to fund municipal operations, this can be a disincentive to issue additional debt, as payment of increased prior debt service might restrict the monies available to fund municipal operations. In such an example, a city might be more likely to maintain high debt service coverage even in the event of weak legal protections regarding additional parity debt issuance. As such, an open flow of funds may help support a higher sales tax bond rating where the excess revenues are essential to fund municipal operations, even when the additional bonds test is not particularly strong.

Sometimes bond legal provisions specify a closed flow of funds. In this case, excess tax revenues, after payment of debt service, can typically be used only for bond redemption. This provision can dramatically reduce average maturity and quickly raise future coverage, if at the same time no additional parity bonds are allowed. As such, a much lower coverage could be accepted for an equivalent rating in the initial years, if the risk is mostly in the out years, when effective coverage could grow to a dramatically higher level with any sort of economic or inflationary growth and debt is continuously retired, or defeased early.

Certain specialized tax revenue streams entail special considerations.

Hotel Tax Bonds

Hotel tax bonds are secured by lodging room fees—either a percentage of room rentals, or a fixed tax per room. In practice, few hotel tax bonds pledge purely hotel tax revenues: many also include sales taxes on restaurant sales or car rental fees, with similar tourism based analytical concerns. Hotel tax bonds often fund capital facilities for convention

centers, which typically need regular renewal or expansion.

The approach to analyzing hotel tax revenue bonds, and food and beverage tax revenue bonds, follows the general special tax criteria. However, because the hotel tax base is narrower and more cyclical than broad revenues streams, such as general sales taxes, higher coverage levels and bondholders' legal protections may be needed for equivalent rating levels. Specific considerations for hotel tax bonds include the issuer's ability to generate hotel taxes by attracting overnight visitors, the nature of such visits (discretionary trips versus nondiscretionary trips), historic hotel occupancy levels, and planned expansion.

Additional key areas of the hotel tax bond analysis include:

- The historic demand for hotel rooms within the taxing jurisdiction;
- Occupancy rate trends;
- The number of room rentals; and
- Average room rates over a period of several years.

A distinction also is made between the nature of travel to a given community. Although discretionary travel--vacations and business trips--are affected by economic cycles, vacations exhibit greater sensitivity. A feasibility study is helpful in tracking demand trends. These studies typically use historical patterns to estimate future trends. Standard & Poor's often finds analysis of historical hotel tax trends more valuable than predictions for the future. A debt service reserve fully funded from bond proceeds to the maximum annual debt service takes on added importance for a cyclical hotel/motel tax revenue bond issue, as well as one secured by restaurant and beverage taxes. Hotel/motel tax revenue bonds or food and beverage tax revenue bonds also typically have a higher range of 1.5x-2.0x for their additional bonds test, unless the issuer's hotel market is especially broad and diverse. One of the strengths that hotel tax and food and beverage tax revenue bonds share with sales tax bonds is their response to inflation. Pledged tax receipts and debt service coverage increase during inflationary periods even if the source of the revenue stream exhibits no real growth.

Highway User Tax Bonds

Highway user tax bonds are issued primarily by states to fund statewide highway and road construction, although local bonds are sometimes secured by state distributions of highway user tax revenues to local municipalities. A state constitution may limit the spending of transportation related fees to transportation uses, which typically tend to be very capital intensive. The broad statewide collection of revenues for most of these bonds often affords strong credit quality.

Highway user revenues collected by states are typically motor-fuel taxes, vehicle-registration fees, license fees, penalties and fines, and in some cases motor vehicle ad valorem fees. Some states add federal grant monies to the pledged revenue stream, which may make the revenue stream vulnerable to changes in federal programs, especially since federal grant programs must usually be periodically reauthorized. Higher debt service coverage may be needed to offset some of this increased vulnerability.

An examination by Standard & Poor's of pledged fuel taxes during periods of rapid increases in the price of gasoline

has indicated that sales of fuel are relatively insensitive to price in the short run, although they may vary somewhat over a long period of years by causing a gradual shift to more or less fuel efficient vehicles as consumers trade in vehicles. Another difference with sales tax revenue lies in the nature of fuel taxes. Unlike sales tax bonds, whose revenues increase with inflation, fuel tax bonds are generally based on per gallon sales, and do not increase with inflation.

The relative importance that a state government places on highway construction, and its commitment to such programs, can be significant factors in the rating process. States that have established highway programs by statute and the ability and willingness of state administrations and legislatures to increase highway user tax rates as a means to fully fund perceived requirements are important considerations.

Generally, statewide revenue sources are considered more stable than revenues based on point of sale within a small locality. Those states that distribute highway user tax revenues to localities on a per capita basis, instead of actual local sales, can serve to enhance a rating by providing stability. Other state revenue distribution formulas that are more complicated could serve to enhance or weaken a pledge of state distributed revenues. If states have frequently changed their distribution formulas in a way that could reduce local revenues that are pledged to bonds, it may become a credit concern. Standard & Poor's examines the revenue-distribution formula, historical changes to highway user tax allocations, and the frequency of tax rate increases as a factor in determining revenue stability.

Because highway user taxes are generally dedicated for the purpose of future infrastructure needs, there may be a greater presumption that a state would issue significant amounts of future highway user tax debt, and the additional bonds test may in some cases take on greater significance than for sales tax debt where an issuer needs to use excess sales taxes for general operations.

Income Tax Bonds

Income tax bonds are primarily found in the state of Indiana, although there are a few prominent examples in other parts of the country. Statistics show that the gross personal income of a municipality's populace is generally very stable over time, most likely due to the broad based nature of the tax, and also goes up with inflation, as do sales taxes. Standard & Poor's evaluates the size and depth of a municipality's economic base and its previous income tax fluctuations. Local income taxes tend to have a narrow range of tax rates, while state income taxes may be based on a more progressive tax rate schedule that could potentially fluctuate more in a downturn, although this may be offset by a larger and more diverse state economy. A distribution of statewide income taxes to localities determined by population would usually be considered a more stable source of pledged revenue than income taxes collected purely locally. However, both sources of income taxes may be considered very stable when the municipality covers a broad economy.

Property Tax Bonds

Bonds secured by a limited property tax are evaluated as special tax bonds when they have all of the following characteristics:

- The pledged tax is limited in nature;
- Bondholders are not pledged access to available balances of the obligor;
- Pledged revenues must be used for debt service prior to operations;
- We believe that either pledged revenues are considered special revenue under Chapter 9 of the U.S. Bankruptcy Code, or bondholders have a priority lien on pledged revenues before operations or other uses; and
- A source of mitigation is identified to account for pledged revenue variability, such as a debt service reserve fund or excess revenues after payment of debt service.

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(Editor's Note: This criteria article was originally published on Jan. 3, 2011. We are republishing this article following our periodic review completed on Nov. 10, 2014. On Nov. 27, 2013, we replaced the link in Section A2, 'Relationship to sovereign rating,' paragraph 19 with a link to the criteria article titled, "Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions," published on Nov. 19, 2013, which is now in force. This methodology replaces portions of "U.S. Public Finance Criteria: GO Debt," published Oct. 12, 2006, and is related to "Principles Of Corporate And Government Ratings," published June 26, 2007.)

1. Standard & Poor's Ratings Services is updating its methodology for rating United States state governments. We are publishing this article to help market participants better understand our approach to assigning state ratings. "Rating" refers to the rating assigned to general obligation (GO) debt of U.S. states or the issuer credit rating if no GO debt is outstanding. This methodology replaces portions of "U.S. Public Finance Criteria: GO Debt," published Oct. 12, 2006, and relates to "Principles Of Corporate And Government Ratings," published June 26, 2007. (Listen to related podcast, "Standard & Poor's Updated Criteria For Rating U.S. States," dated Jan. 26, 2011, and the related CreditMatters TV segment, "Standard & Poor's Revised Rating Criteria For U.S. States," dated March 4, 2011.)

SCOPE OF THE CRITERIA

2. These criteria apply to all U.S. state governments and U.S. Territories.

SUMMARY OF CRITERIA UPDATE

3. Standard & Poor's publicly rates all 50 U.S. states based on an analysis of a range of financial, economic, managerial, and institutional factors. Given the specific delegation of powers to states under the U.S. Constitution, we view states as having sovereign powers that warrant recognition in our criteria, and therefore we are separating our criteria for our analysis of states from our broader general obligation criteria.
4. We are keeping the existing general analytic framework for U.S. states, which involves five main factors:
 - Government framework;
 - Financial management;
 - Economy;
 - Budgetary performance; and
 - Debt and liability profile.
5. We provide greater transparency on how the rating for each state is determined using the combination of the various rating factors. We assess these factors using various credit metrics as outlined in Chart 1. These criteria follow the publication of the "Request for Comment: Methodology For U.S. State Ratings," published on May 11, 2010.

IMPACT ON OUTSTANDING RATINGS

6. We do not expect any significant rating changes as a result of these criteria.

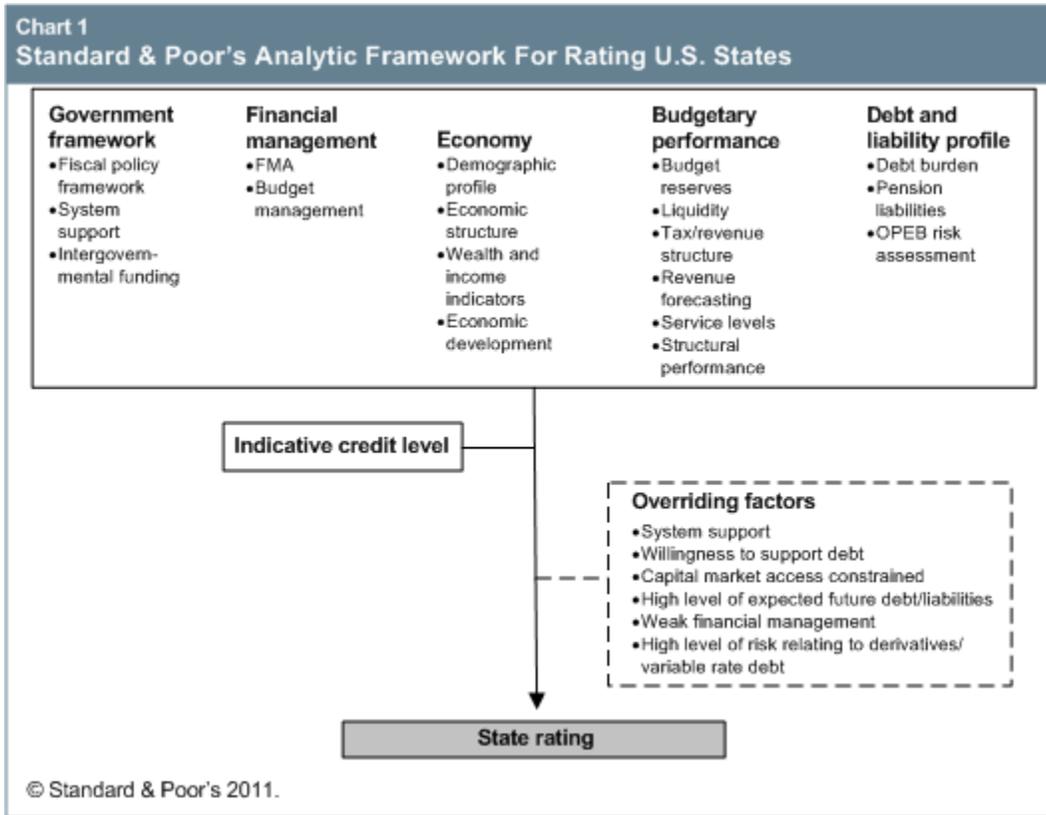
EFFECTIVE DATE AND TRANSITION

7. These criteria are effective immediately.

METHODOLOGY

A. Overall Analytic Framework For U.S. States

8. Standard & Poor's assigns credit ratings to U.S. states and Territories based on our qualitative and quantitative analysis of a range of financial, economic, managerial, and institutional factors. Our overall analytic framework centers around the following factors:
 - Government framework;
 - Financial management;
 - Economy;
 - Budgetary performance; and
 - Debt and liability profile.
9. We assess each of these factors utilizing various metrics that we score on a scale from 1 (strongest) to 4 (weakest). For each metric there may be several indicators we evaluate to develop the metric score. We score each indicator individually on the same scale and average the indicators' scores to develop the overall score for the metric. We average the metrics for each factor to develop a composite score for each. The scores for the five factors are combined and averaged with equal weighting to arrive at an overall score which is then translated to an indicative credit level as illustrated in table 1. (A glossary of selected terms is provided at the end of this article.)



10. Table 1 below lists the indicative credit level that is associated with the overall score assigned. In most cases, we expect the final state rating to be within one notch of the indicative credit level, based on the state's position relative to all other states.

Table 1

Scores And Indicative Credit Level

Score	Indicative Credit Level
1-1.5	AAA
1.6-1.8	AA+
1.9-2	AA
2.1-2.2	AA-
2.3-2.4	A+
2.5-2.6	A
2.7-3	A-
3.1-4	BBB category

Note: A rating below 'BBB' is possible based on various overriding factors as outlined in paragraphs 11-18.

1. Overriding factors impacting state ratings

11. In certain circumstances, the following overriding factors may result in a rating different from the indicative credit level as follows.

12. **System support score.** In the case of U.S. Territories and Commonwealths, where the policy and fiscal relationship with the federal government may result in a system support score that is different from the score assigned to all states, the rating may be multiple notches below the indicative credit level, as a result of the lower system score (see "Methodology for Rating International Local and Regional Governments," published Sept. 20, 2010).
13. **Willingness to support debt.** We view U.S. states as generally having a strong commitment to honor their legal obligation to pay debt even during difficult or stressful economic cycles. If we believe there is a change in a state's willingness to support its debt, we will assign a rating below what is indicated, possibly by several categories. For example, were a state to choose not to pay obligations we view as debt subject to annual appropriation, we would lower the state's GO rating or ICR, as detailed in our appropriation-backed obligations criteria ("Appropriation-Backed Obligations", published June 13, 2007). Were state officials who are charged with funding debt to suggest an unwillingness to fund debt in accordance with the priority payment status, we would likely assign the state a GO rating or issuer credit rating that is no higher than the 'BB' category. The rating would be no higher than the 'B' category and would likely be lower if we determined that this lack of willingness was likely to threaten a pending debt payment.
14. **Capital market access.** In addition, if we deem access to the capital markets or other sources of external liquidity as questionable and we view that access as necessary for the state to maintain regular operations, we will assign a rating no higher than the 'BBB' category. The rating may remain investment grade if we believe that internal liquidity, the priority claim enjoyed by bond holders, and the state's ability to manage disbursements provides good coverage of debt service. If we believe these internal factors provide questionable coverage of debt service and we perceive difficulties accessing the market for external liquidity to pay debt obligations, this would lead to a more rapid transition below the 'BB' category.
15. We also anticipate possible but limited circumstances where we will adjust a state's rating by one notch compared with the indicative credit level in table 1. These include:
16. **High level of expected future debt/liabilities.** In cases where we expect that a state's identified future debt obligations are likely to increase the majority of ratios used to measure the state's debt burden to levels that are higher than one-third above those indicated for a score of '4' (see paragraphs 62-69), we will assign a rating one notch below the indicative credit level in table 1. Instances where we anticipate future debt and liability metrics to be an overriding factor in the rating include (but are not limited to) when the state authorizes a large debt program that we expect to significantly alter its current debt position, or when a contingent liability (such as the debt of another government entity or an underlying level of government) becomes a direct funding responsibility of the state. Finally, if a state's pension funded ratio were to fall below 40%, the rating will be one notch below the indicative credit level in table 1. We believe that the inclusion of this overriding factor will allow for a forward-looking assessment of future debt and liabilities and its impact on the state's future operating budget performance.
17. **Weak financial management.** In cases where we score a state's overall financial management at '4' (see paragraphs 32-36) the rating will be one notch lower than the indicative credit level in table 1. In our opinion, weak financial management can result in rapid credit deterioration.
18. **High level of risk relating to derivatives/variable rate debt.** In cases where a state has a liquidity score of '4' (see paragraphs 46-51) and also has what we consider a high level of risk relating to derivatives/variable rate debt, the rating will be one notch lower than the indicative credit level in table 1. Specifically this includes the requirement to fund any accelerated payment provisions without having funds identified and available to make these payments.

2. Relationship to sovereign rating

19. Although many economic credit factors are similar and some expenditure responsibilities are linked, we do not directly link state ratings to the rating of the U.S. The rating on a state or local government can be higher than a sovereign

rating (see "Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions," published Nov. 19, 2013) if, in our view, the individual credit characteristics remain stronger than those of the sovereign in a scenario of economic or political stress. Other factors that we will review include our view of the predictability of the institutional framework that limits the risk of negative sovereign intervention and the state's ability to mitigate negative intervention from the sovereign due to the state's high financial flexibility and limited dependence on the federal government.

3. Standard & Poor's use of stress scenarios and calibration of state criteria

20. To calibrate the criteria for state ratings, Standard & Poor's uses the stress scenarios associated with each rating category level, as presented in Appendix IV of "Understanding Standard & Poor's Rating Definitions," published June 3, 2009 (hereafter called the "stress scenario article"). We believe that most states should be able to attain at least a 'AA' rating level, because we expect they should be able to meet their debt obligations, even in a very severe stress scenario, as defined in the stress scenario article. Under the U.S. Constitution, state governments have broad powers to establish their own tax structures and expenditure responsibilities and therefore possess unique administrative and financial flexibility. They are not eligible to file for bankruptcy under the U.S. Bankruptcy Code. They may adjust revenues, alter disbursements, and access reserves or other forms of liquidity when they consider it necessary in order to restore budgetary balance.
21. State public finance systems are in our view mature and accounting standards are well-developed, contributing to a high level of transparency relative to regional governments in other countries. U.S. states typically have balanced-budget requirements and well-developed revenue and expenditure monitoring policies and procedures. Although there is some variation among states in terms of economic diversity and wealth, when evaluated on a global basis we find that state economies as a whole are generally diverse and income levels are above average. The security features and priority of payment for debt service are generally well-defined and capital market access is also generally well-established. We also believe U.S. states typically have a strong commitment to their legal obligation to pay debt despite difficult economic cycles as evidenced by only one observed default for the sector in more than one hundred years.
22. When defaults have occurred, reforms have generally followed. Although eight states (Arkansas, Illinois, Indiana, Louisiana, Maryland, Michigan, Mississippi, and Pennsylvania) plus the Territory of Florida defaulted following the panic of 1837, most debt issued for state and local purposes was issued at the state level, where large amounts of debt had been issued for economic development and public improvements. Following this episode, states' borrowing abilities were curtailed, and debt issuance for economic development purposes shifted primarily to local governments. Only one state (Arkansas) defaulted on debt during the Great Depression, and following this period governments further diversified their revenue streams by increasing their reliance on personal income taxes and implementing sales taxes—largely the structure we see today. Additional improvements to states' financial controls, reporting, and disclosure followed in the postwar period.

B. Government Framework

23. Government framework is the first factor we assess to arrive at the indicative rating level. A state's government

structure and political environment can affect its powers as defined by federal and state law and influence its fiscal position. Fiscal policy framework, system support, and intergovernmental funding are the metrics we use to assess government framework. Each is scored individually, and we then average the scores to determine the overall government framework score.

1. Fiscal policy framework

24. The framework within which a state taxes, spends, and issues debt influences its ability to manage through various economic stress scenarios in our opinion. When evaluating the fiscal policy framework of a state we analyze five metrics that are averaged to determine the overall fiscal policy framework. These five metrics include: balanced budget requirement (table 2), revenue structure (table 3), disbursement autonomy (table 4), voter initiatives (table 5), and legal framework for debt (table 6).
25. **Balanced budget requirement (table 2).** In contrast to the federal government and many local governments, most U.S. states are required by statute or their constitution to propose or adopt a balanced budget. Others are required to ensure balance during the fiscal year. In our opinion, these requirements tend to encourage budgetary discipline.

Table 2 - As described in paragraph 25

Balanced Budget Requirement	
Score	
1	Constitutional/statutory requirement for balanced budget when introduced and adopted. The budget is required to stay in balance during the year.
2	Budget must be balanced when introduced or when adopted but no legal requirement to maintain balance during the year.
3	There is no requirement to propose or adopt a balanced budget but in our view there is a track record of doing so.
4	No balanced budget requirements exist and, in our view, there is no track record of doing so.

26. **Revenue structure (table 3).** Most states enjoy the flexibility to set and modify tax rates, deductions, exemptions, and collection dates. If, in our view, these can be achieved without major constitutional, legal, political, or administrative difficulty, these discretionary powers can quickly and favorably influence a state's fiscal condition.

Table 3 - As described in paragraph 26

Revenue Structure	
Score	
1	The state has autonomy to raise taxes and other revenues (rate and base); in addition, there is no constitutional constraint or extraordinary legislative threshold for approval (a simple majority requirement for approval of new taxes, for example) and state policymakers have, in our view, a proven track record of implementing tax increases as one of the alternatives to address budget imbalances.
2	The state has autonomy to raise most but not all taxes and revenues. In addition, in our view, the track record of implementing tax increases as a policy alternative to address budget imbalances is uneven, thus effectively reducing the state's revenue flexibility.
3	There are in our view significant constraints to adjusting taxes or revenues. These constraints can include constitutional prohibitions on tax increases, an above majority legislative threshold for approval, or the need to have voter approval for tax and revenue increases.
4	The state is both legally and, in our view, politically constrained in its ability to increase all key revenue sources. We view revenue flexibility as practically limited to the potential growth of the existing revenue base.

27. **Disbursement autonomy (table 4).** While state governments generally have broad service responsibilities, most enjoy what we view as considerable discretion in establishing funding levels for state assistance, shifting responsibilities to local government and establishing or changing disbursement dates for various programs. Absent constitutional or other legal mandates, this affords control over budgets and cash flow which, in our view, can positively affect fiscal

standing. When assessing flexibility, we look at fixed costs relative to the total budget. Fixed costs include debt and contractual obligations. We also review the legal framework governing various program areas and how that affects the ability to reduce or eliminate spending and programs.

Table 4 - As described in paragraph 27

Disbursement Autonomy	
Score	
1	High degree of flexibility in adjusting disbursements; extends to nearly all program areas, including the ones with the highest impact on the budget.
2	Flexibility to adjust disbursements exists but adjustments may not be legally allowed for all program areas, including one or more of the state's largest expenditure programs such as education and health care.
3	Flexibility to adjust disbursements is constrained, and does not include the legal ability to adjust disbursements for large expenditure programs such as education and health care.
4	Flexibility to adjust disbursements is practically non-existent.

28. **Voter initiatives (table 5).** A state government's autonomy can be limited and this can affect relative credit standing in our view. Where decisions about specific tax or revenue levels, spending allocations, and debt issuance require approval from the electorate, states have reduced flexibility to respond to changing economic or financial situations, in our opinion.

Table 5 - As described in paragraph 28

Voter Initiatives	
Score	
1	Not a voter initiative state
2	State has some voter initiative activity but it has not historically negatively affected operations or limited flexibility.
3	State has an active initiative process which has affected state revenues and/or expenditures and flexibility has been diminished.
4	Initiative process is highly active and has substantially impaired operations of government in our view.

29. **Legal framework for debt (table 6).** We analyze both statutory and constitutional debt provisions. This review includes consideration of the nature of the repayment pledge, the priority of payment for debt service, amortization features that are imbedded in constitution or statute, and legal restrictions related to debt issuance.

Table 6 - As described in paragraph 29

Legal Framework for Debt	
1	High degree of legal flexibility to issue debt for a range of purposes. There is a strong legal priority for payment of debt.
2	Some legal limitation on debt issuance which has not in our view inhibited planned issuance. There is a legal priority for payment of debt service but it is not a first claim on revenues.
3	Very limited legal right to issue debt; lack of voter support or limited access to alternative debt structures. There is no established legal priority for debt.
4	Cannot issue debt; there is a lack of voter support. There is no priority of payment for debt service.

2. System support

30. System support refers to our assessment of the predictability of the public finance system in a federal context. It is the same for all states and incorporates the predictability, transparency and accountability, and system support aspects of the institutional framework score as detailed in our criteria for rating international local and regional governments (see "Methodology For Rating International Local And Regional Governments," published Sept. 20, 2010). We assess the final element of the international public finance institutional framework, revenue and expenditure balance by the other

metrics in the government framework analysis of the U.S. state criteria to capture the state constitutional and statutory differences that affect this area.

3. Intergovernmental funding

31. Table 7 details our assessment of a state's local government funding framework. How services and programs are provided across state and local governments and what the funding relationship has been over time are in our view important considerations because they influence revenues, spending and overall budget flexibility. We review the legal requirements and historical patterns of state assistance and revenue sharing arrangements. If a state has broad discretion in adjusting spending flows to local governments or the amount of these flows are limited, we view the state as having a high level of control over budgeting and cashflow. Conversely, if a state has limited legal capacity to adjust programs and spending levels or limited political willingness to do so, we view the state as having less autonomy, especially when this funding represents a significant state budget element.

Table 7 - As described in paragraph 31

Local Government Funding Framework	
Score	
1	Level of assistance to local governments is limited or highly flexible from a legal standpoint or by historic patterns; strong ability to downstream reductions or change revenue allocations.
2	Level of assistance to local governments is high; flexibility (either legal or practical) may be limited at times.
3	Level of assistance is high and is not flexible from a legal or practical standpoint; ability to reduce local government funding is restrained.
4	Very limited flexibility exists.

C. Financial Management

32. Financial management is the second of the five major factors shown in chart 1 contributing to our assessment of the indicative credit level. Our view of the rigor of a government's financial management practices is an important factor in Standard & Poor's analysis of creditworthiness. We believe managerial decisions, policies, and practices have a direct effect on a government's financial position and operations, debt burden, and other key credit factors. A government's ability to implement timely and sound financial and operational decisions in response to economic and fiscal demands is in our view a key factor in assessing credit quality. The financial policies (Financial Management Assessment) and the budget management framework are the key metrics we use to assess financial management that are scored individually and averaged to develop an overall score for financial management.

1. Financial Management Assessment

33. Standard & Poor's analyzes the impact of financial management polices and practices through the use of the Financial Management Assessment (FMA). We believe the FMA provides a transparent assessment of a government's financial practices and highlights aspects of management that are common to most governments in a consistent manner (see "USPF Criteria: Financial Management Assessment," published June 27, 2006). Based on the current framework, a state is assigned a 'strong,' which equates to a score of 1, 'good' (score of 2), 'standard' (score of 3), or 'vulnerable' (score of 4) assessment.

2. Budget management framework

34. While the FMA outlines policies in a range of areas including budget amendments, our view of the framework for managing the budget (including legal framework as well as the policies in practice) is a factor in the high credit profile of U.S. states and we believe it is important in differentiating state credit ratings above or below the 'AA' rating level. Table 8 details our scoring methodology for this area.

Table 8 - Assessment of the framework is further detailed in paragraphs 34 and 35.

Budget Management Framework	
1	Framework is formalized, strong, and proactive; adjustments are timely, with emphasis on structural balance.
2	Framework is good but process may be less defined and adjustments may be less timely
3	Framework is adequate; budget monitoring is established but adjustments are not timely and response is uneven.
4	Framework is weak, which effectively prohibits timely adjustment; deficits carry forward into the next fiscal year.

35. To score the budget management framework, we review whether:
- There is a formal schedule for providing revenue and spending forecast updates throughout the year;
 - There are frequent (two or more times) updates during the fiscal year, especially during weak economic periods;
 - Budget adjustments are implemented in a timely manner to restore balance, generally within 30-60 days of budget gap being identified;
 - The executive branch/budget office has what we consider to be broad powers to adjust appropriations;
 - Legislative approval is required to restore balance and if the response is timely (adjustments begin within about 30 days of the gap being identified);
 - There is in our view a well-established track record of making difficult and politically unpopular revenue and spending decisions in order to restore balance during the fiscal year;
 - Gap-closing solutions are in our view generally focused on structural budget balance rather than relying on non-recurring revenue or spending actions; and
 - Deficits are not carried forward.
36. A state that meets all but one or two of the above budget management items will likely receive the highest score for its budget management framework while a state that exhibits only one or two of these characteristics will likely result in the lowest score.

D. Economy

37. Economy is the third of the five major factors shown in chart 1 contributing to our assessment of the indicative credit level. Our economic review focuses on four metrics: demographic profile, economic structure including employment composition and performance, wealth and income indicators, and economic development. Each of these metrics is scored (1-4) and averaged to assess the overall economic fundamentals of a state. Where there are multiple indicators for each metric, they are also scored (1 to 4) and averaged to develop the metric score.

1. Demographic profile

38. We believe that the structure and growth characteristics of a state's population base provide critical information about revenue-generating capability as well as the costs of providing services and infrastructure. It is also a factor in revenue

distribution at the federal level. We analyze historic population trends for each state relative to national trends. We also examine U.S. Census and other third party projections for future growth or decline. The age profile of the population base and changes in it over time are also considerations due to the high proportion of state spending tied to education and social service programs. To assess this we review the age dependency ratio calculated by the U.S. Census Bureau. As detailed in table 9, the key indicators of our demographic profile score are our view of:

- Population growth trends; and
- Age distribution of population.

Table 9 - As described in paragraph 38

Demographic Profile		
Indicators (scored separately then averaged)		
Score	Population growth trends	Age dependency ratio*
1	Strong population growth relative to U.S.	Relatively low dependent population (more than 5% below U.S. levels).
2	Stable population trends; steady growth over time in line with U.S.	Dependent population ratio in line with U.S. levels.
3	Demographic trends are weaker than the U.S.	Dependent population is well above U.S. (0- +5%).
4	Growth has declined for more than a decade.	Dependent population has significant variance (more than 5%-10% from U.S.).

* From the U.S. Census.

2. Economic structure

39. The composition, output, and diversity of the employment base plays a role in the link between a state's economy and its ability to generate revenues. A state's economic structure can also influence the level of services it provides and can contribute to spending growth pressures. A review of the economic structure, growth trends, and how various indicators perform during economic cycles allows us to assess the relative stability or cyclical nature of a state's economy. We also review changes in the structure of the economy over time to assess diversification trends and how this may affect future economic performance. As detailed in table 10, the key indicators summarize our view of:

- Employment, labor force, and unemployment trends;
- Employment composition by sector and how it compares to the national distribution; and
- Gross state product growth trends and gross state product per capita.

Table 10 - As described in paragraph 39

Economic Structure				
Indicators (scored separately then averaged)				
Score	Unemployment	Employment composition/ diversity of base	GSP* per capita	GSP growth
1	Rate 2%+ below U.S.	Employment mix in line with U.S.; limited concentration; performance tends to be less cyclical than U.S.	>100% of U.S. Gross Domestic Product (GDP)	Growth consistently above U.S.
2	Rate within 2% +/- of U.S.	Employment base exhibits some concentration that contributes to more cyclical performance than the U.S. economy as a whole.	>85% of U.S. (GDP)	Growth in line with U.S.
3	Rate 2%+ above U.S.	Employment base is concentrated; performance has been cyclical and weak relative to the U.S. over the past decade	>75% of U.S. (GDP)	Growth below the U.S. periodically.
4	Rate 5% or more above U.S.	Employment base has high level of concentration relative to U.S. distribution which has contributed to cyclical performance and weak trends over decades.	<75% of U.S. (GDP)	Growth has consistently been below U.S. levels.

* GSP—Gross state product.

40. As part of our review of the employment composition and diversity of the employment base as outlined in table 10, we analyze the largest employers in the state relative to current economic conditions to assess the potential for cyclical performance and how those firms might affect future growth and development. We include regional patterns of employment in the review if an individual state benefits from proximity to other labor markets.

3. Wealth and income indicators

41. We consider wealth levels of a state as part of the economic review. We believe that how income compares to national levels and how growth rates have trended over time can provide useful information about the ability to generate additional revenues. The key indicator to us is per capita personal income, as detailed in table 11.

Table 11 - As described in paragraph 41

Income And Wealth	
Score	Per capita personal income rank
1	>100% of U.S.
2	>85% of U.S.
3	75%-85% of U.S.
4	<75% of U.S.

4. Economic development

42. In addition to historic economic trends, we consider each state's economic development initiatives and future growth prospects as they are likely to affect future revenue generating capacity. We have identified areas that we believe drive future development. A state that we believe displays a preponderance of attributes in a given section below will be assigned that score. We express our assessment of economic development prospects as detailed in table 12:

Table 12 - As described in paragraph 42

Economic Development	
Score	
1	The state's resources, employment opportunities, cost of living, cost of doing business, and tax structure result in an economic environment that supports entrepreneurship, as well as significant levels of private sector investment. The majority of urban centers in the state are economically vibrant and continue to attract in-migration and investment. In addition, the state is home to the headquarters of employers with global operations, as well as prominent higher education anchors which serve as catalysts to continuous investment over time. A majority of the state's current employment is in economic sectors that are expected to perform at an above-average pace during periods of economic growth. Infrastructure is in place to support further growth and development.
2	The state's resources, employment opportunities, cost of living, cost of doing business, and tax structure result in overall growth in population and employment over time, but economic growth across the state is uneven, with only a few urban centers performing better than average, and the majority of urban centers exhibiting lackluster economic performance. Some, but not all, of the major urban centers are attracting private investment and are major centers of job creation. Higher education anchors exist, but are not situated near major urban centers or major employment centers, which could limit their effectiveness in attracting investment. Concentration of private investment and employment in economic sectors that have below-average growth prospects may limit overall economic growth.
3	We expect the state to experience limited employment and private investment growth or possibly decline for a range of reasons including one or both of the following: reliance on sectors that are experiencing structural decline in both output and employment; and a tax structure that may represent a competitive disadvantage (measured by historic levels of private investment, high cost of doing business, population flows, and recent loss of key employers).
4	Growth prospects are not evident and there is little focus by the state on economic development initiatives.

E. Budgetary Performance

43. Budgetary performance is the fourth of the five major factors shown in chart 1 contributing to our assessment of the indicative credit level. While states prepare financial statements each year using generally accepted accounting principles (GAAP), which includes accruals, the budget development, appropriations, budget monitoring, and reserves, are expressed on a budgetary basis, which is more closely aligned with a cash basis presentation. Budget-based financial information is a primary focus of our financial review because it shows how state finances are managed day-to-day. However, we also analyze the GAAP audited financial statements and variations between GAAP and budget-based financial disclosure to gain a more complete understanding of a state's financial condition. We assess six key metrics in order to evaluate budgetary performance: budget reserves, liquidity, tax/revenue structure, revenue forecasting, service levels, and structural budget performance. These metrics are scored individually and averaged to develop an overall assessment of budgetary performance. Where there are multiple indicators for each metric, they are also scored (1 to 4) and averaged to develop the metric score.

1. Budget reserves

44. State revenues tend to be cyclical and in our view generally are sensitive to changing economic conditions. Looking at the history of revenue shortfalls for states, we believe that no budget reserve fund could be sized to completely address the potential for volatility in a severe recession or revenue downturn. However, all other factors being equal, we believe states with well-funded reserves have greater flexibility to address shortfalls should and when they occur.
45. Over the past two decades states have generally exhibited greater formalization of budget reserve policies. We believe that a clearly articulated policy and steady funding of reserves is important to allow states to manage through challenging economic cycles. In addition to the level of funding, our review (detailed in table 13) includes an analysis of how the size of the reserve compares to historic revenue and spending patterns and gaps and of the track record of funding the reserve, including any replenishment mechanisms. If there is a stated policy but there is no track record of

funding the reserve in positive economic periods, we will assess the reserve at the average level it is actually funded at historically. In addition to formal budget reserves, we review financial reserves and balances identified in funds outside of the state's main operating fund or general fund that may be available for budget purposes. If there are other available reserves identified by the state in addition to the formal budgetary reserve, we will consider these as part of the overall reserve capacity of the state if they are available for state operating purposes.

Table 13 - As described in paragraph 45

Budget-Based Reserves Relative To Revenue And Spending	
Score	
1	There is a formal budget-based reserve relative to revenue or spending that is above 8%. In addition, there is a formal process or a demonstrated track record of restoring the reserve following depletion.
2	There is a formal budget-based reserve relative to revenue or spending that is between 4% and 8%. In addition, there is a formal process or a demonstrated track record of restoring the reserve following depletion.
3	There is a formal budget-based reserve relative to revenue or spending that is between 1% and 4%. In addition, there is a formal process or a demonstrated track record of restoring the reserve following depletion.
4	There is no formal budget reserve fund, or reserves are funded at less than 1% over time, or there is no process for accumulating reserves. No additional reserve funds are identified or available.

Note: Refers to reserve policy levels and not actual funding level as we observe that reserves are often depleted through economic cycles.

2. Liquidity

46. Standard & Poor's believes that a state's liquidity position is an important component of its overall credit profile. We generally regard available cash as the strongest form of liquidity, but many states rely on external borrowing and disbursement adjustments in order to fund priority payments including debt service. While the ability to adjust disbursements provides short term flexibility, it could result in additional cost pressure or fiscal strain later in the fiscal year if disbursement delays are frequent and represent a significant portion of the total budget. When assessing liquidity for a state, we focus on the resources it is legally allowed to access to fund cash flow requirements. In analyzing liquidity, we consider four areas: a) cash monitoring capabilities, b) cash flow predictability, c) internal cash flow generation capacity, and d) external cash flow borrowing. We combine our view of these four areas to arrive at our liquidity score. Below is a description of each of these areas and how they are combined into the overall score.
47. **(a) Cash monitoring capabilities.** We analyze states' cash monitoring capabilities to determine whether they include daily monitoring of balances and well-developed forecasting tools that enable swift reaction to imbalances. We also consider the ability to adjust disbursements and collections.
48. **(b) Cash flow predictability.** We evaluate the fluctuation in receipts and disbursements during the year and determine mismatches and how these change from year to year.
49. **(c) Internal cash flow generation capacity.** States often have what we view as broad discretion to access liquidity from other than general funds. We examine whether all funds are immediately available--which provides a high degree of flexibility--or whether legislative or executive authority is required to shift resources from other funds to cover key operating fund requirements. We also factor into our review of liquidity the level of reserves available for cash flow purposes across state government.
50. **(d) External cash flow borrowing.** We review borrowing for operations and how that has fluctuated over time.
51. Table 14 details the characteristics that we would generally expect to see at different levels for our liquidity score resulting from the combination of the above factors. We expect that a single state would exhibit most but not all of the

characteristics listed.

Table 14 - As described in paragraphs 46-50

Liquidity	
Score	
1	Strong cash monitoring capabilities including regular cash flow forecasting; broad authority to access liquidity from pooled funds which allows for highly predictable cash management; receipts and disbursements are aligned; broad authority to adjust disbursements; little or no reliance on external borrowing and if necessary is conducted with ease.
2	Well-established cash monitoring capabilities and periodic cash flow forecasting. Access to pooled cash is available but may be limited to certain funds; receipts and disbursements may not be totally aligned during the fiscal year; well-defined contingencies are in place to augment internal resources; external borrowing is conducted with ease and stable over time relative to the size of the budget; ability to manage disbursements may be limited in some areas.
3	Cash monitoring is generally comprehensive but cash forecasting may be less established; access to internal liquidity is not sufficient to address timing or is restricted; recurring receipts and cash disbursements are not aligned and there may be variability that leads to external borrowing requiring regular adjustments through the course of the budget year, internal estimation of cash flow needs difficult to predict.
4	Cash monitoring is weak and cash forecasting is not done on a regular basis. Liquidity is weak and needs are volatile at times; state is meeting certain obligations only by deeply delaying payment on other obligations; ability to access pooled cash is limited; external borrowing is common and not predictable in terms of size and frequency; borrowing for cash flow is expanding relative to the size of the budget and may cross fiscal years.

3. Tax/revenue structure

52. Levying and collecting taxes has been a key tool for states in managing through a range of economic cycles. We believe that a state's tax structure, including the range of taxes, the ability and willingness to adjust them, and how they align with economic activity within its borders is an important credit factor. Our analysis of revenue structure considers the diversity of revenue sources (table 15) and the revenue adjustment history (table 16). In making these assessments we focus our analysis on the principal operating funds of the state.
53. *Diversity of revenue sources.* We evaluate the range of taxes levied and other revenues generated by each state and what the relative contributions are from each source. This includes a review of both the tax base and the rates to understand how they align with a state's economy and ultimately how they affect the volatility and predictability of revenues.

Table 15 - As described in paragraph 53

Revenue Diversity Score	
Score	
1	State has contributions from at least two major sources that generally contribute more than 15%-30% each.
2	State relies on one key revenue source, generally providing more than 65% to fund operations but revenue aligns with key economic strengths of the state.
3	State relies on one key revenue source for more than 65% of revenues; key revenue source does not align closely to economic fundamentals.
4	State relies on one revenue source to fund more than 90% of operations.

54. *Revenue adjustment history.* While we measure the legal framework for levying taxes and adjusting the tax rate and base as part of the government framework, we assess a state's practical ability and willingness to use these powers if needed as part of our assessment of the state's financial flexibility and performance.

Table 16 - As described in paragraph 54

Revenue Adjustment History	
Score	
1	Strong track record of revenue adjustments in our view; adjustments are timely.

Table 16 - As described in paragraph 54

Revenue Adjustment History (cont.)	
2	There is demonstrated track record of revenue adjustments in our view; response is generally less timely and may lag by a fiscal year.
3	Revenue adjustments are made periodically but they are not timely and may lag structural imbalance by more than a year.
4	Revenue adjustments are not implemented.

4. Revenue forecasting

55. State revenues tend to be volatile during economic downturns because they rely on personal income tax, sales tax, corporate income tax, and other economically sensitive sources. We have observed that these sources tend to react more swiftly to changing economic conditions. As a result, the revenue forecasting process is part of our review for each state. Specifically, we review what economic sources and assumptions provide the foundation for the forecast and how the economic assumptions and forecast compare to those of other states. We also evaluate the process in place to establish the forecast to determine if it is an independent process or a forecast negotiated by the executive and legislative branches. We analyze forecasts to determine whether they align with the current economic environment and historic performance.

Table 17 - As described in paragraph 55

Revenue Forecasting	
Score	
1	There is a formal independent revenue forecast that guides budget development and the forecast is reviewed several times during fiscal year.
2	There is a formal and detailed revenue forecast; may be done by executive and legislative branch separately with an attempt to align the forecast in advance of budget approval based on economic considerations.
3	The revenue forecast is detailed and comprehensive but the final outcome may be "negotiated" and there is some level of political influence over outcome.
4	There is no formal revenue forecasting process.

5. Service levels

56. The range and level of services provided by each state varies significantly. We believe that assessing expenditure composition and how this has changed over time is useful in assessing service levels and flexibility. Our analysis focuses on the legal requirements to provide services, the discretion available in providing services, and the predictability of the services provided, as detailed in table 18.
57. **Legal requirements to provide services.** We believe that the legal framework for funding various service responsibilities is important to the extent that it creates or constrains budget flexibility. Spending for Medicaid is an example of a federally mandated program that is costly and usually difficult to adjust. Certain states provide a high level of services under the program, while others provide less. These differences will affect overall budget flexibility. Other services may have a constitutional or statutory basis of funding. Funding for K-12 education is a constitutional obligation for nearly all states. A state defending a legal challenge to its funding system could face additional spending requirements, which could diminish flexibility.
58. **Discretionary vs. non-discretionary expenditures.** When evaluating the range of services provided we analyze which are non-discretionary (mandates, statutory, constitutionally required, or contractual) and difficult to reduce versus those that are discretionary.

59. **Predictability.** When evaluating state spending, we review how predictable the expenses are: do they fluctuate with the economic environment (social service programs are an example), are they regularly tied to other statutory actions (stringent prison sentencing laws translating to higher prison costs), or influenced by other policies or factors specific to a state (debt vs. pay-as-you-go policies or collective bargaining agreements).

Table 18 - As described in paragraphs 56-59

Service Levels	
Score	
1	Expenditures are predictable as measured by variance from budget expectations; high degree of flexibility to reduce services/expenditures in most program areas. This flexibility is measured in terms of the legal ability and our view of the political willingness to make adjustments.
2	Expenditures are generally predictable as measured by variance from budget expectations, but may experience cyclical trends; ability to cut services and expenditures is good in our view, but may not extend to all program areas from a practical or legal standpoint.
3	Expenditures tend to be cyclical and less predictable with variances relative to budget common in certain program areas; ability to cut services/ expenditures is adequate in our view but many program areas are excluded from a practical or legal standpoint.
4	Expenditures are very cyclical and unpredictable and variances relative to the budget are common for many program areas; the state has exhibited a persistent reluctance or inability in our view to reduce expenditures and service levels.

6. Structural budget performance

60. Table 19 details our assessment of structural budget performance. We consider a state's budget to be structurally balanced if recurring revenues equal or exceed recurring operating expenditures. We recognize that structural balance is difficult to maintain during economic downturns when revenue performance is weak and support expenses may increase, but we believe it is also difficult during periods of strong economic growth when excess revenue can lead to expansion of programs and services. Most state governments that do multi-year financial planning will almost always show out-year gaps regardless of the economic climate as scarce resources are balanced against virtually unlimited spending needs. Periods of imbalance are common for states but we believe that a track record of aligning recurring revenues and expenditures over time is an important element of fiscal performance.

Table 19 - As described in paragraph 60

Structural Budget Performance	
Score	
1	Surpluses are regularly recorded in periods of positive economic growth; surpluses are used to fund reserves and other non-recurring items. In periods of economic decline, focus on addressing budget imbalance includes structural solutions (generally more than 50% of the gap) rather than all one time measures.
2	Balanced operating results are typically achieved during periods of positive economic growth; commitment to reserves and non-recurring program areas is not formalized and may not be consistent; in periods of decline, focus on budget balance may be more reliant on non-recurring measures (more than 50% of the gap) to restore balance.
3	Balanced operating results may be achieved in positive economic periods but there is limited commitment to reserves and non-recurring program areas (surpluses largely fund higher recurring spending). In periods of economic and revenue decline, focus on budget balance may be more reliant on non-recurring measures (more than 75% of the gap) to restore balance.
4	There is limited focus on structural budget balance; deficits are regularly carried forward into future fiscal years and reserves are not funded in periods of positive economic growth.

F. Debt And Liability Profile

61. The debt and liability profile is the fifth of the five major factors in our assessment of the indicative credit level. In particular, we review debt service expenditures and how they are prioritized versus funding of other long-term

liabilities and operating costs for future tax streams and other revenue sources. We evaluate three key metrics which we score individually and weight equally: debt burden, pension liabilities, and other post employment benefits. For each metric there may be multiple indicators that we score separately and then average to develop the overall score for the metric.

1. Debt burden

62. Standard & Poor's debt ratio calculations for states aggregate all tax-supported debt, including GO bonds, appropriation obligations, and special-tax bonds such as sales, personal income, and gas tax bonds. In general, our tax-supported debt calculation do not include debt that is issued for true enterprises or is self-supported, such as toll revenue bonds if revenues are sufficient to cover debt service costs. (see "USPF Criteria: Debt Statement Analysis," published Aug. 22, 2006). Once we have determined a net direct tax supported debt figure, we calculate various ratios, as indicated in tables 20, 21, 22, 23, and 24.
63. We do not include grant anticipation revenue (GARVEE) bonds in state debt calculations if they are payable solely from dedicated federal revenues. We will also exclude bonds secured by tobacco settlement revenues from state debt calculations if they conform to our stress scenarios for rating such debt and are payable exclusively from settlement revenues. We exclude contingent obligations or moral obligation debt from the tax-supported debt calculation if there has been no state support required and we expect no need for support in the future see ("Moral Obligation Bonds," published June 27, 2006). There have not been a wide range of securitizations of assets or future revenues, but we will evaluate other structures to determine if they should be included as tax supported debt or a contingent liability. Similarly, as the use of public-private partnerships expands, we will evaluate the nature of a state's obligation under various long-term agreements to determine whether the obligation is considered part of a state's tax-supported debt burden or a contingent liability.
64. We examine a variety of ratios to measure debt burden. We score these individually and then average them to develop a score for debt burden. The indicators that we score include:
65. **Debt per capita (table 20).** Table 20 shows the scoring ranges for tax-supported debt per capita, based on the population that is served and pays for the debt.

Table 20 - As described in paragraph 65

Tax-Supported Debt Per Capita	
1	Below \$500 (Low)
2	\$500-\$2,000 (Moderate)
3	\$2,000-\$3,500 (Moderately high)
4	Above \$3,500 (High)

66. **Debt as a percentage of personal income (table 21).** We consider the ratio of debt to personal income to be relevant because we believe the capacity to pay is a critical factor in debt analysis.

Table 21 - As described in paragraph 66

Tax-Supported Debt/Personal Income	
1	Below 2% (Low)
2	2%-4% (Moderate)
3	4%-7% (Moderately high)

Table 21 - As described in paragraph 66

Tax-Supported Debt/Personal Income (cont.)	
4	Above 7% (High)

67. *Debt service as a percentage of expenditures (table 22)*. We believe the ratio of debt service to expenditures is an important indicator, as it indicates the level of inflexibility that debt places on the budget. The ratio of debt service to operating revenue and debt service to operating expenditures usually track closely, although distortions in the first ratio can occur if nonrecurring revenues are factored into state revenue bases.

Table 22 - As described in paragraph 67

Tax-Supported Debt Service As A % of General Government Spending	
1	Below 2% (Low)
2	2%-6% (Moderate)
3	6%-10% (Moderately high)
4	Above 10% (High)

68. *Debt to gross state product (table 23)*. We use the ratio of debt to gross state product widely for sovereign and non-U.S. public finance and we believe it should allow enhanced comparability for government ratings.

Table 23 - As described in paragraph 68

Tax-Supported Debt As A % Of Gross State Product	
1	Below 2% (Low)
2	2%-4% (Moderate)
3	4%-7% (Moderately high)
4	Above 7% (High)

69. *Debt amortization (table 24)*. Serial amortization is a common feature for government debt issuance in the U.S. We believe that debt service relative to the size of the budget is an important affordability measure but needs to be evaluated in the context of the overall debt amortization schedule. A low debt service carrying charge ratio could simply be a function of a very slow 30-year amortization, which we view differently from a 15-year schedule. We consider the benchmark of 50% of principal repaid in 10 years to be average. This indicator assumes serial debt amortization where rapid amortization can allow new debt to be issued without affecting debt burden measures.

Table 24 - As described in paragraph 69

Debt Amortization (10 year)	
1	80%-100% (Very Rapid)
2	60%-80% (Rapid)
3	40%-60% (Average)
4	Less than 40% (Slow)

2. Pension liabilities

70. We review state pension liabilities and trends related to funding progress. This analysis focuses on the principal state pension plans and includes changes in assets and liabilities, funded ratios, and unfunded actuarial accrued liabilities. Pension asset valuations can change, as can the actuarial liabilities. A state's commitment to funding the annual required contribution and how substantive and volatile these contributions are relative to the total budget are key credit considerations. We have historically not included pension liabilities in our calculation of tax supported debt ratios due to variation in how the liabilities are calculated. Specifically, under current accounting standards, there are a

broad range of actuarial methods and assumptions allowed by the Governmental Accounting Standards Board (GASB) for governments in the U.S. and interest earnings assumptions differ by state. However, we have consistently analyzed and reported pension liabilities for states relative to population and personal income to allow a comparative framework for evaluating these liabilities relative to state tax supported debt. Our assessment of pension liabilities includes the following four indicators which are averaged to develop an overall score:

- Pension funded ratio (table 25),
- Pension funding levels (table 26),
- Unfunded pension liabilities per capita (table 27), and
- Unfunded pension liabilities relative to personal income (table 28).

We typically derive this information from audit reports as well as actuarial reports.

Table 25 - As described in paragraph 70

Pension Funded Ratio	
Strong (1)	90% or above
Above average (2)	80%-90%
Below average (3)	60%-80%
Weak (4)	60% or below

Table 26 - As described in paragraph 70

Pension Funding Levels	
Strong (1)	Consistently funds annual required contributions (ARC).
Above average (2)	Funds ARC in most years but occasionally contributes less.
Below average (3)	Has not funded ARC for 3 years.
Weak (4)	Has not funded ARC for more than 3 years.

Table 27 - As described in paragraph 70

Unfunded State Pension Liabilities Per Capita	
Strong (1)	Below \$500
Above average (2)	\$501-\$2,000
Below average (3)	\$2,001-\$3,500
Weak (4)	Above \$3,500

Table 28 - As described in paragraph 70

Ratio Of State Pension Liabilities To Personal Income	
Strong (1)	Below 2%
Above average (2)	2.1%-4%
Below average (3)	4.1%-7%
Weak (4)	Above 7%

3. Other post employment benefits (OPEB) risk assessment

71. Our analysis of OPEB liabilities is similar to that of pensions, although our overall assessment is a combined one as detailed in table 29. The legal and practical flexibility that a state has to adjust these liabilities and the overall strategy to manage the cost of these benefits will affect future contribution rates and budgetary requirements. All states are now reporting OPEB liabilities pursuant to GASB Statement 45. Currently, OPEB expenditures are funded generally on a

pay-as-you-go basis. Under GASB Statement 45, liabilities attributable to OPEB and the annual required contribution for employers are actuarially determined and reported.

Table 29 - As described in paragraph 71

OPEB Risk Assessment	
Low (1)	Limited benefits provided or benefit consists of allowing some participation in the health plan (cost paid entirely by the retiree, implicit subsidy recorded), high level of discretion to change benefits, pay-go costs are not significantly different from the actuarial required contribution.
Moderate (2)	Moderate/average liability relative to other states, proactive management of the liability in our view, some flexibility to adjust benefit levels, contributions in excess of the annual pay-go amount have been made in order to accumulate assets to address the liability.
Elevated (3)	Above-average liability relative to other states, options to address the liability are being considered but plans are not well-developed in our view, there may be some flexibility to adjust benefits but changes have been limited.
High (4)	High liability relative to other states, high level of benefits that are viewed as inflexible based on statute/constitution/contract terms, a lack of management action to address the liability in our view which will lead to accelerating pay-go contributions.

APPENDIX

On May 11, 2010, Standard & Poor's published "Request for Comment: Methodology For U.S. State Ratings". We received several responses from market participants addressed to the criteria comments mailbox. The comments addressed a wide range of issues that extended beyond the questions asked in the RFC but in general there was a positive response to the enhanced transparency and greater clarity of the proposed criteria.

- On the first question regarding separating the GO criteria for U.S. states from the broader GO criteria, nearly all market participants agreed with this.
- On the second question, regarding whether the proposed rating factors and individual metrics focus on the key factors affecting state government, most market participants agreed that the information was useful in evaluating state creditworthiness. There was a range of opinions on the equal weighting of factors. There was also feedback that the security features of state debt and default history of the sector should be highlighted more significantly.
- On the third question regarding scoring each individual metric in order to establish an overall score for each factor and translating that score to an indicative credit level, there was some feedback that the scoring would allow for greater transparency. Other market participants expressed reservations about how the scores would be utilized.

There were other comments and observations on specific aspects of the methodology. We have analyzed each comment and have made some adjustments to the methodology. The main changes between the criteria presented in the Request For Comment and the final criteria as described in this article are the following:

- We have expanded the discussion of institutional framework (see "Standard & Poor's use of stress scenarios and calibration of state criteria") to highlight that the priority of payment, security features and the state sector's strong commitment to their legal obligation to pay debt are fundamental to our analysis of the state sector and contribute to its high credit profile.
- We have added additional clarity to the section "Overriding factors impacting state ratings."
- We have streamlined the metrics in the economic section and explained our approach to analyzing economic indicators for US states in a global context.
- We have adjusted the "reserve" section to better capture funding patterns as well as policy.
- We have changed the "future debt" metric as part of the Debt and Liability Profile score. We believe that forward looking measures are important to credit analysis and we will instead include this in the section "Overriding factors

impacting state ratings" (see paragraph 16).

- In the area of pension liabilities, we added two additional measures, state pension liabilities per capita and state pension liabilities relative to personal income, to our assessment of this factor. We eliminated the three year average when assessing the funded ratio since nearly all state pension plans are subject to smoothing currently which phases in gains and losses over a multi year period.

GLOSSARY

Accelerated payment provisions. This term refers to an investor's ability to require early repayment of principal that is not scheduled based on certain events, with repayment required on a compressed timeframe, generally less than 180 days.

Bank bond exposure. Refers to bonds purchased by a bank following a failed remarketing (outlined under the terms of a letter of credit reimbursement agreement or a standby bond purchase agreement). The bonds typically have a significantly higher interest rate and a significantly shorter maturity schedule than the original bond.

Balanced budget. Many states have balanced budget requirements that require them to pass a budget that provides sufficient revenues to fund all expenditures at the time of passage.

Budget reserves. Excess financial resources accumulated either formally or informally to address budget balance or other requirements of a government.

Independent revenue estimating process. A forecast developed by a group of subject matter experts which can include economists, business leaders and practitioners based on knowledge of current economic conditions and the existing tax structure.

Contingent obligations. Includes explicit or implicit obligations that a state may incur under certain circumstances and that could affect its financial position if the state absorbs these obligations and is fully responsible for them. Contingent obligations are generally not recorded in the state's balance sheet and often are not disclosed as off-balance sheet liabilities.

Debt service. Principal and interest payable during the fiscal year.

Deficit. The result achieved when operating revenues and recurring transfers in are less than operating expenditures and recurring transfers out.

GAAP. Generally accepted accounting principles are the common set of accounting principles, standards, and procedures that most governments utilize. For local and state governments, GAAP is determined by the Governmental Accounting Standards Board (GASB).

Gross state product (GSP). A measurement of the economic output of a state. It is the value added in production by the labor and property located in a state. GSP for a state is the sum of the gross product originating in all industries in a state. GSP is considered the state counterpart of the nation's gross domestic product (GDP), the U.S. Bureau of Economic Analysis' featured measure of U.S. output.

Moral obligation debt. Moral obligation debt represents a commitment by a state to seek future appropriations for payment of debt service or replenishment of a debt service reserve fund should it fall below its required level.

Other post employment benefits (OPEB). Includes retiree health care, along with dental, vision, disability, long-term care, and life insurance benefits.

Revenue forecast. The forecast developed by a state that underlies its budget. This would be the expected revenue based on assumptions reflecting the conditions a state expects to exist and adjustments (authorized/proposed) to the rates/fees or the base they are levied on.

Self-supported. Debt is considered self-supported if it is funded by an enterprise operation without any subsidy or support from the state government.

Structural budget balance. Results from matching recurring operating revenues to recurring expenditures. In measuring structural budget balance we do not include nonrecurring intergovernmental transfers, proceeds from the sale of assets, and non-recurring capital expenditures.

Tax-supported debt. When calculating tax-supported obligations, we include GO bonds, appropriation obligations, and special-tax bonds such as sales, personal income, and gas tax bonds. We typically include debt secured by revenues or assessments and charges levied state wide. In general, our tax-supported debt calculation will not include debt that is issued for true enterprise or self-sustaining purposes, such as toll revenue bonds if revenues are sufficient to cover debt service costs (see "USPF Criteria: Debt Statement Analysis," Aug. 22, 2006). We do not include grant anticipation revenue (GARVEE) bonds in state debt calculations if they are payable solely from dedicated federal revenues. We will also exclude bonds secured by tobacco settlement revenues from state debt calculations if they conform to our stress scenarios for rating such debt and are payable exclusively from settlement revenues.

Related Criteria And Research

- Principles Of Corporate And Government Ratings, June 26, 2007
- USPF Criteria: GO Debt, Oct. 12, 2006
- USPF Criteria: Appropriation-Backed Obligations, June 13, 2007
- USPF Criteria: Financial Management Assessment, June 27, 2006
- USPF Criteria: Debt Statement Analysis, Aug. 22, 2006
- Pension Funding And Policy Challenges Loom For U.S. States, July 8, 2010
- USPF Report Card: 2009 State Debt Review: Significant Challenges Lie Ahead, Dec. 16, 2009
- U.S. States' OPEB Liabilities And Funding Strategies Vary Widely , June 3, 2009
- Methodology For Rating International Local And Regional Governments, Sept. 20, 2010

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

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RatingsDirect®

Criteria | Governments | U.S. Public Finance: Tax-Secured Hospital Debt

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Tax-Secured Hospital Debt

(Editor's Note: This criteria article originally was published May 3, 2007. We're republishing this article to correct two errors in the description of the operating assessment ranges in the section entitled "Operating assessments and tax-secured debt". We also corrected the criteria reference in the last sentence of the article.)

1. The hospital sector is inherently more vulnerable to business risk than traditional GO credits and may experience rapid swings in fiscal health more often than a comparable school district or municipal issuer. Therefore, Standard & Poor's Ratings Services will increase the importance of operational risk when rating hospital districts by expanding its focus on the hospital's credit quality and the traditional tax-secured analysis.
2. Recent hospital district bankruptcy filings in California have highlighted the issue of operational risk. Pledged revenues may be interrupted due to bankruptcy protection, or diversion to operations. Unless pledged revenues can be legally segregated from the issuer, as in a true sale, Standard & Poor's does not consider it to be completely removed from these risks. This includes GO bonds with an unlimited ad valorem tax pledge approved by voters to pay debt service.
3. Additionally, Standard & Poor's does not view the segregation of pledged funds with a paying or fiscal agent to be protection from operational credit risk. Funds segregated for debt service payment and held by a fiscal or paying agent continues to be general funds of the issuer, even if legally pledged to debt service payment.

Rating Analysis

Internal operating assessment

4. In rating tax-secured hospital debt, Standard & Poor's will first consider the financial position and general credit-worthiness of the hospital facilities operated by the issuing district. The credit of the hospital in question will be evaluated based generally on established hospital criteria, taking into account factors such as business position, utilization trends, unrestricted liquidity, cash flow trends, magnitude of operating liabilities and debt, and others.
5. The focus of the assessment is the hospital's ability to meet all of its obligations. The inflow of tax revenues and outflow of tax supported debt service is factored into the analysis as these revenues usually flow through the hospital's audit. In many cases, small municipal hospital districts with tax-support are able to issue tax-secured debt in lieu of revenue debt. The ability to levy taxes to service debt provides significant benefits, by creating a revenue source that is not reliant of hospital performance, and by limiting the need to use operating revenue to service debt. Overall, the presence of tax support gives the district greater revenue flexibility and allows it to comfortably operate with less liquidity than a similarly sized private hospital. However, even district hospitals need a sufficient liquidity cushion to enable it to handle unexpected problems.

Operating assessment and tax-secured debt

6. For hospital districts with an assessment of medium investment-grade or higher ('a-' or higher), the tax-secured rating criteria will weigh more heavily, and the rating could be comparable to debt issued by an overlapping municipal issuer with the same tax pledge.

7. 'High speculative-grade' or 'low investment-grade' assessments for a hospital would generally lower the rating for tax-secured hospital debt to a level below a rating that might be achieved by other types of municipal entities with the same tax base, though a district could achieve a low investment-grade rating or higher. Hospitals with a 'high speculative-grade' assessment will not generally achieve a rating above 'BBB+.'
8. To achieve an investment grade rating for tax-secured debt, a hospital district must be assessed to be of 'high speculative grade' credit quality or better ('bb-' or higher), regardless of the strength of the underlying tax base.
9. These criteria guidelines create a 'credit cliff' in the event that the assessment is 'b+' or lower. At that point, GO hospital debt that had been rated investment-grade would generally move immediately to a rating that reflects the hospital credit, which would be 'B+' or lower.

Tax base

10. After evaluating the credit quality of the hospital operations, Standard & Poor's will assess the strength of the supporting tax base using the relevant criteria for the revenue source and blend that analysis with the assessment as described. The tax-secured debt analysis will be based on the applicable tax-secured debt criteria, such as "GO Debt", published Oct. 12, 2006, and "Special Tax Bonds", published June 13, 2007.

Related Criteria And Research

Related Criteria

- USPF Criteria: GO Debt, Oct. 12, 2006
- USPF Criteria: Special Tax Bonds, June 13, 2007

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Criteria | Governments | U.S. Public Finance: Methodology And Assumptions: Rating Unlimited Property Tax Basic Infrastructure Districts

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Methodology And Assumptions: Rating Unlimited Property Tax Basic Infrastructure Districts

(Editor's Note: We originally published this criteria article on March 17, 2009. We're republishing this article following our periodic review completed on October 21, 2014.)

Criteria Update

This article focuses on rating criteria for special districts whose primary purpose is utility service or infrastructure provision, such as Texas municipal utility districts (MUDs) or Colorado metropolitan districts. These districts are usually created at the request of real estate developers seeking to benefit from tax-exempt financing of infrastructure improvements to serve future development. All of these districts have the ability to levy an ad valorem property tax with an unlimited rate and issue tax-secured bonds.

Standard & Poor's Ratings Services rates these districts according to the criteria principles discussed in "Principles Of Corporate And Government Ratings," published June 26, 2007, on RatingsDirect. This article presents additional details on our rating methodology and assumptions. Our fundamental methodology and assumptions for rating these districts have not substantially changed. However, our updated criteria emphasize the following factors:

- A district's relative level of development; and
- A district's financial stability, as evidenced by the maintenance of strong financial reserves over several years.

We expect that as a result of our updated criteria, many of the rated unlimited property tax districts providing basic infrastructure will migrate up the rating scale, many of them possibly into the 'A' category, and several possibly into the 'AA' category.

Unlimited Tax Basic Infrastructure Districts

Standard & Poor's currently maintains unenhanced long-term ratings on roughly 270 Texas special-purpose water districts and about 30 metropolitan districts in Colorado. In Texas, the term "water district" encompasses many different types of districts, such as MUDs, water control and improvement districts (WCIDs), fresh water supply districts (FSWDs), and levy improvement districts (LIDs), among others. In Colorado, metropolitan districts may be created for several purposes, but most are primarily responsible for water, sanitation, street, and public safety improvements.

Historically, relative to municipal governments, factors such as size, lack of a dedicated management team, and what we consider very high debt burdens have in our view weighed heavily in our debt ratings on the majority of these districts. We believe the absence of a dedicated full-time management team and the reliance on an elected board of directors have presented concerns and will remain a factor in assigning a rating. However, the limited responsibilities

of these districts, coupled with the districts' operating track record (as evidenced by their financial position and approach to debt issuance), are factors that we believe may offset some limiting credit characteristics related to the lack of formal management policies. Also, compared to municipal governments, these districts, by their very nature, have historically exhibited very high debt service carrying charges, direct and overlapping debt burdens, and property tax rates. The pressure these ratios place on the tax base will remain one of our prominent rating considerations; however, in our view, other stabilizing factors may offset many of these concerns.

Convergence Of Ratings Is Likely

We believe that as a district reaches an advanced level of development, it exhibits an increasing number of credit characteristics commonly found in other municipal governments. As a result, we anticipate a growing convergence between our ratings on highly developed water districts and our ratings on municipal governments with similar credit characteristics (for more information, see “Public Finance Criteria: GO Debt,” published Oct. 12, 2006, on RatingsDirect). As with other rated smaller or rural governments, we are reducing our emphasis on size as a limiting rating factor, although the limited depth of the economic base will remain one of our credit considerations (for more information, see the article, “Does Bigger Always Mean Better? Sizing Up The Impact Of Size On Municipal Ratings,” published April 22, 2008, on RatingsDirect).

Conversely, largely undeveloped districts exhibit, in our opinion, a significantly higher degree of exposure to real estate volatility despite their ability to levy an ad-valorem tax with an unlimited rate. While we believe that state regulations and oversight have mitigated the degree of real estate speculation that led to several district failures in the late 1980s and early 1990s, our methodology and assumptions attempt to incorporate the real estate volatility and taxpayer concentration risk associated with undeveloped districts. We believe that largely undeveloped districts share many of the credit characteristics observed in special purpose districts such as tax increment districts and special assessment districts (for more information see the article, “Public Finance Criteria: Special-Purpose Districts,” published June 14, 2007, on RatingsDirect).

Rating Methodology

Standard & Poor's assigns credit ratings to unlimited property tax basic infrastructure districts based on the qualitative and quantitative analysis of a range of financial and economic factors. While the majority of these districts issue general obligation (GO) tax-secured debt, there are factors that distinguish our rating methodology for them from that of municipal governments, including our view of their development process, management practices, and limited service responsibilities (for more information, see “Public Finance Criteria: GO Debt,” published Oct. 12, 2006, on RatingsDirect).

Our quantitative analysis of these districts incorporates a number of measures of financial and economic performance. Our analysis is also qualitative as we take into account several management factors. Many of these districts do not maintain full-time administrative staff to oversee their day-to-day operations. Decisions regarding the rate and direction of development, debt issuance, and overall financial practices are often determined by an elected board of

directors. We believe that, in some instances, the absence of a dedicated administrative staff may present concerns regarding the district's ability to detect deteriorating financial trends early on and apply timely corrective measures. However, the governing board's approach to the pace and direction of development, debt issuance related to developer reimbursements, and the maintenance of financial reserves, represent in our view important qualitative factors for the assessment of medium-term financial trends. As such, our overall analytical framework for unlimited property tax basic infrastructure districts includes an analysis of the following factors:

- Economic indicators, including status of development;
- Financial position and property tax rate;
- Direct and overall net debt levels; and
- State regulation and oversight.

Economic Indicators

Overall health of the local economy

As is the case for all rated governments, economic indicators are an important part of our analysis for unlimited property tax basic infrastructure districts. However, the proximity of these districts to major metropolitan areas, limits, in our opinion, the specific relevance of some broader economic indicators considered in other municipalities, such as median household income or unemployment rates. The overall economic health of the general area where the district is located remains in our view a significant factor insofar as it has an impact on real estate development. In our opinion, credit risks related to taxpayer concentration are often present due to the relatively small tax base and geographic area. A largely commercial tax base or a district in its early development stages, where a single developer has title to a majority of the land, frequently has a higher degree of taxpayer concentration. Similarly, we believe that a high concentration of multifamily residential development can also present a credit concern.

Other district-specific economic factors that we consider in our analysis that we believe provide a relative measure of wealth include: average and median home values, and assessed valuation (AV) per acre. In addition, our criteria reflect consideration of factors that we believe may affect the competitive position of the district, such as:

- Its location relative to employment centers within the metropolitan area;
- The school district serving the development; and
- Number of homes, overall density of the development, and the extent to which the presence of amenities typically available in a master-planned community offer a more deliberate development plan.

Status of development

Under our revised criteria, a district's relative level of development remains a key distinguishing credit factor. Standard & Poor's analyzes the relative level of development both in terms of the percent of land with basic infrastructure (utilities, streets, etc), and the percent of total acreage that has been built upon (see table 1). We believe that a district's status of development serves as a good predictor of its future bonding capacity and capital needs, as well as an indicator of management's overall approach to development of the district.

In our opinion, it would be difficult for a district to achieve an investment-grade rating in its early stages of development due to a very high debt burden and a highly concentrated tax base, with land generally held by only a

handful of developers. In many of these cases, we believe the district's economic viability is unproven and subject to certain factors, including housing market competitiveness and the local school district's reputation. Local politics can also affect development, in our opinion; the initial bond authorization -- sometimes by a single voter living in a nonpermanent residence in the district -- often exceeds the identified capital plan.

One of the common characteristics of an investment-grade district is a relatively high percent of land development, which, based on our experience, we define as 50% or more of land improved with basic infrastructure. We have observed that once the district matures and demonstrates success with its planned development timetable, it will increasingly share many of the credit characteristics of rated municipal governments. Property tax rates may eventually decrease, and the debt burden, while initially rising due to bond issuance to finance development, tends to moderate as development occurs. The stability that we consider necessary to sustain the district then becomes apparent.

Since many of these districts are created within the extraterritorial jurisdiction of a nearby city, the annexation of the district could occur. We have observed that cities typically annex these districts once they achieve a comparable tax rate and a mature status of development. In cases of annexed utility districts where the annexing entity assumes the district's debt, Standard & Poor's will adjust the rating on the district's debt outstanding to the annexing city's rating. Because in many cases annexing cities have zoning power within their extraterritorial jurisdictions, candidates for annexation usually consist of fully developed utility districts with significantly moderated debt and a basic infrastructure that already meets or exceeds city standards.

A select number of districts are classified as 'in-city' districts. These districts are located within a city's limits, but levy a separate tax rate solely within the district. Usually, the infrastructure improvements have been ceded to the city, which is responsible for maintenance. Often, the district is a recipient of a property tax rebate from the city. In some cases, the city has a certain level of control over the district regarding debt issuance. In our view, this layer of oversight and the reduced operational responsibility may serve as a credit strength for these types of districts.

Table 1

Issue Credit Characteristics Of Unlimited Property Tax Basic Infrastructure Districts	
Rating category	
AA	This is typically a fully developed district with a substantial tax base and strong transportation access to a major metropolitan region, supported by a stable history of property tax base growth and tax collections. It will have a moderate, albeit declining, debt level and tax rate. The operating history and reserves are strong. All infrastructure needs have been addressed, with minimal, if any, additional debt plans. These districts are often part of a multidistrict community.
A	This is a mostly developed district, usually located within a master-planned community that will eventually provide all necessary water and wastewater services. Its financial history and reserves are sound. While debt levels and additional debt needs may be high, management opens new sections in a deliberate fashion and promptly makes developer reimbursements. It could also be a largely developed district, with a sound record of good property tax collections. Management will devote any additional debt issuances to fund plant upgrades, and infrastructure replacement. The tax rate and debt levels are moderate, and the tax base does not exhibit a significant level of concentration.
BBB	This is typically a developing district with significant capital expenses ahead, perhaps including overlapping drainage districts. Debt levels and tax rates are high, but the district has maintained a strong financial position. Or, it is a largely commercial district, concentrated in a few taxpayers. While operating performance and debt levels might be good, it faces significant competition within the region. Even a moderate district tax rate could put it at a disadvantage.
BB or below	This is typically a district in the early stages of development with large capital expenses ahead. Debt levels and tax rates are very high and are likely to remain high in the next 10 years, based on anticipated growth patterns and future issuance of debt. Its financial history is limited. The tax base and, therefore, electorate remain concentrated in a few leading taxpayers.

Financial Position And Property Tax Rate

Given their relatively small operating budgets and limited powers and responsibilities, a district's general fund balances as a percent of operating expenditures are usually higher than those of most municipal governments. We have observed that a large number of mature districts exhibit ending general fund balance ratios approaching 100% of operating expenses, and many have balances well in excess of a year's operations.

As table 2 shows, our analytical characterization of what constitutes a strong general fund balance for a district differs from that of rated municipal governments. While these districts have more limited service responsibilities than a municipality, the relative small size of their budgets and the rapidly changing nature of their tax bases in our view present a set of challenges not faced by most governments. We believe the maintenance of higher reserves, effectively serving as tax stabilization funds, provides these districts with a significant source of flexibility to manage their development. We have observed that typically these districts have very limited service responsibilities, with few or no full-time administrative staff and a well-defined set of operating expenditures.

Consequently, a district's options to address budgetary and capital pressures are primarily raising taxes or the use of accumulated reserves, in our opinion. In our experience, given the competitive nature of the sector, where housing affordability is an important consideration in the pace of development, district officials often strive to maintain tax rate stability. In our view, the maintenance of high general fund reserve levels, often approaching or exceeding 100% of operating expenditures, provides districts with an important tax rate management tool as well as flexibility to manage the pace and direction of development.

Many of these districts also maintain a separate debt service fund. We have observed that in many cases, the debt service fund also has a high balance compared to next year's required debt service payment. Districts are not required to maintain a debt service fund balance, nor are such excess revenues usually pledged to the bondholder. Such reserves, however, are generally limited to early debt retirement or defeasance, debt service tax rate mitigation, or capital outlays in lieu of debt financings.

Due to the competitive natures of residential property developments, property tax rates are another important credit rating factor, in our opinion. In some cases, district taxpayers might also pay a city tax rate due to taxing agreements between the municipality and district, as well as overlapping special district taxes from other districts. Like other municipal governments, districts typically have a dual-tax structure with separate rates for operating and maintenance and debt service. If the combined tax rate is high compared with rates of other surrounding developments, prospective residential buyers or commercial tenants could opt to locate in another district.

In many instances, districts subsidize the operating costs of their water and sewer systems with property tax collections. In some cases, accumulated operating reserves also serve as a water and sewer rate stabilization fund, allowing management to utilize accumulated property tax reserves to supplement a district's water and sewer replacement costs.

Direct And Overall Net Debt Levels

Overall debt to market value is another key ratio in our methodology for rating unlimited property tax basic infrastructure districts. Given these districts' developing nature and their relatively small tax base, debt to market value ratios are typically higher than other GO bond issuers' ratios (see table 2). For investment-grade utility district ratings, the ratios range from less than 2% to more than 20% of market value. While investment-grade districts with higher debt to market value ratios are typically experiencing rapid development, in our view, they also have other strengths that sufficiently offset their elevated debt ratios. As property values rise, overall debt ratios tend to decline. Exceptions can include mature districts with aging infrastructure that have substantial replacement or rehabilitation capital needs.

If tax-secured bonds are paid from an enterprise fund, Standard & Poor's will give credit to partial self-support, and will factor that level of support into the overall debt burden. For example, if an issuer's GO-backed water and sewer debt service coverage was below 1x, but managed to be 0.7x for the last three fiscal years, then Standard & Poor's would give self-support to 70% of the GO water and sewer debt. If the coverage tends to change yearly for instance, from 0.7x in fiscal 2003 to 0.5x in fiscal 2004, and to 0.6x in fiscal 2005, Standard & Poor's will use the lowest percentage of the last three years. In this case, Standard & Poor's would assume that 50% of the GO-backed revenue bonds is self-supporting. Partial self-support does not apply to revenue bonds because they would be in covenant default. Standard & Poor's analyzes the system to make sure that system revenues are able to cover both revenue and GO-backed revenue debt. According to our criteria, coverage from the enterprise fund revenues must provide at least 1x support for the last three fiscal years to be considered fully self-supporting and to be factored out of the direct debt of the district (for more information, see the article, "Public Finance Criteria: Debt Statement Analysis," published Aug. 22, 2006, on RatingsDirect).

State Regulation And Oversight

How Texas does it

State regulation and oversight is a factor that can provide overall sector stability. As part of our criteria, Standard & Poor's analyzes the extent to which state regulations and oversight offer systemic stability by providing a framework for a deliberate development and issuance of debt. We believe that Texas offers a good example on how state regulations and oversight can provide a framework that fosters systemic stability.

In Texas, the creation of a water district begins with authorization from the Texas Commission on Environmental Quality (TCEQ), as well as the city and county with extraterritorial jurisdiction over the area in which the proposed district is to be located. Other types of water districts within Texas are created either by general law or special law. General law districts may also be created by the county commissioners' court or by the TCEQ. Special law districts can be authorized only by an act of the state legislature. Our rating approach for all of these districts is the same.

Water districts first proliferated in Texas during the 1970s and 1980s in the rapidly growing suburbs of Houston, Austin, and Dallas. Inactive districts are those that are financially dormant, defined as having less than \$500 in either revenues or disbursements and no bonds outstanding. Historically, the issuance of GO debt by water districts assumed

future growth in the tax base to support high debt service costs. Developer contributions to the financed projects were optional. As property values fell dramatically during the real estate and banking crash of the late 1980s, many district property owners and developers found themselves with negative property equity and, thus, increased property taxes to service the debt. As a result, a great deal of property was foreclosed and sold at distressed prices. A total of 26 water districts have defaulted since 1980; however, none has defaulted since 2000.

The Texas legislature enacted reform legislation in 1989 in response to these financial and credit problems. We believe that the resulting oversight provided for a more deliberate development process and ultimately a framework that provides overall sector stability. In our opinion, state regulation also provides a strong incentive for developers to manage the rate and direction of growth, including the pace of bond issuance. TCEQ must approve all applications before bond issuance. This includes TCEQ tax rate impact analyses for the planned bonds and a zero-growth scenario, as well as full disclosure of those analyses.

The Texas Water Code mandates that, in general, developers are responsible for 30% of district construction costs. In our view, this can be a very significant equity contribution, especially given that most developers are shouldering the entire start-up costs. For a developer to fully recoup eligible costs, including that last 30% of upfront capital investment, the district must:

- Have a direct debt burden of 10% of certified taxable AV or lower, including the planned bond issuance; or
- Have at least a 'BBB-' underlying rating; or
- Qualify for bond insurance from a 'AA' rated or higher insurer; or
- Enter into a strategic partnership agreement or some other interlocal agreement that will provide additional or alternate revenues to support district development.

Strategic partnership agreement

A strategic partnership agreement between a municipality and a district, authorized in 2001 by the state legislature, allows for a type of limited annexation by the municipality. In return for a promise not to formally annex the district for the term of the agreement, the city can capture the utility district's commercial property to levy a 1% sales tax. The district receives a 0.5% rebate of those revenues, after administrative and other costs, in what is, in essence, a windfall income. In our opinion, this source of alternative income is especially important for older, established districts that might have significant rehabilitation and replacement needs in the coming years and may choose to limit the amount of financing.

As is the case with Texas water districts, our criteria reflects consideration of the extent to which existing regulation and oversight provide overall sector stability in other states where Standard & Poor's maintains ratings on unlimited property tax basic infrastructure districts.

Table 2

Analytical Characterization Of Ratios For Unlimited Property Tax Basic Infrastructure Districts	
Economic	
Taxpayer concentration	
Very diverse	Less than 15%
Diverse	15%-25%

Table 2

Analytical Characterization Of Ratios For Unlimited Property Tax Basic Infrastructure Districts (cont.)	
Moderately concentrated	25%-40%
Concentrated	Greater than 40%
Status of Development -- Percent of infrastructure in place	
Early	Less than 50%
Growing	50%-80%
Mature	Greater than 80%
Status of Development -- Percent of acreage built upon	
Early	Less than 50%
Growing	50%-80%
Mature	Greater than 80%
AV per acre -- Total AV compared to the district's size	
Low	Less than \$200,000
Moderate	\$200,000-\$400,000
High	Greater than \$400,000
Financial	
Ending general fund balance as % of expenditures	
Low	Less than 30%
Adequate	30%-60%
Good	60%-80%
Strong	80-100%
Very strong	Greater than 100%
Ending debt service fund balance as a % of maximum future years' debt service	
Low	Less than 30%
Adequate	30%-60%
Good	60%-80%
Strong	80-100%
Very strong	Greater than 100%
District direct property tax rate (per \$100 of AV)	
Very low	Less than 60 cents
Low	60 cents to 80 cents
Moderate	80 cents to \$1
High	Greater than \$1
Debt	
Total property tax rate (per \$100 of AV), including the district and any and all overlapping taxing entities	
Very low	less than \$2.75
Low	\$2.75 - \$3.25
Moderate	\$3.25 - \$3.50
High	Greater than \$3.50

Table 2

Analytical Characterization Of Ratios For Unlimited Property Tax Basic Infrastructure Districts (cont.)

Debt to market value -- Overall net debt, including overlapping debt, as a % of district AV

Low	Less than 3%
Moderate	3%-6%
Moderately high	6%-10%
High	Greater than 10%

AV--assessed valuation

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Utilities

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Criteria | Governments | U.S. Public Finance: Applying Key Rating Factors To U.S. Cooperative Utilities

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Applying Key Rating Factors To U.S. Cooperative Utilities

(Editor's Note: This criteria article originally was published Nov. 21, 2007. We're republishing this article following our periodic review completed on Dec. 4, 2014.)

Qualitative and quantitative rating factors have translated into solid credit ratings for cooperative utilities. Yet, the positive attributes and structural protections that are common to many of these utilities are not prevalent in all utilities in the sector. Moreover, because bondholder and lender protections are closely linked to the revenue stream's capacity to cover amortizing debt service, modest erosion of financial protections can impair credit ratings of cooperatives exhibiting narrow financial margins.

The Role Of Cooperative Utilities

Energy providers in these major groups meet U.S. electric needs:

- Cooperative utilities;
- Public power utilities that include federal projects that produce and sell wholesale power, and state agencies and municipal utilities engaged in wholesale and/or retail operations;
- Vertically integrated investor-owned utilities that produce and distribute electricity; and
- Investor-owned distribution companies that convey electricity procured from or distributed on behalf of competitive energy suppliers;

Investor-owned utilities serve nearly three-quarters of America's electric needs. Public power utilities and cooperative utilities serve the balance, with public power utilities exhibiting a modest lead over cooperatives in annual energy sales.

Generation and transmission (G&T) cooperative utilities are not-for-profit corporations that generate or procure bulk power for sale to cooperative electric distribution utilities under wholesale power supply contracts. G&T utilities are owned by their distribution cooperative members. Distribution cooperatives are owned by their retail customers.

Electric distribution cooperatives were formed in the 1930s and beyond to build the infrastructure needed to meet the electric needs of sparsely populated rural America. The New Deal's Rural Electrification Administration (REA) was an important vehicle in forming distribution cooperatives, and its low-cost, long-term loans removed barriers to financing utility investments in rural areas. REA is now the U.S. Department of Agriculture's Rural Utilities Service (RUS), which still makes low cost loans to rural utilities.

In the decades since their creation, portions of some cooperatives' rural service territories have evolved into prosperous suburbs of major metropolitan areas. Nevertheless, electric cooperative utilities mostly serve far-flung, sparsely populated areas that exhibit income levels below national averages. G&T cooperatives were created by distribution cooperatives that banded together to achieve economies of scale in constructing generation and

transmission assets to meet customers' needs.

Business Risk As A Credit Quality Determinant

Evaluating all utilities' financial performance begins with assessing business risk exposure. Greater business risk requires stronger financial metrics to achieve a given rating. The factors underlying our business risk assessments are similar for all utilities, whether cooperative, public power or investor-owned. In each case, the review focuses on a common set of qualitative elements representing six areas of inquiry:

- The regulatory environment in which the utility operates, including the resulting financial and ratemaking flexibility available to the utility;
- The markets served by the utility;
- The management team's strengths and the risks presented by management's business strategies;
- The utility's operational profile;
- The utility's competitive posture; and
- A review of legal documents that define the strength of bondholder or lender protections.

The emphasis on each factor may vary for different utilities. The components of the business risk profile are scored on a 10-point scale and a weighted average is calculated to measure business risk compared to that of other utilities. The strongest score on the scale is 1, and the weakest is 10. The elements of the business risk profile are discussed below.

The credit ratings that we assigned to cooperative utilities are founded on the qualitative attributes, financial performance and the structural protections commonly found among this group of utilities.

Self-Regulation Can Bolster Credit Quality

Most G&T cooperatives set their own wholesale electric rates without oversight from state or federal regulators. G&T cooperatives that borrow from RUS are exempt from FERC jurisdiction. While RUS borrowers must file rate schedules with RUS, oversight is limited to ensuring that rates are sufficient to recover costs, including repayment of RUS debt.

The latitude most cooperatives possess to set their own rates in response to changing costs is a key driver of credit quality. Autonomous ratemaking authority sets these utilities apart from rate-regulated utilities and enables cooperative utilities to respond quickly to changing circumstances and preserve sound financial margins without exposure to the regulatory delays or disallowances that can negatively influence the financial performance of regulated utilities.

Credit quality cannot benefit if the latitude to exercise autonomous ratemaking authority does not translate into meaningful financial flexibility that can be deployed as costs increase. For credit quality to benefit, management and governing boards must demonstrate a willingness to overcome political obstacles to rate increases.

The presence of power and fuel cost pass-through adjustment mechanisms can address credit uncertainties associated with either regulatory oversight or questions of political will. Yet, to support credit quality, these tools should have well-defined triggers that can provide timely realignment of revenues and expenses as costs rise.

There is strong evidence that rate regulation can erode credit quality for cooperative utilities. That is not to say that all regulation is inconsistent with sound credit quality. Some regulators have demonstrated a commitment to sound credit quality. However, there are also instances where the financial performance of regulated cooperatives degraded after a regulator barred the utility from recovering investments in generation or other assets or precluded the full recovery of operating costs as they were incurred. In the most severe cases, regulatory impediments to cost recovery resulted in insolvency proceedings. Therefore, where cooperatives are subject to rate regulation, we examine whether the regulator is supportive of full and timely cost recovery and deferential to covenants protecting lenders.

Even where G&T utilities possess the financial flexibility of an absence of regulation, we must further examine whether their distribution members are subject to rate regulation. G&T cooperatives' credit quality depends on the quality of the cash flowing up from member cooperatives. A G&T can recover rising costs only if member systems can follow suit and adjust their retail rates. Therefore, we explore whether member distribution cooperatives have the ability to respond to changing costs embedded in revised G&T rates and are able to adjust retail rates in lockstep with the G&T.

Utility Markets Are Important To Credit Quality

The markets served by a utility determine the integrity and stability of the revenue stream. A diverse market with a sound economy usually bodes well for credit quality. As noted, G&T credit ratings depend on the quality of revenues derived from member distribution cooperatives. We assess members' contributions by examining their legal obligations to fund G&T debt service and operating expenses as well as the financial wherewithal to support those obligations. Consequently, a lot of emphasis is placed on the long-term, wholesale, power supply contracts between G&T cooperatives and their member distribution systems. Optimally, wholesale power supply contracts extend throughout the life of G&T debt to provide predictable debt service recovery. Shorter contracts remove predictability and could leave a G&T exposed to competitive wholesale power markets. An absence of captive customers presents questions as to whether electric commodity can be sold to fund the recovery of capital investments and the price at which it might be sold.

Wholesale power contracts typically require the G&T to reallocate financial obligations of a defaulting member among non-defaulting members through intra-year rebudgeting that translates into an unlimited step-up. For G&Ts with few member distribution cooperatives, the capacity of each distribution cooperative to meet obligations is an important determinant of credit quality. However, most G&T cooperatives have large pools of distribution cooperative members.

The combination of large pools of member distribution cooperatives and unlimited financial step-up obligations imposed on non-defaulting members of G&T cooperative utilities allows us to examine the credit quality of G&T cooperatives as a system without tying the rating to the credit quality of a member representing a weak link. We view the risk of multiple simultaneous defaults among a diverse pool of distribution cooperatives as slim. Even for large pools of distributions cooperatives, it is important to understand the composition of the customer base supporting the revenue stream. One component is members' financial performance, which is ascertained through audited financial statements and financial reports filed with RUS. Another element is the retail customers' economic capacity to service G&T obligations. We examine service area wealth and income indicators using our proprietary economic databases. These databases help predict volatility or stability of revenues by identifying economic means and service territory

demographic trends. We also look at the composition of the retail customer base. We expect cooperatives with concentrations of residential customers to provide more revenue stream stability than cooperatives with industrial customer concentrations since industrial customers' operations could be susceptible to changing economic conditions.

Concerns that industrial customers might be attractive targets for cherry picking by competitive energy providers have been tempered by the reduced interest in establishing competitive retail electric markets. In addition, the sparsely populated cooperative service territories are not particularly attractive to competitive retail energy providers since a high percentage of the cost of serving cooperative retail load is embedded in stringing distribution lines over vast distances. High distribution costs erode the benefits of reduced commodity prices. Thin customer density is borne out by low meter per line-mile ratios.

Management's Key Role

G&T cooperatives are governed by boards of directors comprised of distribution cooperative representatives, including elected distribution cooperative board members and chief executives responsible for distribution cooperatives' operations.

Board members' policies and strategic philosophies are important financial performance and credit quality determinants. Ratemaking tools that can yield strong, stable cash flows may be in conflict with an interest to give customers the lowest possible cost of service. Management's reconciliation of this dichotomy influences our analysis.

A willingness to place capital at risk to diversify into competitive, non-electric businesses can erode positive credit attributes typically associated with the stability and predictability of a revenue stream derived from a captive customer base tethered to a G&T by wholesale power contracts.

Cohesiveness among board members is crucial to the successful adoption and implementation of strategic plans that are supportive of credit quality. Cohesiveness does not mean unanimity on all issues. Yet, fractious boards can become hamstrung and unable to respond to changing circumstances to protect credit quality. Divisiveness is sometimes a product of federal tax code provisions governing the allocation of cooperative voting rights. To preserve their tax-exempt status, G&T cooperatives must grant each distribution member an equal vote, irrespective of relative contributions to the G&T revenue stream.

Members with different load profiles or growth rates have varying resource needs and priorities. Slow growth members could wield voting rights to frustrate a growing member's bid to add resources whose costs must be borne by all members under postage stamp rates that spread costs proportionally over all members. Alternatively, members with different load profiles may advance rate structures that allocate demand and energy charges that best suit their retail customers. In some extreme cases, those advancing a particular strategy have cast negative votes on business matters before the board in a bid to coerce an outcome on unrelated matters. Credit quality can suffer if the board becomes deadlocked on a wide range of matters that frustrate important financial or strategic objectives.

Analyzing Operations To Identify Business Risks

Our analysis of a cooperative's operational profile identifies business risks associated with the cooperative's owned generation and transmissions assets or supply arrangements with third parties. Our operational profile analysis considers these major factors:

- Performance of owned and contracted plant;
- Diversity within the supply portfolio;
- Market exposure;
- Hedging policies and risk-management strategies; and
- Capital needs and third-party resource-procurement processes.

Performance of owned capacity is assessed with reference to the level and stability of production costs, capacity factors, and availability factors. We similarly analyze power purchase agreements. The metrics are compared with industry norms.

Utilities can benefit from power purchase agreements that shift operating risk to the supplier through targeted heat rates, availability factors and capacity factors as conditions for payment. Contracts with a large supplier for system energy can provide asset diversity that a small utility might not otherwise be able to achieve were it to build generation to meet customers' needs. There are also risks inherent in power purchase agreements. The G&T, as offtaker, may be exposed to the supplier's ability to perform and the agreement might place demands on the cooperative's liquidity in the form of collateral posting requirements.

We view power purchase agreements' capacity payments as fixed obligations that are substitutes for debt financing. It is as though the offtaker has contracted with a third party to issue debt on its behalf. Because capacity payments fund a supplier's recovery of capital invested in generation assets, we treat capacity payments as fixed charges and calculate a fixed-charge coverage, as discussed more fully in the section on financial analysis that follows.

It is important to understand how a G&T manages its exposures to fuel and electricity price volatility as well as additional operational issues such as transportation bottlenecks that may impede the flow of these commodities. We review hedging and risk-management policies and evaluate in-house and outsourced expertise available to a cooperative to tackle these issues. Several cooperatives have outsourced risk management functions. A lack of management understanding of risk management issues can present credit concerns. We place value on management teams that can identify limitations of in-house capabilities and recognize the financial and practical barriers to handling the risk management function internally. Just as distribution cooperatives banded together to achieve economies of scale in developing generation and transmission assets, G&T cooperatives, and even some distribution cooperatives, are banding together to invest in the physical and intellectual capital necessary to interact with the wholesale electric and fuel marketplaces.

Whether owned or contracted, high concentration levels in a single generation asset or fuel can create operational and financial exposures for lenders and creditors. Concentration can erode financial performance if lengthy unplanned generation outages or sharp fuel price increases occur.

Many G&Ts exhibit asset and fuel concentration. Most G&T's are highly dependent on coal and a number are highly dependent on natural gas. Concentration in these fuels can have operational and financial implications. Gas is subject to price volatility. Reliance on coal assets has taken on new significance because costs may rise as regulation of carbon and other emissions progresses.

We evaluate the increasing resistance to and scrutiny of coal plants and the resulting operational and financial implications for existing and proposed coal-fired units. The high probability of stricter emissions mandates dictates that we consider uncertain costs of carbon controls and renewable directives. As we examine the burdens of emissions controls, we explore the following issues:

- How large is a utility's carbon footprint?
- How does the utility plan to respond to carbon constraints from an operational and a financial perspective?
- What would be the cost of addressing carbon emissions through emissions controls, fuel switching, energy efficiency programs, or conservation?

In cases where utilities plan to dodge coal's difficulties by migrating to natural gas, we need to understand whether management has a strategy for responding to spikes that may occur in natural gas prices as demand increases. In some regions, questions may also arise about the sufficiency of natural gas supply and transportation as demand rises. Natural gas will not fully shield utilities from carbon emission mandates because it is not carbon-free. Its carbon footprint is about half of coal's. We also consider how utilities that are subject to renewable mandates will address reliability issues associated with generation resources that can't be dispatched to follow load.

Distribution cooperatives engaged in a "wires" business face fewer direct operational challenges than do G&T utilities. Nevertheless, distribution cooperatives' dependence on a G&T translates into an exposure to the supplier's operational and financial issues.

Competitive Business Pursuits Can Be Risky

Despite the absence of a profit motive, some G&T and distribution cooperatives have pursued competitive businesses. Pursuits beyond the core business of providing customers with attractively priced, reliable electricity have had varying degrees of success. Affiliate or subsidiary companies are often created for conducting these businesses. Some cooperatives have electric marketing arms whose proceeds subsidize member rates. Some sell surplus power in wholesale markets while others purchase power for resale to take advantage of regional price differentials.

The financial risks related to these activities include exposure to potentially volatile wholesale markets. Unless commitments to supply electricity can be suspended, they can present financial and operational challenges if internal or third party power supply is disrupted or native load responsibilities increase due to spikes in customer demand. Moreover, such arrangements can present contingent liquidity requirements, such as exposure to collateral calls. Of greater concern are cooperatives that pursue competitive businesses requiring skills beyond management's day-to-day expertise. These ventures include businesses tangential to electric supply as well as speculative businesses that are unrelated to the metered customer.

As noted, the wholesale power contract serves as a vehicle for recovering funds invested in a cooperative's electric

operations. By comparison, investments in competitive businesses lack the protections captive customers provide. If meaningful capital is placed at risk through investments in competitive businesses, a cooperative will need to demonstrate a robust financial cushion capable of absorbing the financial impact of a degraded investment if the outstanding rating assigned prior to the investment is to be preserved. Electric utility subsidization of competitive businesses during start-up or to offset operating losses can negatively influence a credit rating.

In evaluating the credit implications of competitive businesses, we analyze standalone and consolidated financial statements of the cooperative and its ancillary businesses to determine:

- The size of competitive operations relative to the core electric business;
- Expansion plans for the competitive business;
- The amount of debt attributable to the competitive business;
- The electric business' commitments to support affiliate or subsidiary operations, either through explicit guarantees or board policies to infuse equity and liquidity;
- Historical profitability and projected performance of the competitive business; and
- The level of competition facing the product or service provided.

Examining Rate Competitiveness

The specter of pervasive competition for retail loads anticipated in the 1990s and early 2000s has not materialized. More recently, some states have moved to once again regulate investor-owned utilities and eliminate new opportunities for customer choice. Although the threat that retail competition might have presented to a utility's revenue stream has abated, competitiveness of rates remains an important component of our analysis.

Even in the absence of direct access to competitive suppliers, customers need to be satisfied that their retail rates are reasonable. Today's customers are more mindful of how their rates compare to those of other utilities.

Competitiveness, like the affordability of rates we examine as part of our analysis of markets served by a utility, is an important indicator of ratemaking flexibility and the attendant financial flexibility to respond to changing circumstances.

As not-for-profit membership organizations, cooperatives employ cost-based rates that cover operating costs and debt service, fund a portion of capital costs, and provide a small measure of financial cushion to meet lender and/or creditor requirements or expectations. Profits are not built into the equation. Even so, retail cooperative rates can be high because of the increased costs of distributing electricity in sparsely populated service territories. Resulting high distribution rates, combined with generally limited income levels, can erode financial flexibility.

Lender And Creditor Legal Protections

The wholesale power contract bond

Wholesale power supply contracts bind distribution cooperatives to G&Ts and contribute to a secure revenue stream. The contracts' legal protections benefit cooperative utilities' lenders and trade creditors by enhancing prospects for the recovery of investments in these utilities and the receipt of trade receivables.

Wholesale power contracts are take-and-pay requirements contracts. They dictate that all electricity needed by distribution cooperatives must be procured through the G&T. They also provide for intra-year G&T budget adjustments in the event of shortfalls whether due to rising costs or defaulted member obligations. The rebudgeting tool imposes an unlimited step-up requirement on members to keep the G&T whole. Consequently, a G&T can count on its member distribution cooperatives to support its debt and trade obligations.

Wholesale power contracts extending through the life of outstanding debt obligations provide a secure revenue stream from dedicated energy off-takers. It is common for G&T cooperatives to ask members to extend contracts as the G&T embarks on large capital projects with useful lives and debt extending beyond the outstanding contracts' expiration. In many cases, members have extended contracts without any qualms. However, in recent years some members have used the contract extension request as leverage to advance a particular agenda or strategy. Such tactics can frustrate the ability of cooperatives to carry out strategic objectives or achieve financial targets, which could negatively influence credit quality.

The combination of the breadth of the cooperative service territories, as reflected in the large average number of member distribution cooperatives in each G&T, the sizable retail customer bases and the unlimited step-up obligations imposed on non-defaulting members of a G&T, allows us to examine a G&T's credit quality as a system without tying the rating to the credit quality of a member that represents a weak link. We view the risk of multiple simultaneous defaults among a diverse pool of distribution cooperatives as slim. This approach parallels the analytical methodology for the evaluation of municipal joint action agencies.

There are limited exceptions to the all-requirements paradigm. Members of a handful of G&T cooperatives can procure prescribed portions of their energy needs outside the cooperative structure. All energy needs beyond the permitted exception must be procured from the G&T, ensuring that it has a vehicle for recovering fixed and variable costs.

Indenture covenants provide limited cash flow protection

Cooperative utilities largely rely on RUS and two cooperative lending institutions, CoBank and National Rural Utilities Cooperative Finance Corporation (CFC), to finance capital needs. Mortgage indentures executed between utilities and RUS govern RUS, CFC and CoBank financings. The RUS indentures' principal measures of financial performance are "margins-for-interest" (MFI) and "times-interest-earned" (TIER) ratios. Neither test requires that rates cover total annual amortizing debt service requirements. Only a limited number of indentures contain debt service coverage requirements. In some cases, mortgage indentures require that MFI and TIER targets only be satisfied in two of three years. Because the TIER and MFI ratios do not adequately represent a utility's financial capacity to cover amortizing principal and interest payments and do not paint a full picture of financial capacity or protections, we employ a debt service coverage analysis irrespective of whether a utility is legally bound to meet an all-in debt-service coverage test.

We look to the income statement and the statement of cash flows to ascertain the strength of the financial cushion available to shield lenders and creditors from changing circumstances. The MFI and TIER tests and most indenture-based debt service coverage tests are calculated solely with reference to the income statement. Cash flows analysis sheds light on elements of financial performance that may not be apparent from the income statement since revenue and expense deferrals are common among cooperative utilities, and the marking of power supply

arrangements to market can have income statement implications.

Historically, RUS borrowers' mortgages proscribed parity borrowing unless approved through a lien accommodation. In recent years, RUS permitted a number of cooperatives to restate indentures to allow parity borrowing without a lien accommodation. However, certain financial thresholds must be met. Permitted parity lenders include CFC, CoBank and capital markets. Prerequisite financial benchmarks for parity borrowing are not uniform among the revised indentures, so we review each indenture's unique provisions. RUS is working to establish a master indenture to provide consistency as cooperatives restate their indentures in the future.

RUS' new indentures are corporate-style in many respects and do not provide high levels of lender protection. While a few contain debt service coverage tests, most focus exclusively on net revenues coverage of debt interest, as did predecessor indentures. The indentures also govern permitted additional indebtedness. Like corporate indentures, additional debt is generally allowed if elements of "bondable additions" tests are met. Such tests are not based on the strength of net revenues or cash flows to support additional debt service. Rather, they focus on maintaining a baseline equity investment. Additional debt may be issued so long as a positive equity ratio is preserved. For most cooperatives, a weak 10% equity investment is targeted in keeping with the leverage commonly exhibited by cooperatives. This threshold is low as compared to corporate utility indentures that require higher equity contributions when debt-financing asset additions.

A handful of cooperative utilities have elected to forego RUS borrowing, despite the low interest rates. These cooperatives rely on capital markets to achieve greater flexibility in their financing activities. The RUS loan approval process can be protracted and can impose financial and operational limitations on a utility. In addition, there are questions as to whether RUS funds will be available to finance baseload generation capacity in coming years. Cooperative utilities' capital market financings use corporate-style indentures with liberal provisions that are similar to the modern RUS indentures and are analyzed accordingly.

Financial Analysis

Lender and creditor protections derived from financial performance are evaluated through debt service coverage ratios, liquidity, leverage analysis and external financing needs. Financial analysis of cooperative utilities closely tracks our municipal utilities' and public power joint-action agencies' rating methodology. Like public power utilities, G&T cooperatives' highly leveraged capital structures reflect an inability to access capital markets to fund a perpetual equity cushion. Low, but sound debt service coverage ratios reflect the use of amortizing debt and an absence of profit-related revenues. Cooperative utilities with high leverage and sufficient debt service coverage ratios can achieve sound credit ratings upon a demonstration of strong qualitative attributes.

Debt service coverage ratios

Cash available from current operating revenues to pay debt service is the principal focus. We use the income statement to calculate net revenues available for debt service. (See Table 1) Non-cash accruals are eliminated from revenues and expenses. We also look to cash flow statements to identify deferrals of revenues and expenses, mismatches between depreciation expenses and amortizing principal that might erode cash available to service debt, and the income statement effects of marking power supply arrangements to market. Even deferrals of revenues can

present issues because ultimate income statement revenue recognition may lack corresponding cash available to service debt during the period of accrued income recognition.

Table 1

Key Cash Flow Metrics
Debt Service Coverage (DSC): Net revenues available for debt service divided by scheduled cash principal and interest payments. Net revenues are defined as operating revenues plus investment income less operating expenses net of depreciation and amortization items.
Cash from operations divided by scheduled cash principal and interest payments. Funds from operations divided by scheduled cash principal and interest payments. Funds from operations are defined as net income from continuing operations plus depreciation, amortization, deferred income taxes, and other non-cash items.
Fixed Charge Coverage (FCC): Similar to debt service coverage, but adds to both the numerator and denominator an adjustment for fixed charges attributable to leases and power purchase agreements' capacity payments.
Internal Funding Ratio: Net cash flow (FFO less dividends such as repatriation of cooperative patronage capital), divided by capital expenditures.
Free Cash Flow: Net cash flow less capital expenditures.

Amortizing debt and high leverage lead to narrow cash flow coverage of debt service. Yet, in the cooperative sector, debt service coverage in the range of 1.1x can support investment grade ratings because of protections provided by a secure, captive revenue stream, ratemaking flexibility, and a generally narrow strategic focus. We do not publish medians aligning the preceding ratios with specific ratings for cooperative utilities because our ratings are an amalgamation of qualitative and quantitative factors.

Our analysis is both a historical and forward looking analysis. We examine the strength and consistency of historical financial performance and evaluate prospects for future financial performance. Actual performance is benchmarked against the utility's prior projections of future performance to identify deviations and understand their rationale. In examining financial projections, we evaluate the reasonableness of key assumptions and apply stress tests to determine cash flow impacts of changes in fuel prices, capital costs and demand. We also consider the level of retail rate adjustments that may be needed to meet financial covenants and preserve metrics upon increases in debt or operating expenses.

In calculating debt-service coverage, consideration is given to some fixed obligations that are not reflected on the balance sheet, particularly those related to power purchase agreements' capacity payments and long-term lease payments. We view power supply agreements as creating fixed, debt-like, financial obligations that represent substitutes for direct, debt-financed investments in generation capacity. In a sense, a utility that has entered into a power purchase agreement has contracted with a supplier to make the financial investment on its behalf. A "fixed charge coverage ratio" is used to assess the adequacy of cash flows to service the fixed financial obligations. (See table 2).

Table 2

Fixed-Charge Ratio Calculation
Cash flow available for debt service or income statement net revenues available for debt service + fixed obligations recorded as operating expenses.
Divided by:
Principal repayment + interest expense + fixed obligations recorded as operating expenses.

Fixed obligations' adjustments to financial metrics are a tool for comparing utilities that finance and build generation capacity with those that purchase capacity and incur off balance sheet obligations to satisfy customer needs. That said,

utilities could benefit from contracting for supply because these agreements typically shift various risks to suppliers, such as construction risk and operating risks. Power purchase agreements can also provide utilities with asset diversity that might not have been achievable through self-build.

Evaluating debt service coverage ratios for the limited group of cooperatives that rely heavily on non-amortizing debt with bullet maturities requires a hybrid analysis that incorporates elements derived from the rating methodology for both public power and investor-owned utilities. In such cases, non-amortizing debt creates considerably stronger annual debt service coverage than would be expected of a utility whose debt amortizes like a mortgage and the coverage must be discounted unless bullet maturities are staggered to create level debt service. Refinancing risk and capital market access are also factored into the analysis of utilities that use non-amortizing debt.

Evaluating debt leverage

Cooperatives' capital structures vary according to the type of service they offer. G&T cooperatives are heavily leveraged reflecting the capital-intensive nature of their business and their indentures' permissive debt leverage covenants. By comparison, less-capital intensive distribution cooperatives exhibit more favorable leverage ratios. Yet, because the distribution cooperatives have authorized and committed to pay G&T debt issued on their behalf, we analyze distribution cooperatives by evaluating fixed charge coverage ratios that measure the capacity of the distribution cooperatives to service direct debt and G&T debt. We measure the financial burdens created by leverage in the several ways. (See Table 3).

Table 3

Financial Burden Calculation
Debt to total capitalization (This debt leverage ratio divides total on-balance sheet debt by the sum of equity and total debt).
Debt to net plant: Calculates total debt as a percentage of depreciated net plant, property and equipment.
Debt per kW of installed capacity, kW of peak demand, and customer meters: These debt measures provide a basis for comparing utility systems to assess the value derived from and the efficiency of their capital expenditures.
Net variable debt to total debt: Measures the degree of floating interest rate exposure in a cooperative's debt structure, adjusting for floating rate debt that is hedged. Includes short-term debt, adjusted for seasonal balances.

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Criteria | Governments | U.S. Public Finance:

U.S. Public Finance Waterworks, Sanitary Sewer, And Drainage Utility Systems: Rating Methodology And Assumptions

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U.S. Public Finance Waterworks, Sanitary Sewer, And Drainage Utility Systems: Rating Methodology And Assumptions

1. Standard & Poor's Ratings Services is updating its methodology for assigning issue credit ratings, issuer credit ratings (ICRs), and ratings derived from stand-alone credit profiles (SACPs), based on waterworks, sanitary sewer, and drainage utility revenue pledges of local and regional governments (LRGs) and irrigation districts in the U.S. This follows the publication of "Request for Comment: U.S. Public Finance Waterworks, Sanitary Sewer, And Drainage Utility Systems: Methodology And Assumptions", on Dec. 10, 2014. These criteria supersede the following articles:
 - Standard & Poor's Revises Criteria For Rating Water, Sewer, And Drainage Utility Revenue Bonds (Sept. 15, 2008);
 - Key Water And Sewer Utility Credit Ratio Ranges (Sept. 15, 2008); and
 - Water And Sewer Ratings (June 25, 2007).
2. This article is related to our criteria article "Principles Of Credit Ratings", published on Feb. 16, 2011.
3. This update provides additional transparency and comparability to help market participants better understand our approach in assigning ratings to U.S. public finance waterworks, sanitary sewer, and drainage utility systems, to enhance the forward-looking nature of these ratings, and to enhance the global comparability of our ratings through a clear, comprehensive, and globally consistent criteria framework.
4. All terms followed by an asterisk (*) are defined in the glossary in Appendix I. "Sewer", "sanitary sewer", and "wastewater" are assumed to be interchangeable terms. Similarly, "drainage", "stormwater", and "storm sewer" are also deemed to be interchangeable terms.

I. SCOPE OF THE CRITERIA

5. The criteria apply to all issue credit ratings, ICRs, and SACPs assigned to waterworks, sanitary sewer, and drainage utility systems of a U.S. municipality or comparable political subdivision, including irrigation districts, whose financial obligations are secured by a pledge of revenues. We have observed that these utilities primarily rely on user charges for the ongoing operations of drinking and/or raw-water sales, sanitary sewer collection and/or treatment, and/or storm drainage systems, or some combination thereof, directly to the end (retail) customer. The public or municipal enterprises within the scope of this criteria include, generally, those with the following characteristics:
 - The entity is a political subdivision or a wholly-owned department of a political subdivision, even if there is a concession agreement with a private operator;
 - The entity has a public policy-making role, mission, or mandate to deliver an essential service deemed necessary for public health, and is not a commercial entity such as an investor-owned utility or a corporation (whether a bankruptcy-remote or single-purpose entity or not);
 - The entity primarily relies upon user charges and has ongoing cash from operations, and has at most minimal or

immaterial contractual payments or appropriations from a related political subdivision such as the general fund of the LRG; and

- The entity is not registered as a commercial enterprise or public corporation and does not pay dividends (other than to its affiliated general government), establish ownership shares, or access the equity markets.
6. While not an exhaustive list, examples of debt rated under these criteria are utility revenue bonds issued by a city, utility board, retail raw-water service providers such as irrigation districts, or regional authority that provides primarily retail water and sewer service. Examples of entities that are not rated under these criteria include investor-owned utilities, master limited partnerships, and limited liability corporations. Investor-owned utilities and corporations, are rated using "Corporate Methodology", published Nov. 19, 2013, and "Key Credit Factors For The Regulated Utilities Industry", published Nov. 19, 2013. Master limited partnerships are rated based on "Methodology: Master Limited Partnerships And General Partnerships", published Sept. 22, 2014. If we believe that the contributions from the LRG or related taxing entity could significantly change the utility's financial condition, it would also fall outside the scope of these criteria.
 7. Entities whose revenues are derived entirely from sales for resale to other entities, such as traditional wholesale providers or joint action agencies, will continue to be evaluated based on the "Wholesale Utilities" criteria, published May 24, 2005. An LRG often also owns and/or operates other enterprises such as electric systems, gas distribution utilities, solid waste systems, or other utility services. While many of the themes addressed below also apply in part to those other enterprises, Standard & Poor's addresses rating criteria and methodology specifically and separately for those enterprises.
 8. Many LRGs issue general obligation (GO) or other tax-secured debt* on behalf of the utility or the utility has the legal authority to issue it itself; in those cases, the applicable GO or special tax rating criteria and methodology will continue to be applicable. When more than one type of revenue secures the debt, we apply our criteria, "Methodology: Rating Approach To Obligations With Multiple Revenue Streams", published Nov. 29, 2011, to determine the rating approach.
 9. U.S. municipal utilities generally operate as either a department of an LRG or are themselves an LRG. We generally do not believe that the utilities benefit from an explicit or implicit level of extraordinary support from the U.S. federal government or state government in which the utility operates in case of distress. Therefore, very few of them are deemed a government-related entity (GRE). For those few rated utilities that are deemed to be a GRE, these criteria are used to determine the SACP, which is used as an input to the GRE criteria (see "Rating Government-Related Entities: Methodology And Assumptions", published March 25, 2015) to arrive at an ICR.
 10. We consider the strength of lease revenue or certificates of participation issued by utilities to be equivalent to a pledge of the same lien of revenues. There is, therefore, generally no rating distinction on these securities, reflecting the enterprise nature of public utilities. If a utility were to issue appropriation-secured debt that did not meet the above assumptions, we would apply our criteria "Appropriation-Backed Obligations", published June 13, 2007.
 11. Legal provisions, in our view, covenant the utilities to act--or not take action--in a manner that provides at least some minimal protections for the benefit of bondholders. As discussed further in paragraphs 112 and 113, we view legal provisions as generally being either credit-neutral or credit-negative. However, the complete absence of any document such as an indenture or bond resolution, or silence by existing related documents toward establishing an orderly flow

of funds, a lien on pledged revenues securing the bonds, a rate covenant, and an additional bonds test would likely preclude assigning an issue credit rating based solely on these criteria. Other criteria, however, such as, for example, general obligation bonds or multiple revenue streams, might instead apply.

II. SUMMARY OF THE CRITERIA

12. These criteria use the same framework as our criteria for other municipal enterprise sectors. Specifically, these criteria assign ratings using a framework that considers enterprise risk (enterprise risk profile) and financial risk (financial risk profile). Chart 1 depicts how the enterprise and financial risk profile assessments interact to arrive at the initial indicative rating. The indicative rating is established after applying any appropriate positive or negative overriding factors. The final outcome--which could be an issue credit rating, SACP, or ICR--is reached after making any appropriate peer adjustments. The final rating may be capped based on the presence or absence of certain conditions or characteristics. If more than one cap is applicable, the final rating would be no higher than the lowest cap.
13. If a utility meets the guidelines outlined in "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings" published on Oct. 1, 2012, then the rating will be assigned based on that criteria.
14. To increase the transparency in the rating methodology and improve the comparability of our ratings globally, the revised methodology is intended to:
 - Provide further detail on how we assess and calibrate each of the identified rating factors;
 - Offer a more detailed explanation of how we arrive at a utility rating through the analysis of the rating factors; and
 - Identify overriding factors that may result in a rating different from the initial indicative rating identified below.
15. The enterprise risk profile and financial risk profile will be measured through an evaluation of the following factors, with the respective weights in parentheses. The enterprise and financial risk profile assessments are rounded weighted averages of these factors.

Enterprise Risk Profile

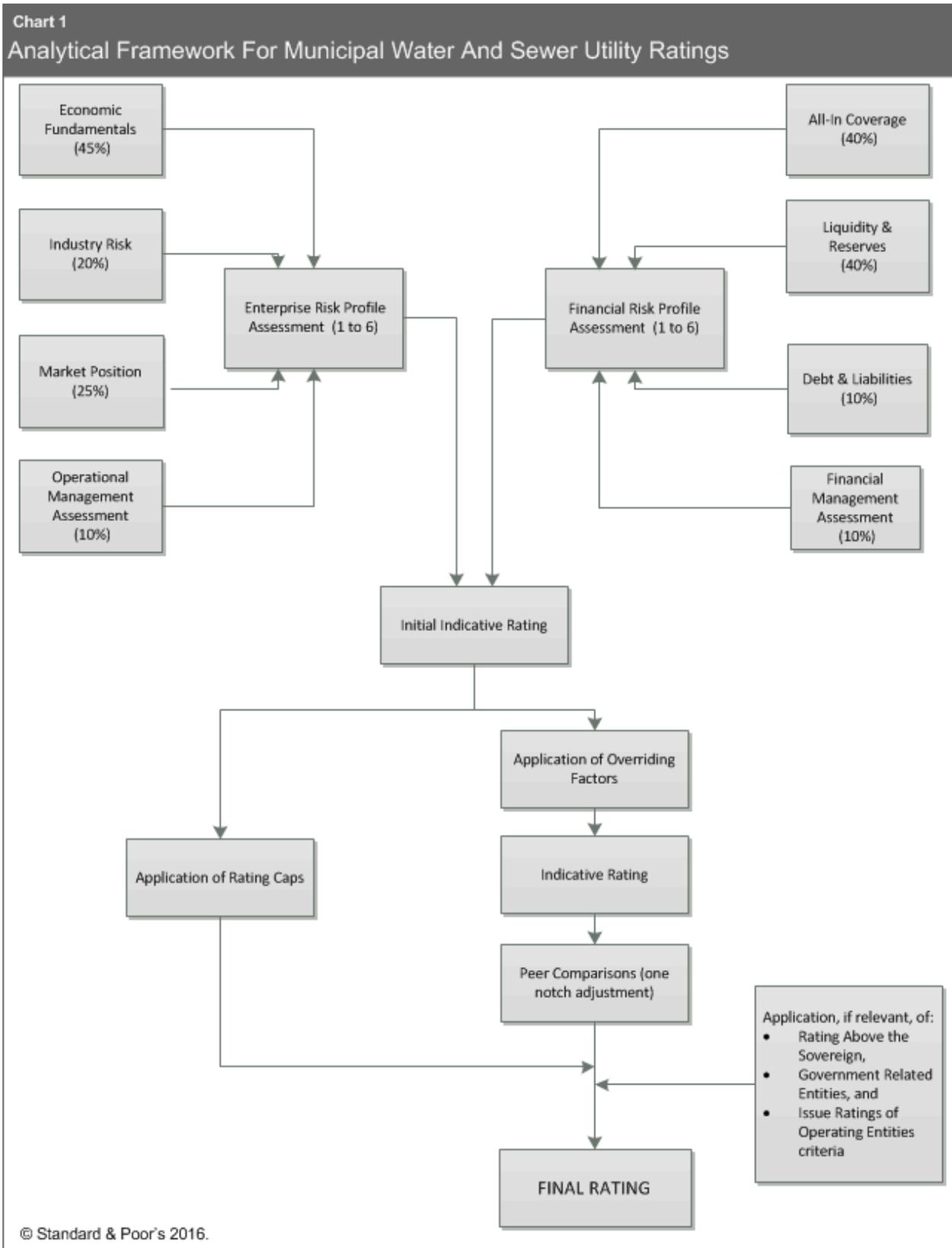
- Economic fundamentals (45% of the enterprise risk profile assessment);
- Industry risk (20%);
- Market position (25%); and
- Operational management assessment (10%).

Financial Risk Profile

- All-in coverage (40% of the financial risk profile assessment);
- Liquidity and reserves (40%);
- Debt and liabilities (10%); and
- Financial management assessment (10%).

16. The initial assessment of each of the above factors may be strengthened or weakened by certain qualitative factors, as applicable, and as discussed in more detail beginning in paragraph 46, in order to arrive at the final assessment.
17. The initial indicative rating results from the combination of the enterprise and financial profile assessments in table 1.

18. In certain cases, the initial indicative rating in table 1 contains two options for a given combination of enterprise and financial risk profile assessments. In those cases, we would use our expectations of the utility's future performance to determine which of the two initial indicative ratings to use.
19. The indicative and the final rating could both be capped by the presence or absence of certain conditions, regardless of the rating outcome suggested by table 1. Rating caps are absolute, meaning that the positive relative adjustments described herein, including peer adjustments discussed in paragraph 21, do not apply and the indicative and the final rating cannot exceed the cap. These rating caps are summarized in table 2.
20. The indicative rating could differ from the outcome suggested by table 1 based on certain overriding factors that result in the indicative rating moving a specified number of notches above or below the initial indicative rating. These overriding factors are summarized in table 3.
21. The indicative rating could be raised or lowered by one notch to arrive at the final rating due to comparisons with similarly rated peers. Peer adjustments can be used to capture a more holistic view of creditworthiness. The holistic analysis includes rare or strongly positive or negative characteristics which the criteria do not separately identify. These criteria define peers as other municipal utilities. Peers may include other utilities with similar ratings, size, operational commonalities, geographic location, or financial profile characteristics. Based on our assessment, location may be defined as geographically contiguous or an area in another part of the country with similar economic and market fundamentals. Peer adjustments could also be made based on comparisons with sector-wide data, including ratio analyses. Peer groups may change through time as operating conditions or organization-specific features evolve.
22. The final rating may be constrained by the sovereign rating on the U.S., in accordance with "Ratings Above The Sovereign: Corporate And Government Ratings—Methodology And Assumptions", published on Nov. 19, 2013, as further explained in "Credit FAQ: U.S. Public Finance Ratings And Criteria For Ratings Above The Sovereign", published on Dec. 19, 2013.
23. We deem very few of the utilities rated by these criteria to be GREs. In rare cases where we deem a utility to be a GRE, we use these criteria to determine the stand-alone credit profile. The final rating is based upon our application of "General Criteria: Rating Government-Related Entities: Methodology And Assumptions" published March 25, 2015.
24. Issue credit ratings, including subordinate-lien debt, will be determined based on our view of the ICR and the legal/covenant package, as more fully described in "Assigning Issue Credit Ratings of Operating Entities", published May 20, 2015. Further guidance regarding our view of debt security and covenants is in paragraphs 112 and 113.



III. IMPACT ON OUTSTANDING RATINGS

25. Standard & Poor's maintains issue credit ratings or issuer credit ratings on revenue-secured debt for almost 1,600 municipal utilities included in the scope of these criteria. We estimate that about 25% of the total ratings will change as a result of the application of these criteria; about half of which would be raised and the other half lowered, most often by one notch.

IV. EFFECTIVE DATE AND TRANSITION

26. These criteria are effective immediately and apply to all new and outstanding ratings within the scope. We intend to complete our review of issuers affected within the next 12 months.

V. METHODOLOGY

A. Overall Framework For Rating Municipal Utilities

27. These criteria are used to assign credit ratings to utilities based on quantitative and qualitative analysis of a range of economic, financial, operational, management, and debt factors. The analytical framework is articulated around two major components: the Enterprise Risk Profile and Financial Risk Profile. The enterprise and financial risk profile assessments are determined by combining (see chart 1) and then rounding to the whole number the weighted average of the individual factors (as outlined in paragraph 15). The initial indicative rating results from the combination of the enterprise and financial risk assessments as shown in table 1.

Table 1

Determining The Initial Indicative Rating						
Enterprise Risk Profile	Financial Risk Profile					
	1	2	3	4	5	6
	Extremely Strong	Very Strong	Strong	Adequate	Vulnerable	Highly Vulnerable
1 Extremely Strong	aaa	aa+	aa-	a	bbb+/bbb	bb+/bb
2 Very Strong	aa+	aa/aa-	a+	a-	bbb/bbb-	bb/bb-
3 Strong	aa-	a+	a	bbb+/bbb	bbb-/bb+	bb-
4 Adequate	a	a/a-	a-/bbb+	bbb/bbb-	bb	b+
5 Vulnerable	bbb+	bbb/bbb-	bbb-/bb+	bb	bb-	b
6 Highly Vulnerable	bbb-	bb	bb-	b+	b	b-

1. The initial indicative rating results from the interaction between the enterprise and financial risk profile assessments. Potential adjustments to the initial indicative rating are noted in Table 2. The final rating could be one notch higher or one notch lower than the indicative rating based on peer comparisons. 2. For ratings below 'B-' see "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings", published Oct. 1, 2012, as well as "Methodology: Timeliness of Payments: Grace Periods, Guarantees, and Use of 'D' and 'SD' Ratings", published Oct. 24, 2013. 3. In certain cases, the initial indicative rating in table 1 contains two options for a given combination of enterprise and financial risk profile assessments. In those cases, we would use our expected view of the utility's future performance to determine which of the two initial indicative ratings to use.

28. The enterprise and financial risk profiles described in paragraph 15 may contain sub-factors. Each factor and sub-factor are assessed on numerical scale, with '1' being the strongest outcome.

29. If the quantitative metric evaluating a particular factor falls at or near a cut-off point, we may assign the stronger assessment if trends are improving or we believe future metrics or attributes will improve, or the worse assessment if trends are weakening or we believe future metrics or attributes will deteriorate.
30. The initial, or anchor assessment for each factor may be adjusted based on qualitative factors for each characteristic or condition that may be present or lacking. Tables 6, 17, 19, and 21 describe some of the most common qualitative factors that could adjust each of the respective initial assessments. The maximum net adjustment to the initial assessment is two points. For example, if the initial assessment is a '3' and there are two favorable adjustments and one unfavorable adjustment identified, the final assessment for that factor would be a '2.' The liquidity and reserves assessment, however, can be capped at a '5' or worse regardless of the initial assessment based on paragraphs 99 through 101.
31. The criteria also include various caps and overrides (see paragraphs 32-41, as well as tables 2 and 3) to arrive at the indicative rating, as well as the ability to raise or lower the indicative rating by one notch based on peer comparisons (see paragraph 21) to establish the final rating. The final rating may be influenced by the rating on the U.S. or its associated country risk, as well as the assignment of issue credit ratings and use of subordinate-lien debt, in accordance with paragraph 24.

B. Rating Caps And Overriding Factors

32. In certain, but rare, circumstances, the final rating is capped at a certain level. The final rating could be lower than the cap, depending on the severity of the condition present. The rating caps outlined in table 2 are absolute, meaning that the positive relative adjustments described below do not allow the final rating to exceed the cap. If multiple caps are applicable, the rating cap used will be the lower of all those that apply.

Table 2

Summary Of Factors That Cap The Final Rating	
Condition	Result
Either the Operational or the Financial Management Assessment is "Vulnerable" (see paragraph 34)	Indicative and final ratings are capped at 'A'
Both the Operational and the Financial Management Assessments are "Vulnerable" or there is a going concern opinion (see paragraph 34)	Indicative and final ratings are capped at 'BBB-'
Utility or its affiliated LRG is recovering from a financial crisis, emerging out of a recent bankruptcy or receivership, or has significant consultant oversight following an event of default, including a covenant violation (see paragraph 35)	Indicative and final ratings are capped at 'BBB+'
Negative extraordinary intervention (see paragraph 36)	Indicative and final ratings are capped at the lower of 'BBB' or the GO rating of the affiliated general government
Both the all-in coverage and liquidity and reserve assessments result in a '5' or worse (see paragraph 37)	Indicative and final ratings are capped at 'BB+' although if we view liquidity as especially vulnerable, the final rating would generally be capped at 'B+'
Either the Operational or the Financial Management Assessment is "Vulnerable" and the liquidity and reserve assessment is a '5' or worse (see paragraph 38)	Indicative and final ratings are capped at 'BB+'
Both the Operational and Financial Management Assessment are "Vulnerable" and the liquidity and reserve assessment is a '5' or worse (see paragraph 38)	Indicative and final are ratings are capped at 'B+'
Management demonstrates a lack of willingness to support financial obligations, or we believe the utility may be considering bankruptcy or receivership filing (see paragraph 39)	Indicative and final ratings on any rated debt not in default are capped at 'B'

33. Certain conditions or characteristics result in an indicative rating that is different from the initial indicative rating, as follows in table 3. If multiple notch overrides are applicable, the indicative rating is based on the net effect of those overrides.

Table 3

Summary Of Overriding Factors	
Condition	Result
Median household effective buying income is among the top quintile of the U.S. (see paragraph 40)	Indicative rating generally will be one notch above that suggested by table 1
Median household effective buying income is among the top 10% of the U.S. (see paragraph 40)	Indicative rating generally will be two notches above that suggested by table 1
Median household effective buying income is among the lowest quintile of the U.S. (see paragraph 40)	Indicative rating generally will be one notch below that suggested by table 1
All-in coverage is at or above 3.0x or cash and investments are equivalent to at least 24 months of operating expenses (see paragraph 41)	Indicative rating generally will be one notch above that rating suggested by table 1
U.S. country risk assessment of '4', '5', or '6' (see paragraphs 44 and 45)	Final enterprise risk profile assessment is capped at '4', '5', or '6'
Total indebtedness is likely to increase substantially, but magnitude, scope, and timing are not fully defined (see paragraph 82)	Final financial risk profile assessment generally will be worsened by one point

Factors That Cap The Indicative And Final Ratings

34. **Weak management.** The decentralized and autonomous nature of U.S. local governments creates a stronger link between management and credit quality. In cases where either the Operational or the Financial Management Assessment (OMA, FMA; see paragraphs 70 and 106) is characterized as 'vulnerable', the indicative and final ratings will be no higher than 'A'. In cases where both the OMA and FMA are characterized as 'vulnerable' or if an auditor has delivered a going concern opinion with the most recent review of the utility's or associated LRG's financial position, the indicative and final ratings will be no higher than 'BBB-'.
35. **Emergence from bankruptcy or receivership.** A utility that has just emerged from bankruptcy or receivership or a period of consultant or governmental oversight by definition has just been in a period where the financial risk profile--and possibly the enterprise risk profile as well--is extremely weak. Although a credit may emerge with an improved financial risk profile after debt forgiveness or other negotiated settlements or restructuring, or under a new management team, we will cap the indicative and final ratings at 'BBB+' until the utility has re-established a two- or three-year record of audited financial performance, at which time we would re-evaluate it using that new financial history as part of the analysis.
36. **Negative extraordinary intervention.** The line between what may be termed "extraordinary" and "ongoing" negative intervention is not always clear. However, examples of negative extraordinary intervention include cash-stripping or other measures that the affiliated LRG may impose to divert resources from the utility, as the LRG's needs rise. In such cases, the utility's indicative and final rating will be capped at the lower of 'BBB' and the GO debt rating of the affiliated LRG.
37. **Weak total liquidity combined with weak all-in coverage.** If the utility's all-in coverage as well as liquidity and reserves assessments are both a '5' or worse, we will cap the indicative and final ratings at 'BB+', although if we view liquidity as a weakness that cannot be rectified by other available resources, then the rating would be no higher than 'B+'. In our view, poor assessments on both of these factors imply that the utility has no margin for error in any of its operating, debt service, or capital funds in the event of an unfavorable or unplanned variance to its annual budget.

38. **Weak management and liquidity and reserves.** Strong management alone can lend itself to operational and fiscal continuity and can serve as a credit stabilizer. In addition, liquidity and reserves provide working capital, funding for unexpected operational problems, and general budgetary flexibility. For example, if contingent liabilities become actual liabilities, both of these factors can together moderate or even relieve a utility from distress. Conversely, their absence creates a limiting factor and often leads to rapid credit deterioration. As such, when the OMA or FMA is characterized as 'vulnerable' and the liquidity and reserves assessment is a '5' or worse, the indicative and final ratings are capped at no higher than 'BB+'. If both management assessments are characterized as 'vulnerable' and the liquidity and reserves assessment is a '5' or worse, the indicative and final ratings are capped at no higher than 'B+'.
39. **Weak willingness or capacity to support financial obligations.** If the utility's or sponsoring governmental entities' representatives take actions that indicate active consideration of bankruptcy in the near term, or if there is a perceived change in the willingness or lack of capacity to honor all long-term, legally-binding financial obligations in full and on a timely basis, the indicative and final ratings will be capped at 'B'. If applicable, we would apply "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings", published Oct. 1, 2012 or "Rating Implications Of Exchange Offers And Similar Restructurings", published May 12, 2009. Such a condition might be evidenced by way of conversations with management or governance, verifiable reports in the media, public disclosure, or other informational sources we judge to be relevant. The utility's issuer ratings would be 'D' or 'SD' following a default on an actual financial obligation, or in a distressed exchange, which we would apply "Rating Implications Of Exchange Offers And Similar Restructurings".

Factors That Notch From The Initial Indicative Rating

40. **Exceptionally strong or weak income indicators.** Extremely favorable or unfavorable demographics--measured as well above or below the strongest or weakest initial assessments, respectively--could imply extraordinary flexibility or limitation in a utility's ability to enhance its operating revenues on an ongoing basis. Median household effective buying income (MHHEBI) at or above the highest quintile of distribution according to the U.S. Census Bureau's and Bureau of Labor Statistics' joint "Current Population Survey" would generally result in a one-notch rating uplift from the initial indicative rating. Median household effective buying income at or above the top 10% of all households would receive a two-notch rating improvement. Median household effective buying income in the lowest quintile in the U.S. would lower the initial indicative rating by one notch.
41. **Exceptionally strong financial risk profile.** Should there be in our view a high probability that a utility's overall extremely strong financial risk profile is likely to continue on a forward-looking basis even when allowing for stresses, volatility, and additional future obligations, the initial indicative rating would generally be improved by one notch. "Exceptionally strong" is defined specifically to mean: a) All-in coverage* at or above 3x; or b) Cash and equivalents, that (i) are unrestricted and/or designated but ultimately lawfully available for any general utility purposes; and (ii) are equivalent to at least 24 months of operating expenses (without giving favor to an already-existing debt service reserve fund, and calculated consistent with our definition of days' cash*).

VI. Enterprise Risk Profile Assessment

42. The factors that are evaluated for the Enterprise Risk Profile assessment are summarized in table 4.

Table 4

Description Of Enterprise Risk Profile Factors

Economic Fundamentals (45% of Enterprise Risk Profile assessment)

Economic fundamentals measure the strength of the utility's service area economy, including the utility's demographics, characteristics and trends about the customer base, and how crucial the utility's principal customers are to operating revenues.

Table 4

Description Of Enterprise Risk Profile Factors (cont.)

Industry Risk (20%)

The industry risk evaluation aims to evaluate the external environment in which municipal utilities operate and its relevant characteristics, including cyclicity, competitive risk, and growth environment.

Market Position (25%)

The market position measures the relative affordability of utility rates given the income indicators and relative poverty of the service area, as well as comparability of rates with those of peers in the region or state.

Operational Management Assessment (OMA; 10%)

The OMA evaluates our view of the effectiveness of utility management in ensuring that there is alignment of operational, environmental, strategic, and financial goals to support the system's success.

43. The descriptors of outcomes for the overall enterprise risk profile are based on the scale shown below in table 5. The criteria do not round to a whole number until arriving at a final enterprise risk profile.

Table 5

Descriptors For Enterprise Risk Profile Factors

Assessment	Description
1	Extremely Strong
2	Very Strong
3	Strong
4	Adequate
5	Vulnerable
6	Highly Vulnerable

Factors That Affect The Enterprise Risk Profile

Country risk assessment for the U.S.

44. The relevant credit risks for U.S. municipal utilities are also influenced by country-specific risks (see "Country Risk Assessment Methodology And Assumptions", published Nov. 19, 2013). Country risk is the risk an entity faces by having some of its operations or assets exposed to one or more countries. Country-specific risks consist of economic risks, institutional and governance effectiveness risks, financial system risk, and payment culture/rule of law risk. The country risk assessment is determined on a scale from '1' (very low risk) to '6' (very high risk).
45. The country risk assessment with respect to these criteria derives from the U.S. country risk assessment as determined under the criteria cited above. If the U.S. country risk assessment is a '3' or better, there is generally no positive or negative impact on the final rating. However, if the U.S. country risk assessment is '4' or worse, this could affect the enterprise risk profile assessment. Specifically, if the U.S. country risk assessment is '4', '5', or '6', we will generally assign an enterprise risk profile assessment of no better than '4', '5', or '6', respectively.

A. Assessing Economic Fundamentals

46. The assessment of economic fundamentals provides insight into the employment, socioeconomic, and demographic environment in which the utility operates as well as the health of the service area economy relative to that of the U.S. as a whole.
47. The assessment of economic fundamentals is based on two measures: median household effective buying income of the service area as a percentage of the U.S. and the trend in economic output of the service area, as measured by its real (inflation-adjusted) gross county product. If the service area spans multiple counties, these criteria pro rate the metrics based on the estimated population in each county as a percent of the total service area population.
48. The two components are combined (see table 6) to determine an initial economic fundamentals assessment. Positive and negative qualitative factors are then evaluated for applicability to achieve the final economic fundamentals assessment. The cumulative net effect of all adjustments is limited to an improvement or worsening of two points to the initial assessment.

Table 6

Assessment Of Economic Fundamentals			
Current Median Household Effective Buying Income (% of U.S.)	Real Gross County Product, Rate Of Change Last Two Years, Plus Projected Next Two Years [1]		
	Stronger than U.S. rate of GDP annual growth by 1% or more	Within +/- 1% of U.S. rate of GDP annual growth	Weaker than U.S. rate of GDP annual growth by 1% or more
125% or more	1	1	2
100% to 125%	1	2	3
75% to 100%	2	3	4
35% to 75%	3	4	5
35% or lower	4	5	6

Qualitative Factors Positively Affecting The Initial Assessment Include:

Efficiencies and natural economies of scale associated with being a larger utility (see paragraph 50).

Broad and diverse employment base, or ratepayers living in the service area have access to such a base (see paragraph 51).

Unique key local employer, such as a university or military base, that serves to stabilize the economy, even if skewing income indicators unfavorably (see paragraph 55).

Qualitative Factors Negatively Affecting The Initial Assessment Include:

Unemployment rate of the county of 10% or worse.

A steadily declining population, or dependent population* of more than 55%.

The lack of efficiencies and natural economies of scale because the utility is smaller (see paragraph 50).

Employment sector concentration, or inauspicious prospects exist for a key major local employer within the next 36 months (see paragraph 54).

The 10 largest customers account for 25% or more of operating revenues, or the top one is 10% or more (see paragraph 56).

Each applicable qualitative factor changes the initial assessment by one point (with the exception of the economies of scale adjustor, which can result in a one-half point change), but the net total of all adjustments would never improve or worsen the initial assessment by more than two points. [1] For example, if the base/current year is 2015, the time period examined would be 2014 (actual, full-year); 2015 (annualized estimate); 2016 (forecast) and 2017 (forecast).

49. For service areas in which there is no specific MHHEBI data available, the data from the next largest measurable

geographic unit will be used. For example, if the service area is that of a small unincorporated portion of a county and if that data is not available, the MHHEBI of that county will be used. An exception could be if there is clear evidence that the service area incomes and macroeconomic trends are materially and measurably different from the geographical unit at large, in which case we will use the best available data.

50. Certain natural operating efficiencies and economies of scale are often present in larger utilities. Examples may include physical redundancies or the ability to spread fixed costs over a greater number of gallons sold. These criteria define a utility's size based on average annual gross operating revenues of the three most recent audited fiscal years. Table 7 outlines the applicable adjuster that is combined with the result from table 6. For instance, if the three most recent years resulted in operating revenues of \$21.4 million, \$24.7 million, and \$29.8 million, the simple average of the three would be \$25.3 million, resulting in a neutral adjuster rather than a worsening by 0.5. Drainage-only utilities are excluded from this adjuster, as we believe they have an inherently lower operating risk and are usually smaller by revenues by their nature. Irrigation districts are separately addressed in paragraph 57.

Table 7

Economies Of Scale Qualitative Factor	
Total Operating Revenues (Mil. \$)	Change to Initial Assessment
More than 150	(1)
Between 75 and 150	(0.5)
Between 25 and 75	0
Between 5 and 25	0.5
Less than 5	1

51. We assess whether the utility's service area participates in a larger, broad, and diversified economy at the federally-defined metropolitan statistical area (MSA) level. The determination is based on an evaluation of employment diversity, employment growth, and the employment base. Each of these three factors is characterized as 'strong', 'moderate', or 'weak' consistent with a similar evaluation in "Local Government GO Ratings Methodology And Assumptions", published Sept. 12, 2013. Participation in a 'strong' MSA would generally lead to a one-point improvement in the initial assessment. Conversely, no adjustment would be applied if we deem the MSA as 'weak' or if the service area does not lie within a defined MSA. If the MSA is described as moderate, applying the broad and diverse positive adjustment may still be applicable if the macroeconomic trends of the MSA and our expectations for future performance in the next two years are reasonably likely to cause existing metrics to improve.
52. The diversification of the utility's service area's economic structure is important to assess the potential volatility of its employment base and its resilience to stresses. An example of a deep, broad, and well-diversified economy would be employment-sector distribution that closely resembles that of the U.S. at large. This depth and diversity could lessen the impact on the utility's operating revenues better than an economy with more exposure to a single employer or industry or only a few employment sectors. A small and concentrated or shallow economic base also tends to be more exposed to external factors and macroeconomic cycles.
53. If employment in an individual sector--excluding education/health, government, and transportation/trade/utilities--represents more than 30% of the nonfarm work base, the local economy is deemed to be highly susceptible to that employment sector. As such, a one-point worsening of the assessment would be applied.

An example would be a small town that does not participate in an MSA and has a major manufacturing component in the local labor force.

54. Regardless of the employment sector or nature of its business, if a major local employer has publicly announced that within the next 36 months it will be reducing or completely shuttering operations within the service area or we expect it to do so, a one-point unfavorable adjustment would be warranted.
55. If we do not deem there to be a broad and diverse economy, the presence of a major employer can still sometimes act as a stabilizing force, possibly even adding context to lower income indicators. In such a case, a favorable adjustment of one point may be applied. Examples of such major employers include higher education institutions, health care facilities, military installations or even, more rarely, a large and stable corporate presence.
56. Employment and customer base characteristics typically have a close correlation to utility operating revenues. If a small number of customers provide a large amount of revenues, the utility could be exposed to revenue volatility. As such, when the top 10 retail customers contribute 25% or more of total operating revenues, or the top one retail customer is 10% or more of total operating revenues, the assessment is worsened by one point.
57. For irrigation districts and comparable raw-water providers for which the end-use customer is agriculture or agriculture-related--such as ranches or dairy--MHHEBI and relative economic performance are less meaningful. In our observations, these economies generally have inherent limitations given the dominance of farming to the local economy, and non-municipal consumptive use patterns. Therefore, for these issuers, the default initial economic fundamentals assessment is a '3', although negative, but not positive, qualitative factors that adjust the initial assessment could still be applicable.

B. Assessing Industry Risk

58. Consistent with "General Criteria: Methodology: Industry Risk", published Nov. 19, 2013, we consider industry risk for utilities covered under these criteria as very low, the most favorable assessment possible on a '1' to '6' scale, with '1' being the best.
59. The following are key characteristics of the utility industry as relevant to the industry risk factor:
 - Cyclical risk assessment of '2' based on Standard & Poor's review of historic economic cycles and peak-to-trough changes in revenues and margins for regulated utilities. Economic cycles can affect nonrecurring revenues such as impact fees as well as drive priorities in the capital improvement plan but weather, not the economy, is generally the largest single determinant to a favorable or unfavorable variance to budget in any single fiscal year;
 - Very low competitive risk of '1', owing to legal and practical barriers to entry in nearly all jurisdictions, and that as an essential service there is no substitution risk;
 - Nearly all municipally-owned water, sewer, and drainage utilities are natural--and in most cases statutory--monopolies with complete autonomy over their own rates by the local decision-making body. There are some states in which the utility must seek approval of rate adjustments by some state regulatory body, such as a public service commission. There are also some states in which large rate increases, before they can take effect, may be subject to some kind of popularly-initiated opportunity to be overturned by the electorate, such as in California via Proposition 218.

The industry risk assessment of very low risk applies to all utilities rated by these criteria regardless of the state in which they operate. While likely uncommon, limitations on rate autonomy would likely be measured elsewhere, such as in financial performance if the timeliness and magnitude of requested versus granted rate case leads to deterioration in credit quality.

C. Assessing Market Position

60. The relative poverty rate is important because service areas that have not just lower MHHEBI levels, but disproportionately higher percentages of the population located in the lowest quintiles of the MHHEBI distribution curve, may exhibit greater sensitivity toward perceived affordability even if adjusted for low inflation or a favorable cost of living. Therefore, it is possible that the impact of utility bills and related rate increases is even more profound in those communities compared to communities with stronger economic fundamentals.
61. Actual consumption patterns vary from region to region based mainly on climate, precipitation, use of demand side management and water conservation measures, and economic factors. The market position assessment is based on the actual average monthly residential water and sewer bill. The information generally will be based on the most recent audited fiscal year, unless we believe that historical rates are not indicative of future rates. In those cases we will base the assessment on projected rates. For purposes of this assessment, we calculate the monthly bill as follows:

The total annual residential operating revenues plus any related fees, surcharges and taxes divided by the number of active residential metered accounts. The result is divided by 12 to arrive at the monthly bill.

62. There could be practical limitations to applying paragraph 61 such as transparent and timely financial reporting and disclosure details, the sophistication of the utility's customer information system database, and the possibility that the utility may deem this information as competitively sensitive and nonpublic. If the actual average monthly residential bill is not readily available, the market position assessment assumes a residential customer that in one month has used 6,000 gallons of both treated water and sanitary sewer service, conceptually similarly to the Environmental Protection Agency (EPA)'s residential indicator (see Appendix III, paragraph 133). In cases where the utility's chosen unit of billing is measured in hundred cubic feet (ccf), the closest rounded equivalent of 8 ccf is used (see Appendix III, paragraph 135). Any minimum or base charge or 'lifeline rate' is also included in the calculation, as are any related fees, surcharges, or taxes regardless of who is levying them since the burden ultimately still lies with the customer to pay it.
63. To gauge the annual utility burden to the household, the assumed monthly bill, as calculated above in paragraph 61 or 62, is multiplied by 12 to estimate the total annual cost to the household for utility service.
64. Relative rate affordability is calculated by dividing as follows: in the numerator is the annual household utility burden as calculated above from paragraph 63, and in the denominator the actual median household effective buying income of the service area of the utility (or the closest approximation, as established in paragraph 49), then multiplied by 100. This produces the cost to the household of its utility expense as a percentage of total disposable income.
65. For irrigation districts, the customer base is primarily farms in agricultural production rather than residential customers

that rely on the system for essential public health needs, and in this context, poverty rates do not apply. However, the pricing power of many irrigation districts is constrained by the more elastic demand for water from these businesses, and in many cases the availability of alternative supply sources, such as groundwater produced from privately-owned wells. Therefore, for these issuers, the default initial market position assessment is a '3', although negative, but not positive, qualitative factors that adjust the initial assessment could still be applicable should they, in our view, affect the system's revenue-raising flexibility.

66. For drainage utilities rated by these criteria, rate structures tend to be exclusively either one of two types:
- A flat monthly charge tied to a residential property as the base unit of billing, with larger properties or parcels assessed as if they were equivalent to multiple residential properties. For example, a strip mall may be treated for billing purposes as if it were five equivalent residential units. For those utilities whose charges are based on a flat fee, we assume the fee assessed to a single-family residential property; or
 - A fee based on the actual impervious surface area of the property. (Standard & Poor's assumption for the monthly bill is based on a residential property. For those utilities whose charges are based on impervious surface area rather than a flat fee, we assume 2,000 square feet of impervious surface area.)
67. Tables 8, 9, and 10 summarize how the criteria evaluate the market position of the utility, driven by the rate affordability and relative poverty rate. Table 8 applies to water-, or drainage-only utilities. Table 9 applies to sewer-only utilities. Table 10 applies to water and sewer/drainage utilities.

Table 8

Market Position Assessment, Water- Or Drainage-Only Utilities			
Annual Utility Bill As A Percent Of Median Household Effective Buying Income			
Percent of county's population living in poverty	Less than 1%	1% to 2%	More than 2%
Less than 10%	1	2	3
10% to 20%	2	3	4
20% to 30%	3	4	5
More than 30%	4	5	6

For utilities with an anchor assessment of 5 or 6 that have recently completed or achieved substantial completion of a historically capital-intensive period, the anchor assessment may improve by one point (see paragraph 68).

Table 9

Market Position Assessment Sewer-Only Utilities			
Annual Utility Bill As A Percent Of Median Household Effective Buying Income			
Percent of county's population living in poverty	Less than 1.25%	1.25% to 2.50%	More than 2.50%
Less than 10%	1	2	3
10% to 20%	2	3	4
20% to 30%	3	4	5
More than 30%	4	5	6

For utilities with an anchor assessment of 5 or 6 that have recently completed or achieved substantial completion of a historically capital-intensive period, the anchor assessment may improve by one point (see paragraph 68).

Table 10

Market Position Assessment For Water And Sewer/Drainage Utilities			
Annual Utility Bill As A Percent Of Median Household Effective Buying Income			
Percent of county's population living in poverty	Less than 2.25%	2.25% to 4.50%	More than 4.50%
Less than 10%	1	2	3
10% to 20%	2	3	4
20% to 30%	3	4	5
More than 30%	4	5	6

For utilities with an anchor assessment of 5 or 6 that have recently completed or achieved substantial completion of a historically capital-intensive period, the anchor assessment may improve by one point (see paragraph 68).

68. Rate affordability without context may under- or over-represent credit strengths. For example, a utility with rates much higher than comparable peers that has already made the capital commitments to address a regulatory mandate driven by past noncompliance with environmental permits would be viewed more favorably than a utility with similarly high rates but that is facing a huge unfunded regulatory mandate. For utilities that have relatively high rates--as defined by an initial assessment of a '5' or '6'--but have recently completed or substantially completed an extraordinarily capital-intensive period in its history, the initial market position assessment generally will be improved by one point.
69. The criteria do not establish a preference toward a certain water and sewer utility rate structure. For example, management may use a flat or fixed rate, volume-based rates, or some combination thereof. Similarly, the criteria do not penalize a rate structure that encourages conservation--essentially incentives for lower sales through price signals.

D. Assessing Operational Risk Management

70. The Operational Management Assessment (OMA) consists of a review of the following sub-factors, assessed from (1) strong; (2) good; (3) standard; to (4) vulnerable and weighted as shown below to calculate the OMA:
- Asset adequacy and identification of operational risks (40%);
 - Organizational effectiveness, management expertise, and drought management plan (20%); and
 - Rate setting practices (40%).
71. The OMA refers to risks associated with the operations of the utility; financial policy is covered by the Financial Management Assessment.
72. The results from the observed evaluations assessed in paragraph are converted to a '1' to '6' scale as shown in table 11.

Table 11

Operational Management Assessment (OMA) Conversion To Six-Point Scale		
Observed Evaluation	OMA	Characterization
1.0 to 1.2	1	Strong
1.2 to 1.8	2	Good
1.8 to 2.5	3	Good
2.5 to 3.1	4	Standard
3.1 to 3.6	5	Standard

Table 11

Operational Management Assessment (OMA) Conversion To Six-Point Scale (cont.)

3.6 to 4.0	6	Vulnerable
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- 73. The assessment of all sub-factors is based on a preponderance of evidence. Specifically, in our judgment are most, but not necessarily all, of the described characteristics applicable? A utility receives a neutral assessment of 'standard' for any sub-factors for which there is insufficient evidence to assign either a positive or negative assessment. However, some sub-factors may receive a negative assessment if a utility has a record of failing to disclose key relevant information.
- 74. There is no favored governance structure for the utility within the methodology. Some municipal utilities are a department or component unit of the local political subdivision, governed by the same locally elected officials as the LRG. Other utilities are governed by an independent or quasi-independent utility board. The governance structure will be credit-neutral so long as there seems to be the ability for management to operate the utility as an ongoing, viable enterprise, largely independent from politics, with professionals who are capably engaged in risk oversight and can balance interests appropriately.
- 75. Asset adequacy and identification of operational risks examines how successfully management is faring by owning and operating a public water, sewer, or drainage enterprise (see table 12). Utilities are subject to the federal Safe Drinking Water Act of 1974 ("SDWA", 42 U.S.C. § 300f, as amended) and Clean Water Act of 1972 ("CWA", 33 U.S.C. § 1251, as amended), or even an municipal separate storm sewer system (MS4) drainage utility permit. However, the utility may be in various degrees of compliance or readiness. Examples include a long-term water supply that is appropriate in both quantity and quality to serve the existing and likely future customer base or treatment capacity that is sufficient to meet average and peak day demand. Recognition is given for any water reuse system in place, whether indirect or direct. Also assessed in this sub-factor is the materiality of nonrevenue water* (see Appendix II, paragraph 136).

Table 12

Asset Adequacy And Identification Of Operational Risks Assessment	
Strong	The utility has in place or is in the process of securing a raw-water supply that is reasonably projected to be sufficient through the life of the bonds. The integrity of the distribution and/or collection system, meters, and raw-water delivery assets is strong, or efforts are ongoing to rehabilitate them. Treatment capacity to meet average and peak day demand is sufficient in virtually every circumstance. Climate risk assessment is incorporated into planning and operations as a potential risk to the system. Water audits based on industry-accepted performance standards are incorporated into the annual budget such that nonrevenue water physical and economic losses are not material. A thorough vulnerability assessment across all critical assets has been performed to industry standards and been completed and incorporated into operations as much as reasonably possible.
Good	The existing raw-water supply is sufficient for the existing customer base. The utility may need to enhance the supply sometime beyond the next 20 years, depending on growth and climatology/hydrology, but management has identified this risk into its long-term plans. Inflow, infiltration, and/or raw-water delivery are generally not problematic, or efforts are ongoing to rehabilitate them. Treatment capacity to meet average and peak day demand or flow is sufficient with only rare exceptions. Climate risk assessment is addressed in some key areas, such as supply planning or flood protection. Water audits based on industry-accepted performance standards are done on a regular, if not annual, basis such that nonrevenue water physical and economic losses are small. A vulnerability assessment has been completed to industry standards in most key areas and incorporated where management most deems relevant.
Standard	The existing raw-water supply will likely need to be enhanced within the next 10 to 20 years, but options for addressing the need have not yet been identified or, if so, have not been fully priced. Inflow, infiltration, and/or raw-water delivery are pronounced but not yet material or are problematic but will be addressed within the current capital improvement plan. Treatment capacity to meet average day demand is sufficient, but peak day demand or wet weather flows create constraints until ongoing projects are completed. Climate risks are identified, but other priorities preclude any immediate actions. Water audits based on industry-accepted performance standards are done only when management deems them necessary, likely evidenced by nonrevenue water economic and physical losses that are material. A vulnerability assessment has been done, perhaps only partially or perhaps not in accordance with industry standards, and implementation has been either partial or not at all.
Vulnerable	The existing raw-water supply and/or treatment capacity cannot currently and consistently meet peak day demand or flows. The raw-water supply is subject to a high degree of regulation and/or litigation, which can quickly introduce long-term uncertainty. Inflow, infiltration, and/or raw-water delivery are problematic and material, or the utility is highly dependent on or susceptible to another water purveyor. Climate risk is not explicitly addressed either in plans or operations. Water audits based on industry-accepted performance standards are not done and nonrevenue water economic and physical losses are problematic. No vulnerability assessment has been done.

76. To evaluate organizational effectiveness, management expertise, and drought management planning, the assessment looks to the key elected or appointed decision-makers and top staff (see table 13). This sub-factor assesses how well utility leaders are able to convey the needs of the utility to external and internal stakeholders in a manner that is likely to allow the utility to continue with stability. While there may be some practical limitations due to civil service regulations, mentoring and succession planning among key staff can ensure continuity. Also evaluated is whether or not the utility has a resource management plan (voluntary or mandatory) that outlines steps it would implement in a drought situation, even if the state has its own rules or guidelines. This would be deemed separate from any existing water conservation-oriented rate schedule the utility may already have in place year-round.

Table 13

Organizational Effectiveness, Management Expertise, And Drought Management Plan Assessment	
Strong	Management communicates the utility's long-term needs and strategic goals, such as funding requirements, approval of crucial projects, and resource planning, to internal and external key officials on a regular, credible, and transparent basis, putting the utility in the best reasonable position for operational continuity. Examples might include ongoing public education campaigns, town halls, dedicated web sites, and social media. Management has considerable knowledge, experience, or a track record of success in operating all of the utility's key business units in an integrated fashion. Internal mentoring and succession plans are common. Management is able to put its strategic planning into reality; therefore, the utility is successful relative to its peers. The utility has its own drought management plan that details how much conservation it would seek depending on a drought's severity while still ensuring revenue requirements are met.
Good	Public outreach and transparency is a common part of the organizational culture, even if not comprehensive across all key business units. Management has reasonable expertise and experience and has established pathways for succession and continuity where it can; therefore, operational surprises are rare. Management has a good track record of successfully converting strategic decisions into constructive action. The utility has its own drought management plan that details how much conservation it would seek depending on a drought's severity although how it might meet its revenue requirements in such a scenario is uncertain.
Standard	Management depth or breadth is limited in some areas, such that the loss of key personnel would create, only temporarily, a learning curve for the new staff but not likely to measurably affect the utility for long. Public outreach is done generally only when necessary, often associated with a large or controversial project. Operational and financial strategies are generally aligned. The utility has no drought management plan but does operate in a state with a clearly detailed plan that already exists.
Vulnerable	The utility relies on one or only a few key employees or perhaps relies on external consultants. Negative variances are not uncommon. The utility has a history of regulatory or legal infractions beyond an isolated episode or outside industry norms, which introduced an as-yet-unaddressed challenge. Operational and financial strategies may have had one or more major misalignment, limiting the ability to move forward on something important. Neither the utility nor the state in which it operates has an existing drought management plan, making resource sustainability as well as meeting financial obligations uncertain.

77. Most, but not all, utilities are monopolies with autonomy over their own rates. If the utility is rate-regulated, the history of timeliness on rate cases and the magnitude of what was granted versus requested will be examined. The evaluation of rate-setting practices looks beyond magnitude or frequency of rate adjustments. Instead, we evaluate whether management has acted, in our opinion, in a manner generally supportive of credit quality when tough decisions have needed to be made. Such credibility can also aid community support when such increases are needed and help protect future rate-making decisions from short-term political manipulation and decrease the potential for rate shock (see table 14).

Table 14

Rate-Setting Practices Assessment	
Strong	When rate increases have been needed, the decision-making body has been supportive and timely, even to the extent that multiyear, preapproved rate increases are common, if not standard. Financial decisions are prudent, in our view, rather than simply politically expedient and that could possibly be to the detriment of the utility's near-term financial health. Periodic rate studies (internal or external) are common.
Good	Rate considerations are done on a year-to-year planning horizon rather than over a long-term time frame, but generally are apolitically approved if and when necessary.
Standard	The rate covenant and/or additional bonds test are the de facto guide as to when rate adjustments are necessary, but that is still enough for the political decision makers to agree to a rate increase.
Vulnerable	Rate increases are often in reaction to a weakened financial position, including a technical default or some other legal covenant violation, even if the recent debt service payments were made on time and in full. There is clear evidence of recent political decisions to defer or downsize needed rate increases.

VII. Financial Risk Profile Assessment

78. The factors that are evaluated for the Financial Risk Profile assessment are summarized in table 15.

Table 15

Description Of Financial Risk Profile Factors

All-In Coverage (40% of Financial Risk Profile assessment)

Analysis includes examination of historical and preferably GAAP-based results, the current financial condition of the utility, and projected scenarios for the next one to three fiscal years. The focus is on total financial capacity versus total revenue requirements.

Liquidity and Reserves (40%)

This factor incorporates all lawfully available cash reserves and external working capital or liquidity sources, including bank lines in force within the life of any short-term obligations.

Debt and Liabilities (10%)

This factor incorporates mainly quantitative, but also qualitative, analyses about not just the absolute measure of the utility's indebtedness but also the capacity to incur and support additional debt, especially in relation to maintaining any minimum financial metrics as covenanted to bondholders. Measurable liabilities such as pension and postemployment benefits can lead to adjustments to this initial factor.

Financial Management Assessment (10%)

Analysis includes an evaluation of ongoing management practices and policies that can be supportive of financial performance and continuity, as well as internal controls and reporting. Examples include establishing a minimum level of acceptable working capital, predictability of cash transfers from the utility system, and creating and perpetually updating a long-term financial forecast.

79. The descriptors for the overall financial risk profile are based on the scale in table 16.

Table 16

Descriptors For Financial Risk Profile Factors

Description	Corresponding Assessment
Extremely Strong	1
Very Strong	2
Strong	3
Adequate	4
Vulnerable	5
Highly Vulnerable	6

80. These criteria use assessments derived from historical and projected financial performance. In most cases, the ratio calculations are based on the three most recent independently audited financial statements. Our analytical assessment of pro forma or projected data will be used for those ratios affected by additional debt issuance or funded from cash reserves, or when we believe that historical financial performance is not representative of expected future performance.
81. For all-in coverage or liquidity and reserves assessments that use multiple years of historical and projected data, each single year receives a preliminary assessment. The preliminary assessments from each applicable year are averaged together to then derive one single assessment for that factor.

Factors That Affect The Financial Risk Profile

Significant additional upcoming debt

82. If a utility has potentially sizable, but as yet unspecified, capital plans that could result in material additional debt and/or the use of reserves—including when there is or will be high levels of nondiscretionary capital funding, and we determine that such plans have a reasonable likelihood of occurrence but are not specific enough yet to determine pro forma or projected financial metrics—we generally will worsen the entire financial profile by one point. Compelling factors that would likely preserve credit quality include preapproved rate adjustments multiple years into the future, or an existing debt service schedule that allows for the new debt to be layered on in a manner that we believe is unlikely to worsen financial performance.

A. Assessing All-In Coverage

83. While there are a variety of financial metrics that measure the ratio of revenues to revenue requirements, including financing obligations, we believe that all-in coverage best gauges the utility's true total financial capacity.
84. All-in coverage is our internally adjusted debt service coverage metric that we believe best tracks the use of every dollar of utility operating revenues, regardless of lien position, accounting treatment or ultimate purpose. It also incorporates recognition of fixed charges or costs, which we define as certain long-term recurring items that are debt-like in nature, even if legally treated as an operating expense. An example of a fixed cost would be the take-or-pay minimum payment to the utility's wholesale provider of treated water. Other examples of fixed costs would include rental expenses for a sale-leaseback arrangement, GO debt which we consider self-supporting debt*, or other situations that reflect support of off-balance sheet debt. Vertically integrated utilities may not have any fixed costs. We would not include any tax-supported debt for which there is a dedicated tax revenue, nor would we include the tax revenue itself that is meant specifically to pay the tax-supported debt. All-in coverage also excludes adjustments to fixed costs for small or nonmaterial financing obligations such as a capital equipment lease for a vehicle or copy machine.
85. These criteria also look to total revenues less expenses (but excluding noncash items), even if the pledge to bondholders is gross operating revenues. This is because we assume that the utility must be a viable, ongoing, cash flow-positive enterprise. Standard & Poor's defines all-in coverage as:

$$\frac{[(\text{Revenues} - \text{Expenses} - \text{Total Net Transfers Out}) + \text{Fixed Costs}]}{(\text{All Revenue Bond Debt Service} + \text{Fixed Costs} + \text{Self Supporting Debt Service})}$$

Total net transfers out are defined as transfers from the utility fund minus transfers into the utility fund, including but not limited to:

- Transfers that are viewed as general fund resources, such as a payment in lieu of taxes, indirect cost reimbursements, and open-ended transfers;
- Transfers that reimburse the general fund for pension and other postemployment benefit (OPEB) payments the

general fund made on behalf of utility employees and retirees;

- Transfers that fund pay-as-you-go capital expenditures in another governmental fund; and
- Transfers to support any other governmental operations regardless of the destination fund.

We deem net transfers out that legally or by practice support debt service of another governmental fund as part of the denominator's self-supporting debt. Cash that does not truly leave the utility, such as a set-aside into a rate stabilization reserve or pay-as-you-go fund are not included as transfers out. Similarly, the application of a rate stabilization fund (RSF) or other cash on hand as a transfer in would not be included in the all-in coverage calculation, although we would note the presence and use of the RSF as a qualitative adjustment to the all-in coverage assessment as described in paragraph 89.

86. The accounting treatments and even provisions in the bond documents vary; for example transfers are usually a use of surplus net revenues, but sometimes may be treated as an operating expense. The methodology would treat recurring transfers as an operating expense to measure the general government's reliance on the transfer payment. An annual transfer payment that is consistent in nature, such as based on a percentage of operating revenues or a fixed dollar amount, is more predictable than one that is not defined and therefore could be as big as the general government decides it should be. For example, an all-in coverage calculation of less than 1x might suggest a net cash withdrawal from the utility fund. Table 17 summarizes the all-in coverage evaluation.
87. In cases where an unconditional take-or-pay minimum, capacity payment or demand charge does not exist or is not explicit, these criteria will impute what we deem to be a logical and reasonable equivalent for the purpose of calculating all-in coverage. The methodology uses the utility's relative contribution to its wholesaler provider's total operating revenues as the basis for the fixed-cost imputation. For example, if the utility being rated accounts for 15% of its wholesale provider's total annual operating revenues, and the wholesaler's total annual debt service payments are \$10 million, then \$1.5 million will be imputed as fixed costs for all-in coverage calculation purposes.

Table 17

Assessment Of All-In Coverage	
Initial Assessment	All-In Coverage
1	1.60x or above
2	1.40x to 1.60x
3	1.20x to 1.40x
4	1.10x to 1.20x
5	1.00x to 1.10x
6	Below 1.00x
Qualitative Factors Positively Affecting The Initial Assessment Include:	
A significant portion of operating revenues have a high degree of certainty, such as from wholesale sales with take-or-pay minimums, even if those wholesale sales serve to depress total debt service coverage due to cost-of-service rates (see paragraph 88).	
The planned, but infrequent use of a rate- stabilization fund indicates the absence of a weakness, all other things being equal, as opposed to the presence of a credit-positive characteristic. Still, it could explain poor coverage that has otherwise been consistently better (see paragraph 89).	
Qualitative Factors Negatively Affecting The Initial Assessment Include:	
A debt service schedule that makes it extremely likely the utility will need significant growth or large rate increases to meet future requirements, such as a deferral of principal repayment far into the future.	

Table 17

Assessment Of All-In Coverage (cont.)

Debt service coverage that is reliant on new customer fees or nonrecurring nonoperating cash inflows just to achieve a ratio of at least 1x (see paragraph 90).

Exposure to interest-rate sensitivity via variable-rate debt that is enough to lead to a worse initial assessment (see paragraph 91).

Each applicable qualitative factor changes the initial assessment by one point, but the net total of all adjustments would never improve or worsen the initial assessment by more than two points.

88. Some utilities provide mostly retail service directly to the consumptive-use customer, but may also generate operating revenues via sales for resale, or wholesale sales. Wholesale sales are often at a cost-recovery rate with much smaller net operating margins, serving to depress total all-in coverage. For utilities with between 20% and 49% of operating revenues coming from firm (contractual) wholesale sales, a one-point improvement in the all-in coverage assessment would be applied to put the depressed all-in coverage into better context.
89. The planned use of rate stabilization funds (RSF) or equivalent designated reserves from time to time could, analytically, temper measurable declines from a trend of stronger financial performance. Yet recurring reliance on an RSF in lieu of other measures such as rate adjustments to address imbalances among revenues, expenses, and debt service can be evidence of a credit weakness. Utilities that perform down to the level of permissive legal covenants, such as the allowance of the use of certain cash balances toward satisfying a rate covenant or additional bonds test and potentially creating a weak alignment between revenues and expenses, would see the initial assessment lowered by one point. This is especially true when actual performance indicates insufficient pledged revenues without the use of cash.
90. It is not uncommon for utilities to charge a one-time fee as new structures hook up to the system (exclusive of any deposit that may be required), often called a connection or impact fee. The all-in coverage ratio will be stressed by hypothetically removing these nonrecurring items from total revenues, to gauge a utility's relative dependence upon these fees just to achieve sufficient financial performance. Such fees are strongest during periods of high growth in the number of metered accounts. While perhaps they are pledged revenues, impact fees can overstate revenues available for debt service. Conversely, a slowdown or cessation of such growth--especially if not expected by management--could create a precipitous drop in the utility's financial performance and expose vulnerability in the financial risk profile. Achieving a ratio of less than 1x solely from recurring revenues on a consistent basis indicates structural budgetary imbalance and would worsen the assessment by one point.
91. These criteria do not establish a guideline as to an allocation of variable-rate debt as a percentage of total long-term debt. However, if all-in coverage by our projections would change between one of the initial assessments to another in table 17 as a result of a change in interest rates, the all-in coverage assessment will reflect the worse of the two possible outcomes.

B. Assessing Liquidity And Reserves

92. The liquidity and reserves analysis measure is days' cash* available to the utility as well as the actual available cash reserves. As noted in paragraph 50 for the enterprise risk profile assessment, size is also a factor in the utility's financial

risk profile. A utility may have cash reserves, for example, that are equivalent to a high days' cash number yet the actual cash on hand may be nominally very small. Both days' cash and actual cash are evaluated based on table 18. The resultant preliminary evaluations are applied to table 19 to produce the initial liquidity and reserves assessment.

93. For example, a utility with \$1.2 million of cash on hand, which for this example equated to 74 days of operating expenses, would receive a '3' for the days' cash ratio, and a '4' for the actual cash levels, based on table 18. When each preliminary evaluation is applied to the matrix in table 19, the initial liquidity and reserves assessment would be at the intersection of (3, 4), or an assessment result of '4.' Qualitative factors, if any, would then be applied to improve or worsen the '4' to arrive at the final liquidity and reserves assessment.
94. The liquidity and reserves assessment is intended to measure how the utility's internal sources, such as cash reserves and cash flow generation, and external sources--namely undrawn capacity under committed lines of credit--provide it the working capital to fund immediate needs on an ongoing basis. The undrawn, available portion of committed bank lines maturing beyond the next 12 months are included as cash for the calculations in table 18; draws are included with both long-term debt and, if due within the next 12 months, debt service.
95. The liquidity analysis looks not only to cash and equivalents that are unrestricted or unassigned (i.e., unencumbered by legally enforceable agreements and not earmarked for specific purposes) and immediately available, but also gives credit to reserves that are designated, but ultimately available, for any lawful purpose. Examples include renewal and replacement funds, RSF, or other similar set-aside (but not truly restricted) cash. The criteria make no distinction between reserves that can only be appropriated by action of the highest decision-making body, or reserves that can be appropriated by simple administrative action, so long as the reserves are ultimately lawfully available for any purpose regardless of the reporting entity's label on it as determined by Governmental Accounting Standards Board (GASB) statement No. 54. Issuers that do not use a generally accepted accounting principles (GAAP) basis of presentation, or for which the financial statements do not provide a transparent and explicit breakdown of cash, must provide details of their cash position.
96. Cash that we deem to be restricted--for example a debt service payment-to-be-made, customer deposits, a fiduciary responsibility like a pension or decommissioning fund, unspent bond proceeds, or is related to a posting of collateral, among other restrictions--will never be included in the analysis of liquidity. Any debt service reserve fund will also be excluded.
97. Intragovernmental borrowing sometimes occurs between the utility and its associated general government, or sometimes even between one division of the utility and another division. Cash in other funds in most cases would not be used to calculate the liquidity ratios, since those other funds likely have their own operating requirements. If a utility pools its cash with other major operating funds or governmental units, only cash that is truly the utility's will be counted in the calculation.

Table 18

Liquidity And Reserves Preliminary Evaluation

Preliminary Assessment	Days' Cash	Actual Cash
1	Greater than 150	More than \$75 million
2	90 to 150	\$20 million to \$75 million

Table 18

Liquidity And Reserves Preliminary Evaluation (cont.)		
3	60 to 90	\$5 million to \$20 million
4	30 to 60	\$1 million to \$5 million
5	15 to 30	\$500,000 to \$1 million
6	Less than 15	Less than \$500,000

Table 19

Liquidity And Reserves Assessment						
Days' Cash Ratio, Preliminary Evaluation	Actual Cash On Hand, Preliminary Evaluation					
	1	2	3	4	5	6
1	1	1	2	2	3	4
2	1	2	2	3	3	4
3	2	2	3	4	4	5
4	2	3	4	4	5	5
5	3	3	4	5	5	6
6	4	4	5	5	6	6

Qualitative Factors Positively Affecting The Initial Assessment Include:

The utility is a distribution- and/or collection-only system with predictable wholesale costs, reducing the level of working capital the utility needs to maintain (see paragraph 98).

Qualitative Factors Negatively Affecting The Initial Assessment Include:

Liquidity is skewed by seasonality or is otherwise not indicative of actual average daily working capital levels.

The lack of a "pass-through" component to the rate structure if the utility could face the potential of rapid volatility in operating costs, such as raw-water or commodity costs, implying the utility is using its own cash to subsidize changes in expenses.

High refinancing risk over the next two to three years.

Exposure to contingent liabilities can cap this assessment at a '5' or a '6' (see paragraphs 99 to 101 and table 20).

Each applicable qualitative factor changes the initial assessment by one point, but the net total of all adjustments would never improve or worsen the initial assessment by more than two points unless an assessment cap of '5' or '6' is applicable.

98. In cases where the utility is a distribution- and/or collection-only system and off-balance sheet obligations are predictable, the utility's working capital requirements, and therefore liquidity levels, may not need to be as high. In those cases, the liquidity and reserves assessment may be improved by one point.
99. As described in "Contingent Liquidity Risks", published March 5, 2012, contingent liabilities* correspond to explicit or implicit obligations that a utility may incur under certain circumstances. These risks could affect the utility's financial position if they materialize and if not otherwise offset by factors such as available liquidity, undrawn capacity under committed lines of credit, or market access. Furthermore, contingent liabilities might arise from a series of smaller risks that, by themselves, may not otherwise appear material, but could cascade in magnitude as proximity to the trigger or timing becomes less remote.
100. These criteria measure both contingent liabilities as a percentage of total long-term debt, as well as available reserves* that may be legally utilized to mitigate some or all of the potential claims on the utility's cash.
101. For utilities assessed as a '5' on table 20, the liquidity and reserves assessment is the lower of a one-point worsening of the initial assessment or a cap of '5'. For utilities whose table 20 initial assessment results in a '6', the liquidity and

reserves assessment is capped at '6'. Any other result is not impactful to the liquidity and reserves assessment.

Table 20

Contingent Liabilities Assessment						
Available Reserves/Contingent Liabilities (%)	Contingent Liabilities/Total Long-Term Debt (%)					
	<20	20 to 30	30 to 40	40 to 50	50 to 60	>60
Above 250	--	--	--	--	--	--
200 to 250	--	--	--	--	--	--
150 to 200	--	--	--	--	--	--
100 to 150	--	--	--	--	--	5
50 to 100	--	--	--	--	5	6
Below 50	--	--	--	5	6	6

C. Assessing Debt And Liabilities

102. The analysis of a utility's indebtedness is useful for a number of reasons: it can give insight into, for example, whether the utility is in the middle of a large growth- or rehabilitation-driven capital program. It can also be closely tied to the utility's rates and capacity for additional debt, which incorporates the analysis of the capital improvement plan (CIP). For the debt and liabilities assessment we use debt to capitalization*.
103. The debt and liabilities assessment is summarized in table 21.

Table 21

Assessment Of Debt And Liabilities	
Initial Assessment	Debt To Capitalization
1	Up to 20%
2	20% to 35%
3	35% to 50%
4	50% to 65%
5	65% to 80%
6	Greater than 80%
Qualitative Factors Positively Affecting The Initial Assessment Include:	
A relatively rapid roll-off of the long-term debt, with 65% or more coming due in 10 years or less, assuming there are no bullet maturities within that schedule that would realistically need to be refinanced. Total debt is not reduced by the presence of a debt service reserve fund.	
Qualitative Factors Negatively Affecting The Initial Assessment Include:	
Concerns about pension funding, which could be evidenced by a funded ratio of less than 80%, an actuarial study that is more than three years old, or a trend of not fully funding the annual required contribution for the pension or postemployment benefits (see paragraph 105).	

104. Given the recent emphasis on recognition and funding as on-balance sheet long-term liabilities for both pension (GASB Statements 67 and 68) and other postemployment benefits (OPEB; GASB Statement 45), consideration as to the utility's share of unfunded liabilities as measured on the balance sheet or accompanying notes will be noted. Although these obligations are debt-like in nature, they are not equivalents to debt because the magnitude and timing of the obligation are not completely certain based on factors such as actuarial assumptions, future benefit levels, and earnings of the fiduciary fund or trust. Similarly, the annual required contributions and pay-as-you-go actual cash

outlays are commonly treated as part of total personnel-related expenses if not accounted for in fiduciary funds or net transfers; these criteria focus on actual cash expended, not a noncash item such as one related to fair value reporting. Finally, the unfunded liability may lie elsewhere, as many utility employees are civil servants and therefore beneficiaries by way of the associated municipal general government's umbrella plans, rather than a utility-specific plan. If the utility is part of a larger general government rather than a stand-alone entity, we assume the utility's funded ratio is proportionally the same as that of the entire unit of government absent better information.

105. Nevertheless, unfunded or underfunded obligations can be a credit factor. The impact of pension and OPEB obligations depends on the degree to which such costs will likely escalate and whether the government has plans to address them. If the funded ratio for the largest plan in which the utility participates is not at least 80%, and if any of the following also is true, the assessment will be worsened by one point:

- The actuarial study is more than three years old, or
- The utility has a trend of not fully funding its pension ARC.

If there is no credible plan to address the obligation(s), the assessment will be worsened by two points.

D. Assessing Financial Risk Management

106. Standard & Poor's evaluates established and ongoing management practices and policies in the seven areas under control of management that are most likely to affect credit quality. The FMA, like the OMA, ranges from (1) strong; (2) good; (3) standard; or (4) vulnerable. These areas and their weights are:

- Revenue and expense assumptions (10% of total FMA),
- Budget monitoring and interim reporting (10%),
- Long-term financial planning (15%),
- Long-term capital planning and asset management (20%),
- Investment and liquidity policies (20%),
- Debt management policies (10%),
- Transparency and accountability (15%).

107. To convert the FMA to a '1' to '6' scale, see table 22.

Table 22

Financial Management Assessment (FMA) Conversion To Six-Point Scale

Observed Evaluation	FMA	Characterization
1.0 to 1.2	1	Strong
1.2 to 1.8	2	Good
1.8 to 2.5	3	Good
2.5 to 3.1	4	Standard
3.1 to 3.6	5	Standard
3.6 to 4.0	6	Vulnerable

Qualitative Factor Negatively Affecting The Initial Assessment

Weak legal provisions when assigning issue credit ratings (see paragraphs 112 and 113).

108. The ability of a utility's management team to implement measures on a timely basis that will in our opinion proactively shape the utility's financial and operating condition can be crucial to maintaining credit stability. The assessment looks at the environment in which financial decisions affecting the utility occur. Generally, higher-rated entities will, over time, develop "best practices" that not only serve as guiding rules of thumb (or actual codified policies) to ensure continuity, but also ensure logical rhyme-and-reason to decisions that are made.
109. This assessment is based on a preponderance of evidence. Specifically, in our judgment are most, but not necessarily all, of the described characteristics applicable? A utility receives a neutral assessment of 'standard' for any sub-factors for which there is insufficient evidence to assign either a positive or negative assessment. However, some sub-factors may receive a negative assessment if a utility has a record of failing to disclose key relevant information.
110. By focusing on a utility's policies and practices, the FMA is not an evaluation of the competency or aptitude of individual finance professionals; nor is it an evaluation of management's ability to handle unique challenges. Moreover, the nature of the utility's governing body, the effectiveness of its governance practices, and issues of public policy involved in utility-related decisions are beyond the scope of this analysis. The FMA analyzes the environment in which financial decisions are made, including how both the ordinary and extraordinary are identified and addressed as relevant to the utility's ability to fund them and to what degree those risks are transparently reviewed and reported to ensure ongoing continuity. Financial results are assumed to manifest themselves in other visible ways and are addressed elsewhere in these criteria. The purpose of the focus on policies and practices is to evaluate the potential for credit quality to move away from that which is currently indicated by results.
111. Transparency and accountability in reporting, regardless of governance structure, is important in order to ascertain key quantitative data. States that require annual audited financial statements increase the likelihood that financial information will be available, and late audits will be noted. The use of GAAP usually enhances reporting detail and consistency across the sector, making it easier to have a sufficient uniform method of interpretation. States that allow cash accounting tolerate a lesser degree of completeness and consistency, and transparency suffers. As noted in "Alternative Financing: Disclosure Is Critical To Credit Analysis In Public Finance", published Feb. 18, 2014, a review of alternative financings and exposure to contingencies is a key component to understanding the entirety of all the risks and revenue requirements to which the utility is exposed.
112. We believe that creditor security can be weakened without a minimum set of covenants that constrains the utility's behavior. If we view the utility's legal provisions as sufficiently weak, the initial FMA would generally be worsened by one point. We believe that in the municipal utility sector those minimums generally include the below covenants and that they must exist at all times:
- A rate covenant to maintain an annual debt service coverage ratio of at least 1.0x or higher from recurring or ongoing revenues. However, where indentures permit the utility to use cash balances to achieve rate covenants, whether the cash is in the form of a rate stabilization account or other available funds, we factor the use of such funds into the ratings evaluation in accordance with paragraph 89;
 - An additional bonds test that places some limits on the amount of increased leverage that will otherwise impair credit quality of the entity; and
 - Provisions establishing remedies for when a rate covenant is violated, such as a review of the current rates.

113. In addition, when the liquidity and reserves assessment for existing rated utilities is a '4' or worse, we will worsen the FMA by one point if there is no debt service reserve fund (DSRF) in an amount equivalent to at least half of the average annual debt service requirements. A DSRF typically provides immediately available supplemental liquidity in the event of pledged revenue insufficiency for the payment on the obligations then due.
- We would not recognize the utility as having a DSRF at all if it is only conditionally funded, such as a so-called "springing" DSRF. In such cases, this is, in our view, associated with conditions likely to come at a time when the utility is least able to afford additional demands on its cash flow.
 - A DSRF may be satisfied with an unconditional surety policy or similar arrangements with another financial counterparty. If we believe that the counterparty would be unable to provide funding for the DSRF in a stress scenario, and the counterparty could not be easily replaced on a timely basis, we would not recognize the utility as having a DSRF.
114. The following tables detail each of the seven financial practice areas examined by the FMA.
115. The revenue and expense assumptions assessment evaluates if the organization's financial assumptions that support the annual budget and any financial forecast are realistic and well-grounded from both long-term and recent trend perspectives.

Table 23

Revenue And Expense Assumptions Assessment	
Strong	Weather-normalized, formal historical trend analysis is performed and updated annually for both revenue and expenses; regular effort is made to determine whether one or more factors will cause revenues or expenses to deviate from their long-term trends over the next few years.
Good	Assumptions for most key line items in pro forma reports are analyzed and updated regularly, while others may assume simplistic changes over time such as linear or inflationary growth or flat from year to year.
Standard	Optimistic assumptions exist that, while supportable, add risk; assumptions are based on recent performance, but little evidence of questioning or validating assumptions exists.
Vulnerable	Assumptions neglect likely shortfalls, expense pressures, or other pending issues; assumptions lack prudent validation.

116. The evaluation of budget monitoring and interim reporting examines how, if at all, management reconciles year-to-date progress versus the budget adopted at the beginning of the fiscal year. This component evaluates if there are procedures for reviewing the budget based on updated information and actual-to-date performance to ensure fiscal targets and revenue requirements are met, and to what degree the interim reporting is disclosed.

Table 24

Budget Monitoring And Interim Reporting Assessment	
Strong	At least quarterly budget surveillance is maintained to identify problem areas, which are publicly reported to the utility's governing body.
Good	Semiannual budget reviews exist; management identifies causes for variances between budget and actual performance and reports them to the utility's governing body.
Standard	A deviation from the budget is only reported because it has occurred; material variances between budget and actual performance are identified after they have occurred but not captured in projections for the remainder of the fiscal period.
Vulnerable	No formal process exists for regular review and timely updating of budget during the year.

117. The long-term financial planning assessment focuses on whether or not a financial forecast exists, the length of the planning horizon is, and if it includes a comprehensive identification of all reasonably likely upcoming revenue

requirements to determine how the utility will meet those revenue requirements, such as adjusting rates or implementing cost containment measures.

Table 25

Long-Term Financial Planning Assessment

Strong	A regularly updated pro forma financial projection exists with a planning horizon of at least three years beyond the current budget year. The forecast includes future impacts to operating and maintenance (O&M) expenses and total financing obligations--both existing and probable--are identified. Impacts to rates or the ability to generate appropriate levels of pledged revenues through cost containment measures, for example, are clear. Planned use of designated cash reserves may occur infrequently, but structural balance is a clear goal.
Good	Pro forma projections exist and are comprehensive as described for a 'strong,' but are typically over a planning horizon of no more than the upcoming budget year plus one to two years into the future.
Standard	Multiyear projections are done but not updated until the last year of the current forecast. Multiyear projections are done, but with focus only on existing revenue requirements and exclude debt financing that is likely to be issued within the planning horizon, or ignore looming infrastructure investment needs such as growth or regulatory mandates.
Vulnerable	No long-term financial planning exists; O&M planning is done on a year-to-year (or budget-to-budget) basis. Near-term challenges are met with short-term fixes.

118. The asset management and long-term capital planning sub-factor assesses if a CIP exists, the length of the planning horizon, how and why projects make the list, and a summary of the most likely funding sources for the identified projects.

Table 26

Asset Management And Long-Term Planning Assessment

Strong	Strategic and comprehensive planning focusing on the utility's infrastructure requirements, physical and other assets, and ability to continue to meet service levels is combined with likely sources of funding for identified projects; the plan and its priorities are regularly updated and transparently communicated. A characterization of "strong" will include planning not only the current budget year but also for at least five years beyond that.
Good	A comprehensive multiyear capital improvement program exists as described for a "strong" assessment but the planning horizon is less than five years.
Standard	The current-year capital expenditures are identified in the budget, but any future projects are currently nothing more than a wish list; a multiyear capital plan exists but funding sources are unclear or absent.
Vulnerable	Capital planning is done as needs arise, but no more frequently than on a year-to-year (or budget-to-budget) basis.

119. Seasonal cash flow needs, capital requirements, unbudgeted or unanticipated items, and contingency hedges all suggest at least some level of working capital cushion to be maintained. The investments and liquidity policies assessment evaluates if management has identified preferred cash reserves by way of an adopted policy or even a target. Liquidity policies and targets must be grounded in reality; these criteria would not give credit for a liquidity policy if it is set at a level so far above current or recent financial performance that we would not view it as attainable. Further, this sub-factor identifies if there are locally-adopted permitted investments guidelines, and if management reconciles and reports on its cash and investments with any regularity.

Table 27

Investment And Liquidity Policies Assessment	
Strong	The utility has embedded policies on the maintenance of minimum reserves, regardless of whether such reserves are deemed by management to be unrestricted or designated yet available for any lawful purpose; the policies are reflective of realistically attainable and sustainable levels. Permitted investments guidelines or policies exist, even if the utility's policies reflect or even mimic the state's policies. Reports on the utility's investment portfolio are prepared and reported to the utility's governing body at least quarterly.
Good	Targets for reserve levels exist by practice, are tied to meaningful levels, and are generally met or exceeded. While the utility's de facto cash management guidelines may defer to the state's permitted investment statutes, no local policy exists. The utility's management reports on its investments at least semiannually to its governing body.
Standard	Management has a target for a preferred level of cash reserves but it seems to be unrealistic given financial performance, or is so newly defined that it may be many years before such reserves are accumulated. Informal or nonpublished investment policies exist, are tracked by administrative staff but only irregularly or at the end of the fiscal year.
Vulnerable	Absence of informal reserve policies; even if they exist, they have been suspended or ignored. Weakness in cash flow adequacy has resulted in a greater appetite for risk in its investments. Investments are monitored irregularly and an external auditor deems there to be weakness or risk in cash handling and monitoring duties.

120. The debt management assessment evaluates if the utility has in place robust guidelines on the use of debt, excluding any covenant already established in its legal provisions. Examples include minimum savings thresholds for refunding bonds; stated preferences regarding final maturity, structure, and overall tenor of its debt, and the use of variable-rate debt, derivative products, floating-rate notes, or direct placement arrangements. If the debt instrument requires a financial institution counterpart, this assessment looks to any policies the utility may have regarding counterparty risk.

Table 28

Debt Management Policies Assessment	
Strong	Debt policies exist and are thorough and well-defined, even if they reflect or mimic state statutes. These policies are widely communicated and followed. While management has a general tendency toward risk-aversion, robust policies and sophistication among key finance officials make it likely that debt instruments that may require heightened levels of monitoring will make surprises a remote occurrence.
Good	Policies exist but may not address some key areas. In the absence of policies, management defers to state statutes that themselves are strong; some of the utility's financing obligations may be of the type that require a heightened level of monitoring, and management has some reliance on external consultants to help ensure remoteness of risks associated with those particular debt instruments.
Standard	Legal provisions and state laws are the sole guiding influences on management's use of and attitudes toward debt, or any internal guidelines are not meaningful beyond very basic or minimum debt management or are identified as unwritten goals.
Vulnerable	Absence of basic policies or clear evidence that basic policies are not being followed. Nontraditional financing options are utilized but there is no internalized knowledge, or utility management relies very heavily on consultants to monitor or manage the risk.

121. The transparency and accountability sub-factor assesses whether or not management has established for the independent review of important financial and operational data as well as the quality, regularity, and timeliness of its continuing disclosure practices, even for things that the utility may not be legally required to disclose. Even with annual audited financial statements produced according to GAAP, nonpublic disclosure of an alternative financing such as a direct placement arrangement would result in an assessment of 'vulnerable' for this sub-factor.

Table 29

Transparency And Accountability Assessment	
Strong	Management produces annual independently audited financial statements that comply with GAAP. Alternative financings and exposure to contingent risks are voluntarily disclosed as they are entered into, and overall continuing disclosure is deemed as robust and timely.
Good	Management produces annual independently audited financial statements that comply with GAAP. Alternative financings, exposure to contingent risks, and overall continuing disclosure are done, but generally only on an annual basis.
Standard	Management produces independently audited annual financial statements, but on a cash or other non-GAAP basis of presentation. Audits typically are released more than 180 days after fiscal year-end. The disclosure of alternative financings and contingent risk is not always timely but generally updated on an annual basis.
Vulnerable	Management produces independently audited financial statements, but cash or other non-GAAP basis of presentation is permitted. Audits typically are late or not produced each year. Regardless of frequency and quality of the audited financial statements, alternative financings and contingent risk are not voluntarily disclosed or overall continuing disclosure is poor and not timely.

VIII. RELATED CRITERIA AND RESEARCH

Related Criteria

- USPF Criteria: Assigning Issue Credit Ratings Of Operating Entities, May 20, 2015
- General Criteria: Rating Government-Related Entities: Methodology And Assumptions, March 25, 2015
- Methodology: Master Limited Partnerships And General Partnerships, Sept. 22, 2014
- Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- Ratings Above The Sovereign: Corporate And Government Ratings—Methodology And Assumptions, Nov. 19, 2013
- Key Credit Factors For The Regulated Utilities Industry, Nov. 19, 2013
- Corporate Methodology, Nov. 19, 2013
- General Criteria: Methodology: Industry Risk, Nov. 20, 2013
- Timeliness Of Payments: Grace Periods, Guarantees, And Use Of 'D' And 'SD' Ratings, Oct. 24, 2013.
- Local Government GO Ratings Methodology And Assumptions, Sept. 12, 2013.
- Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings, Oct. 1, 2012
- Contingent Liquidity Risks In U.S. Public Finance Instruments: Methodology And Assumptions, March 5, 2012
- Methodology: Definitions And Related Analytic Practices For Covenant And Payment Provisions In U.S. Public Finance Revenue Obligations, Nov. 29, 2011
- Methodology: Rating Approach To Obligations With Multiple Revenue Streams, Nov. 29, 2011
- Principles Of Credit Ratings, Feb. 16, 2011
- Stand-Alone Credit Profiles: One Component Of A Rating, Oct. 1, 2010
- Use of CreditWatch And Outlooks, Sept. 14, 2009
- Rating Implications Of Exchange Offers And Similar Restructurings, May 12, 2009.
- Appropriation-Backed Obligations, June 13, 2007.
- Wholesale Utilities, May 24, 2005

Related Research

- RFC Process Summary: Rating Methodology And Assumptions For U.S. Municipal Waterworks And Sanitary Sewer Utility Revenue Bonds, Jan. 19, 2016
- Credit FAQ: An Overview Of Standard & Poor's Updated Methodology For Rating U.S. Public Finance Waterworks, Sanitary Sewer, And Drainage Utility Systems, Jan. 19, 2016
- Credit Rating Model: Water/Sewer Credit Scoring, Jan. 19, 2016
- Credit FAQ: All-In Coverage, Transfer Payments, And Credit Quality, Jan. 19, 2016
- Affordability As A Component Of U.S. Water And Sewer Utility Ratings, Jan. 19, 2016

- Management Is Key For U.S. Water Utilities To Align Operations And Finances, Jan. 19, 2016
- The Broad And Diverse Economy Adjustment: 2015 Updated Scores For U.S. Metropolitan Statistical Areas Based On Local Government GO Criteria, Dec. 15, 2015
- 2014 Annual U.S. Public Finance Default Study And Rating Transitions, May 5, 2015
- Alternative Financing: Disclosure Is Critical To Credit Analysis In Public Finance, Feb. 18, 2014
- Credit FAQ: U.S. Public Finance Ratings And Criteria For Ratings Above The Sovereign, Dec. 19, 2013
- U.S. Public Finance Rating Characteristics, March 7, 2008

IX. Appendix I: Glossary Of Key Terms

In our criteria, "utility" refers to a municipally-owned utility or other legally authorized political subdivision that provides raw and/or potable water, sanitary sewer, and/or drainage services at the retail level, or with wholesale (sales for resale) service not more than 49% of total operating revenues. The utility is most often, but not always, an enterprise within a larger general government, or an independent utility with its own governing board.

"Sewer", "sanitary sewer", and "wastewater" are used as interchangeable terms.

"Drainage", "stormwater", and "storm sewer" are used as interchangeable terms.

The following terms are based on the definitions provided in the article "Methodology: Definitions And Related Analytic Practices For Covenant And Payment Provisions In U.S. Public Finance Revenue Obligations," published on Nov. 29, 2011:

Other terms

Annual required contribution: The actuarially calculated amount that the utility (or its sponsoring plan provider) must make to completely fund its next associated payment on its pension and/or OPEB liability.

Available reserves: Unrestricted cash and equivalents plus any working capital that resides on the utility's balance sheet and is lawfully available for any purpose plus any undrawn capacity under committed lines of credit. Examples include emergency and contingency funds, rate stabilization reserves and other cash that may be designated in purpose but not restricted for debt service, fiduciary purposes, or asset retirement obligations.

Contingent liabilities: Variable-rate demand bonds, commercial paper, bullet payments due within five years, bonds with mandatory tender dates in five years or less, direct bank debt with acceleration clauses, the potential for a wholesale provider to reallocate its costs to the utility in an unbudgeted or otherwise unpredictable manner or the obligation is not based on an availability payment structure, swap or related termination payments if the current rating is two notches or less from the termination trigger, and other identifiable contingencies.

Days' cash: A measure of cash, investments and equivalents, calculated as follows:

Numerator: All unrestricted cash and equivalents plus any reserves that are designated, but ultimately available for any lawful purpose. May include long-term investments so long as they also have no restrictions and are not illiquid.

Denominator: 1/365th of income statement operating expenses. For operating expenses, depreciation, amortization, and other noncash items, such as those that update a fair value on a derivative or pension obligation, are excluded. Transfers are included in operating expenses.

Debt to capitalization: A measure of the relative leverage of the utility, as follows:

Numerator: The sum total of all short- and long-term debt both on the utility's balance sheet and that which is allocable to the utility, including draws on credit lines, commercial paper notes and other loans, debt or material obligations even if not rated by Standard & Poor's.

Denominator: The total debt as calculated in the numerator plus the utility's net position, which we view as public sector accounting's closest approximation of equity.

Dependent population: The total population of the service area that is younger than 15 years old plus the total population of the same area older than 65 years old.

GAAP: Generally accepted accounting principles are the common set of accounting principles, standards, and procedures that most governments and utilities in the U.S. follow. GAAP is determined by the Governmental Accounting Standards Board.

Nonrevenue water: As defined by the American Water Works Assn., the sum total of leaks, water that is incorrectly billed (whether because of an inaccurate meter or human error), theft, unbilled, and unmetered water such as that which is used for fire protection or line flushing, and unbilled but metered water such as water provided to schools or churches that because of local policy is provided free of charge.

Off-balance sheet: An obligation for which the utility is legally responsible, but which may appear only in the rated utility's financial statement notes, or another entity's balance sheet, but not within the long-term debt of the rated utility itself.

Other postemployment benefits: Health care, along with dental, vision, disability, long-term care, and life insurance benefits offered to qualified retirees of the utility.

Self-supporting debt: Debt is considered self-supported if the debt issued by the affiliated unit of government on behalf of the utility--such as a city issuing GO or special tax to fund projects for the betterment of its water system--is fully paid by practice from the utility's surplus net revenues. Full self-support means surplus net revenues must be at least as large as the principal and interest payments then-due on that tax-secured debt.

Tax-secured debt: Debt that is secured by a full faith and credit general obligation pledge (whereby revenues are commonly derived by the levy of a property tax) or special tax--such as a local option sales tax or parcel tax.

X. Appendix II: Municipal Rating Calibration

122. We calibrate our utility rating criteria based on our analysis of the history of defaults, the impact of changes in regulatory mandates over time, our view of the industry's essentiality, the industry's sensitivity to economic cycles, and the credit strength of this sector compared with that of other sectors.
123. Municipally-owned utilities and utility authorities are the monopolistic provider--naturally and often statutorily--of services to their defined customer base. We generally view them as having a business profile that is low in risk and does not stray from its core business of providing retail waterworks and/or sanitary sewer services. We have seen that the local decision-making body, such as the city council or utility board, is usually the one entity solely responsible for approving and implementing rate adjustments, as only a few states require municipal rates to be approved by a utility

regulatory body such as a public service commission. We do not view rate regulation as an impediment to credit quality unless there is clear evidence otherwise as measured by the timeliness and magnitude of requested versus approved rate cases. Municipal utilities, in our view, tend to operate on a cost recovery basis, not a rate-of-return model; any kind of return on investment usually comes in the form of a transfer payment to the general government, not a dividend derived from a profit margin.

124. Defaults and bankruptcy filings among U.S. municipal utilities are extremely rare. Of the 73 nonhousing defaults from 1986 through 2014 among all U.S. public finance issuers, only three (4%) were utilities. While rare, we observed that these defaults were associated with credit-specific characteristics such as weak financial management or a deterioration in the local utility or local government's financial condition, which are the most common indicators of distress.
125. Within U.S. public finance, water and sewer utilities currently comprise about 7% of Standard & Poor's total ratings. The federal courts' own data note, "In the more than 60 years since Congress established a federal mechanism for the resolution of municipal debts, there have been fewer than 500 municipal bankruptcy petitions filed." The vast majority of these were real estate-related special districts, sanitation entities, or industrial development authorities. The EPA's statistics show that there are over 50,000 community water systems in the U.S., about 85% of which are publicly owned. Therefore, we believe U.S. municipal utility defaults are infrequent. We do not expect a change in the historically extraordinarily low default rate in this sector. When there is a rapid deterioration, we do expect to continue to see multi-notch downgrades. Please see "The Time Dimension Of Standard & Poor's Credit Ratings", published Sept. 22, 2010, for a description of potential ratings migration.
126. This assumption is further supported by research, cited in "Local Government GO Ratings Methodology And Assumptions", published Sept. 12, 2013, that the broader historical rate of municipal defaults, dating back over a century in works by Hempel, Hillhouse et al, is extremely low.
127. While generally not rate-regulated, the U.S. municipal utility sector is still highly regulated. Water and sewer utilities are required to comply with numerous environmental regulatory standards at the federal and state levels to ensure public health and safety. The high level of regulation is, in our view, indicative of a public perception that utilities have an essential purpose. The regulatory framework, capital-intensive nature of utilities, and monopolistic nature preclude competition. However, this does not guarantee financial or operational performance. Failure to meet regulatory or environmental compliance could have larger implications and possibly impair credit quality. Our ratings are calibrated to seek a balance between our view that the sector is essential and the fact that each utility is not guaranteed to perform at a certain level.
128. The utility sector, in general, tends to have less susceptibility than other sectors to economic cycles due to the relatively price-inelastic nature of water and belief that sewer service is necessary for public health. We have observed that utilities derive nearly the entirety of operating revenues from local user charges and therefore are not beholden to flat growth in property tax bases or even year-over-year declines in local option sales tax revenues or cuts in state-shared programs. Operating revenues flow directly to the utility, not first to the sovereign central government (the U.S. federal government) or state government, and utility managers enjoy significant revenue, expense, and overall budgetary autonomy. Some local service areas have a principal utility customer that is also a key local or

regional employer, and the utility's financial health may sometimes rise or fall with the prospects of that employer. However, as measured by the number of metered accounts, most utility systems are disproportionately residential in nature, which often tends to create diversity among operating revenues regardless of where in a cycle the local economy is.

XI. Appendix III: An Overview Of The History Of Municipal Water Consumption And Billing In The U.S.

129. Local and regional water conservation programs--both voluntary and mandatory--have for decades succeeded in reducing per capita per day consumptive use, especially in the South and West. Even the federal government, with the Energy Policy Act of 1992, established water-efficient standards for all indoor plumbing fixtures manufactured after 1994 (Section 123, Energy Policy Act of 1992. Public Law 102-486, 102nd Congress. Washington, D.C., Oct. 24, 1992). There is therefore no broadly applicable direct correlation between economic growth and system demands. However, economic fundamentals are still a critical proxy for the current and likely future ability of the customer base to support utility operations and its revenue requirements, as municipal utilities tend to derive nearly all operating revenues from the local rate base.
130. Regardless of the condition of the utility's service area economy, the relative ability of its customer base to pay the utility bill has remained important not only to credit quality but also to the sector itself. Both the EPA and the water utility industry's leading professional organization, the American Water Works Assn. (AWWA) have developed guidelines for measuring affordability.
131. AWWA's "Principles of Water Rates, Fees and Charges: Manual M-1 of Water Supply Practices (6th Edition, 2012)", often cited by the municipal utility industry as the definitive guide for rate studies, notes: "Unfortunately, it is neither economically practical nor often possible to determine the cost responsibility and applicable rates for each individual customer served" (page 75). For utilities, then, AWWA notes that the household is the base unit of measurement for virtually every component of a water utility, such as billing, pumping, water supply and capacity factors. The EPA also uses household, not per capita, income for measuring rate affordability.
132. As first discussed in section 1416(a)(1) of Public Law 93-523, commonly known as the Safe Drinking Water Act of 1974, a state which has primary enforcement powers may grant water systems an exemption from the SDWA "due to compelling factors (which may include economic factors)" The exemptions are not permanent and require the utility to demonstrate that it is unable to make the improvements to meet any such applicable regulatory requirements within a certain timeline and/or the service area is economically disadvantaged.
133. Such exemptions were more fully developed by the federal government with the 1986 and 1996 amendments to the SDWA. Around this same time, the EPA also developed its Interim Economic Guidance for Water Quality Standards Workbook, (EPA 823-B-95-002, March 1995), specifically section 4, and Combined Sewer Overflows--Guidance for Financial Capability Assessment and Schedule Development (EPA 832-B-97-004, February 1997), specifically section 3, to develop affordability criteria for sewer systems, including the residential indicator, which measures the annual utility burden as a percentage of median household income, and a number of additional secondary screening criteria

such as the local unemployment rate versus the national rate.

134. Because these affordability measures are generally accepted and used throughout the industry--even as we acknowledge they are only guidelines and targets--they are also used in our criteria. This methodology, however, is based on median household effective buying income since it better captures aftertax, disposable income, or take-home pay. EPA's secondary screening affordability criteria also take into account the household tax burden (Combined Sewer Overflows--Guidance for Financial Capability Assessment and Schedule Development (EPA 832-B-97-004; February 1997, pp. 32-36), so we view the approach as consistent.
135. It is common practice in the U.S. to measure retail billing units in volumes based either on per 1,000 gallons of water or per hundred cubic feet (ccf). Eight ccfs are equal to 5,984 gallons, or about 6,000 gallons. However, it is currently uncommon for a utility to measure billings in increments of per 500 gallons, so these criteria also round up to the closest equivalent.
136. Regardless of the unit of measurement used by the utility for billing purposes, it is common for there to be some variance between how much water the utility pumps into the system and how much actually gets billed. Most often this is due to leaks in the distribution or storage infrastructure, as well as aged or malfunctioning meters that underrepresent the actual volume of water used by that account. By the time the water leaves the treatment plant, the utility has incurred all the costs associated with that water, such as rights for the raw-water source and the treatment, transmission, and distribution expenses. The AWWA (as defined in its M-36 manual) uses an array of water resources as well as operational and performance indicators. Taken into account are both the volume of the losses and their cost impact. AWWA has stated that the most useful performance indicator for financial purposes is the nonrevenue water, with a financial measure characterized as the cost impact of all losses divided by total system operating costs. Standard & Poor's criteria uses as evidence nonrevenue water volume and cost, the quality and frequency of water system audits, and anecdotal evidence from management.
137. Utility billings and financial metrics can and often do vary from year to year for a variety of reasons, with the most common examples being:
 - Weather--temperatures and precipitation patterns can cause a pronounced variance to annual usage and revenue in either a favorable or unfavorable direction, and no widely accepted normalizer exists in the sector, such as heating or cooling degree days in the electric sector;
 - Debt service schedule--a utility's debt service payments are not always the same from year to year, and can and often do change very significantly into the future; and
 - Infrastructure investment requirements--capital spending needs, whether for growth, rehabilitation, or regulatory mandates, or to address short-term emergencies.

XII. Appendix IV: An Overview Of Irrigation Districts

138. Irrigation districts are special districts that share a broad range of common features with other rated water districts; however, certain credit characteristics are materially different and therefore affect our evaluation of credit quality. In contrast to water utilities that primarily provide water for municipal and industrial uses, irrigation districts often have operations that are limited to the production and distribution of water supply for agricultural purposes. Customers of

these districts are predominantly farms of varying size for which the cost of water supply is one input into the production of agricultural goods ranging from cotton to almonds. In this context, the service area's income levels and unemployment rates are less meaningful, and we focus more broadly on the fact that the customer base is concentrated in a single industry--agriculture--that can be susceptible to unique risks such as poor weather conditions such as drought and frost, or pests, which may materially affect the ability of customers to pay their bills timely and in full.

139. Operationally, irrigation districts often provide a supplemental source of supply rather than a primary source of supply for customers. District activity typically focuses on the distribution of raw water with no treatment required since water is utilized by customers for agricultural production rather than potable consumption. Many, although not all, farms have private groundwater wells that serve as a source of supply, and the cost of water from this source is typically calculated based on the depth to groundwater in the aquifer, the electricity cost to operate pumps to produce the lift required to extract groundwater, and a nominal allocation of maintenance expense for the pumps. We believe that the availability of an inexpensive alternative water supply materially constrains an irrigation district's revenue raising flexibility since in the short term we anticipate that businesses will select the lowest cost of supply all else equal. Also, while irrigation districts often have some of the oldest established water rights to a given surface water source, others depend on contractual rights or permanent water rights to supply from large scale water projects--such as the U.S. Bureau of Reclamation's Central Valley Project or the California State Water Project--that may be subject to allocation methodologies that prioritize supply for municipal uses over agricultural uses due to public health concerns.
140. We have observed that limitations on sources of supply during drought periods may result in volatile debt service coverage patterns, including periods of insufficiency, that are generally inconsistent with the vast majority of rated water utilities and we view as a material credit weakness for this portion of the sector. Furthermore, while capital needs for irrigation districts are often limited to renewal and replacement of existing infrastructure, we have observed that irrigation districts may have unexpected and sizable capital needs for the acquisition of additional water rights or development of water banking capabilities--either internal capability development or participation in an external water bank--that make it very difficult to predict future capital spending patterns.

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

(And watch the related CreditMatters TV segment titled, "Standard & Poor's Updates Its Criteria For Rating U.S. Municipal Water And Sewer Systems," dated Jan. 19, 2016.)

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(Editor's Note: This article fully supersedes "Electric Utility Ratings", published June 15, 2007.)

Standard & Poor's Ratings Services' criteria reflect the challenges and risks of publicly owned utilities operating in a deregulated wholesale environment, and approaching retail competition. The criteria also reflect the dynamics of the energy industry and the credit implications for bondholders and lenders, and emphasize the qualitative and quantitative factors that indicate electric and gas utilities' capacity to operate in a market in which it must work to retain, and gain customers.

Credit ratings for public power, gas, and combined utility issuers embody the interplay between eight variables: management, operations, competitive position, markets, regulation, service area economy, finances and legal provisions. Standard & Poor's also assigns business profiles to all rated electric utilities, which includes the first five factors. These factors are incorporated in credit ratings, and enhance an investor's ability to differentiate between utility systems by complementing the credit ratings and outlooks.

Similarly, business profiles enable electric utilities to make comparative analyses and internal assessments to benchmark themselves against other utilities with which they may compete. Business profiles are ranked on a ten-point scale. A score of "1" reflects the strongest business profile.

Management

A competitive marketplace puts a premium on leadership skills. Management's decisions in all facets of utility rate setting, operations, and finances, are critical to a public power and gas system's long-term viability and strength. Standard & Poor's assessment of management includes an evaluation of the extent to which a utility's strategic plans are supported by local councils or boards of directors, and the extent to which the governing body's actions are supportive of credit quality. Management should demonstrate an understanding of, and be supportive of rate structures, customer service initiatives, and financial strategies that bolster credit quality. While Standard & Poor's evaluation of management consists of a qualitative assessment, our analysis employs specific criteria for measuring the effectiveness of management. The following elements are generally exhibited by well-run utilities:

- Institutionalized planning processes that are revised regularly to reflect changing conditions;
- Sound financial and operating policies that are supported, implemented, and achieved;
- A deep and experienced executive team;
- A solid grasp of industry issues that extends beyond the local utility;
- Extensive knowledge of customers and their needs;
- Extensive knowledge of competitors; and
- A proactive and farsighted management approach that has the support of an informed board or council.

Management should also demonstrate an understanding of the risks and rewards associated with entering into contracts with counterparties, and with entering into new lines of business beyond the scope of its core mission.

Additionally, management will be assessed on their ability to operate within a given governance and oversight structure.

Operations

Standard & Poor's examines the full gamut of a utility's operations through a multipronged analysis that typically explores the following:

- Power and fuel resource mix, capacity, supply and demand;
- Operating efficiency and reliability; and
- Capital needs.

The strength of a utility's operational profile and cost competitiveness is rooted in its portfolio of power and fuel supply resources. Standard & Poor's evaluation also includes the analysis of the operating statistics of a utility's transmission, distribution, and generating facilities. Efficiency measures, including frequency and duration of unplanned outages, plant heat rates, and availability and capacity factors, and line losses, all are vital in determining facility efficiency and ultimately the competitive nature of an individual power plant, or the utility's overall cost profile.

Standard & Poor's examines the diversity or concentration of resources and assesses the fuels upon which a utility depends. This analysis explores resource availability, reliability, and cost. Standard & Poor's does not have a bias toward owned or purchased resources, and the financial analysis of a purchased power agreement will equate fixed capacity payments with debt service incurred when financing directly owned or jointly owned generation assets in computing fixed-charge coverage. Rather, resource diversity, flexibility, and cost competitiveness are the key determinants of operational health.

Issues associated with purchased resources include the level of demand charges, unique contract terms and duration of contracts, and the ability to take advantage of market opportunities. An important component of the power and fuel supply evaluation is an assessment of a utility's fuel mix, supply arrangements, fuel costs, and any financial or other hedging mechanisms designed to control fuel risk. Fuel contract terms, especially pricing conditions, duration, reopener options, and minimum take provisions will be examined. Standard & Poor's will look for a balance in the length and nature of these supply contracts, and for each utility will determine the degree of risk associated with its fuel purchasing practices.

Standard & Poor's will typically explore the degree of sophistication and the checks and balances used in conjunction with any hedging program. Crucial to the analysis of an issuer's fuel mix and purchased power mix is an assessment of counterparty risk. This includes an analysis of wholesale contracts with regard to duration, termination provisions, price, and the extent to which they add a fixed component to the financial profile. Coal, gas, and nuclear-fired generation at various times have fallen in and out of favor. As such, a diverse mix of fuel that enables a utility to employ cost efficient generation is viewed as a strong operational component.

Prepaid power and gas purchase agreements typically offer the buyer favorable inducements such as discounts, and can be funded with tax-exempt debt issued by municipal issuers. For debt-financed, prepaid power and gas contracts, the principal and interest payments are treated similar to capacity payments of the more traditional purchased power

agreements. Operational considerations include the source and nature of the contracted fuel and power supply, which may be unit-specific or from a more diverse pool of generation assets and fuel sources; the amount of the commodity purchased relative to the issuer's total supply needs; contract duration; and creditworthiness of the energy supplier. Contract terms are also scrutinized, and should provide bondholders with protection in the event the counterparty fails to perform its contractual obligations.

For prepaid natural gas transactions, the treatment of the debt issued to fund the prepayment is slightly different than that of prepaid power contracts, since pay-as-you go gas supply purchase agreements do not typically have a capacity component imputed, as with purchase power agreements. The annual amount of the debt service on the prepaid bonds is typically sized to approximate the cost of gas that would arise had the gas been purchased under a long-term gas purchase agreement, so the impact on cash flow under either scenario is minimal, as long as the supplier continues to perform.

For prepaid gas transactions involving directly issued debt or involving third party conduits such as joint action agencies, debt service is calculated or imputed to measure the transactions impact on debt ratios. However, the qualitative factors that mitigate potential pitfalls usually associated with debt leverage, such as the risks of load loss, supplier performance and remarketing, will be taken into consideration. Therefore, although evaluated on a case-by-case basis, debt-financed prepaid gas contracts, so long as their terms do not give rise to significant additional operating risks, and if structured so that counterparty risks and remarketing risks are mitigated, generally should have a neutral impact on credit quality when compared to a pay-as-you go gas purchase agreement.

Costs of historical investments in generating plants continue to represent a significant challenge to electric utilities and frequently are a significant element underlying above-market rates. Investment is measured in terms of the amount of debt that has been incurred and the associated costs of servicing debt in relation to kWh sold, kWh of demand, kW of installed capacity, and the number of customers served by the system. Again, fixed capacity payments made under purchased power agreements will be factored into the analysis, equating such payments with principal and interest on generation-related debt. In the event that a municipal electric utility is faced with a deregulated retail environment, the elimination of stranded costs is critical to its viability. A utility whose fixed obligations cause rates to be above market levels is less likely to be able to fully recover these costs in a competitive environment, which will have negative implications for both the utility's business profile and rating.

Transmission access is vital to a utility system's operations, and credit and business risk. In determining strength in this area, Standard & Poor's will generally look at the number of interconnections with which the utility in question has access, the cost profiles, and supply and reserve characteristics of these other interconnected utilities, and the price paid for wheeling of power. Importantly, Standard & Poor's will evaluate the extent to which these interconnections and potential power and fuel diversity arrangements provide a utility with enhanced operating and competitive flexibility. The Federal Energy Regulatory Commission (FERC) is authorized to impose market rules regarding transmission operations, and the impact on a utility as such rules evolve will also be evaluated.

Operating efficiency and operational strength are measured with reference to the cost of producing a unit of energy. Historical and projected trends in average and marginal production costs on an absolute and relative basis are reviewed. An electric utility's generating costs relative to industry averages will indicate the economics of its power

supply and the potential for stranded costs.

The efficiency of a utility's services and operations is evaluated according to ratio analysis, including production cost per kWh, cost per MMBTU, debt per kWh and debt per customer. A utility's efforts at managing its load curve—and therefore its costs—through demand side and resource management programs will be viewed positively to the extent that they are economically reasonable and practically achievable. Some utilities with below average load factors may be less able to control the associated inefficiencies and costs, but they also may be less susceptible to competitive forces.

Favorable operational characteristics include:

- Diverse supply sources;
- Favorable fuel supply arrangements coupled with cost containment strategies;
- Widespread transmission access that does not depend completely on a single entity to wheel power;
- Production costs that are competitive and reflect reasonable operating and maintenance costs; and
- Manageable environmental or regulatory exposures.

Some public utilities are active in, or planning to provide new services, such as telecommunications services, chilled water, and steam, in addition to their core businesses in order to diversify their revenue streams. Standard & Poor's will evaluate whether or not such additional ventures, which can increase financial risk, will be detrimental to the utility's core business. Important components of such analysis are the relative share of operating expenditures attributable to, and the amount increased leverage associated with such enterprises.

Competitive Position

Competitiveness is important to the retention of native load and the preservation of the revenue stream pledged to debt repayment, for both systems operating in open access environments or in those that are currently protected. Competitive positioning remains important, even for utilities in states that have yet to advance deregulation of electricity markets due to heightened awareness of retail choice among even captive electricity customers. For gas utilities, unlike power utilities, not all potential customers in the utility's service territory will opt to connect to the gas system, given alternatives for natural gas, and thus competitive position is also an important credit factor.

Overall system average rates, as well as rates on a customer class, are generally at the center of Standard & Poor's review of a utility's relative competitive position. The analysis is extended to include an assessment of the rates that a utility charges specific loads and rates levied on its largest customers relative to potential alternative suppliers. Standard & Poor's explores each utility's rate design, use of contract rates, and rate affordability. Affordability is measured relative to income levels and usage patterns. The commitment of policy makers to provide equitable rates that reflect the costs of providing service without subsidies is crucial in the changing environment. The presence of automatic power or fuel cost adjustments, which limit or avoid the political influence on timely rate adjustments geared to recapturing fluctuating commodity costs, is viewed favorably.

A discussion of rates also includes the issue of a utility's rate-setting process, whether by a third party or through self-regulation.

Strong competitive position characteristics generally include:

- A rate design that equitably apportions costs between and among system customers;
- Unit rates by customer classification that display a competitive advantage;
- Projections of rates that will continue to display a competitive advantage, preserve the revenue stream associated with native load, fund capital expenditures for system maintenance and growth and help attract new load;
- Ability to establish rates free from state regulatory bodies; and
- Flexibility to adjust rates quickly and frequently to match potentially volatile cost structures.

Service Area

An analysis of a utility's service area typically entails a review of its customer base and demographic characteristics.

Standard & Poor's considers each utility's customer base in terms of total number of customers and the number of customers by class. Revenues, sales volume, margins and load factors are examined for each customer class and for the largest customers. The terms and time frames of any long-term contracts negotiated with industrial and commercial customers are also examined. Load factors and unit costs charged to key industrial customers are particularly important because they demonstrate the attractiveness of these customers to other suppliers or the opportunity for self-generation, and the potential for lost revenues. Large customers' supply options and cogeneration capabilities, and alternatives for heating, are important to ascertain potential system exposure. Also usually factored into the analysis of the customer base is an evaluation income levels to determine the relative affordability of rates.

The service areas of rural areas are sparsely populated with few customers per line mile, which reduces the risk that a competing utility will cherry pick its most attractive customers. Yet, these service areas also limit the opportunities for revenue growth, and tend to increase capital investment and service costs per unit of sales.

Historically, Standard & Poor's examined an electric or gas utility's service area economy as a proxy for the stability of the revenue stream pledged to repay the utility's debt. While economic analysis remains a major focus, it can be tempered by the influence of competitive factors.

Favorable market characteristics include:

- Load factors for the system and leading customers that do not make the system particularly vulnerable to competitive factors;
- Stable or increasing population trends, in accordance with other forecasts for the utility; and
- High wealth indicators relative to cost-of-living indices and the level of electric rates.

Regulation

Standard & Poor's assessment of regulation encompasses several regulatory factors. These include the impact of federal, state, or local regulators with regard to ratemaking, competition, transmission, and the environment. The impact of the regulatory framework will come into play among several rating factors, particularly operational and financial factors.

In terms of restructuring of electric markets, Standard & Poor's believes that the movement toward a more openly competitive environment is possible over the long term, and would most likely occur on a state-by-state basis, as opposed to via federal preemption. Standard & Poor's recognizes that many utilities will find that open markets will create opportunities, and also risks. Generally, however, public power utilities in regulatory environments that do not require them to face direct competitive threats from other power suppliers are subject to less credit risk.

Finances

A traditional analysis of a utility's financial performance generally incorporates a review of debt service coverage margins and liquidity, but also examines specific utility results and decisions. For example, some utilities are emphasizing competitiveness over the financial strength associated with excess coverage margins and debt service reserves, in an attempt to ensure long-term system viability. Standard & Poor's considers the effects of such policy changes and the potential diminution of financial cushions in its credit ratings. Standard & Poor's will typically assess the costs of achieving competitiveness and the impact of competitiveness upon financial integrity and system reliability. Reduced coverage and reserves may be appropriate for some utilities but not for others, depending upon the degree to which competitiveness can be enhanced and also the operational and competitive challenges that each utility faces.

Key financial ratios include debt service coverage, and fixed-charge coverage; unrestricted cash as a percentage of total expenditures; and debt to equity, among others. While debt service coverage is a traditional financial metric for municipal utilities, it is common for municipal electric systems to structure their operations using off-balance sheet debt for generation projects, and purchased power agreements that have debt-like characteristics. As such, fixed-charge coverage, which imputes fixed payments associated with power and transmission purchases, whether through debt service or capacity payments tied to purchase contracts, is the more critical coverage ratio in the financial analysis of public power utilities. Transfers to other governments, while often expressly subordinate, are factored into the analysis as operating and maintenance expenses that reduce available net revenues, as transfers typically resemble property taxes, franchise fees, direct cost reimbursements, dividend, or return-on-equity type payments commonly paid by other enterprises such as investor-owned utilities.

The balance sheet has become a key tool for controlling costs and achieving competitiveness. Asset-to-liability management is particularly important for systems that have high debt due to their investments in high-cost generating assets and the extended use of capitalized interest to fund them. Common options that are being pursued by public power include the restructuring of debt, extending the useful lives of plants, writing off uneconomic resources, accelerating the amortization of high-cost debt, and the use of variable-rate debt, interest-rate swaps, and other debt derivatives. It is quite likely that still other financial tools will be introduced in response to the pressure to bring down rates.

The use of each of these tools is evaluated relative to its appropriateness to the specific situation of a given utility. Generally, these mechanisms can be said to produce positive results to the extent that they reduce the upward pressure on rates. Utilities that maintain adequate cash balances to deal with the opportunities and challenges posed by a restructuring industry maintain important flexibility. For instance, ample funds will allow them to pay off high-cost

debt, thereby improving their cost of capital and equity ratio. Some systems with strong business fundamentals could reduce their cash balances without affecting their credit ratings. This is particularly true for distribution systems that do not have the same pressures and demands on liquidity as the more generation-dependent systems. The movement of the industry in this direction is evidenced by the revised bond resolutions and indentures that are designed to free up reserves that have been maintained under traditional financing documents.

Standard & Poor's monitors the use of synthetic financial instruments. These instruments present benefits, but also can increase risk, particularly as operating margins and reserves are trimmed to achieve competitiveness. Because risks associated with financial derivatives are borne by ratepayers and are not shared with owners, as is the case with investor-owned utilities, it is imperative that a very high degree of oversight and control be employed.

Legal Provisions Of Electric and Gas Systems

Standard & Poor's views an electric revenue bond transaction's legal provisions in conjunction with the system's overall financial profile. For electric and gas utilities that are able to generate system surplus well above minimum levels required by bond covenants, legal provisions will be of less importance in the rating analysis. For utilities that demonstrate relatively weaker financial profiles, the analysis of legal provisions remains a critical factor. As defined in a bond indenture or resolution, the legal provisions make clear the issuer's capabilities, responsibilities, and the bondholder's recourse in the event of the issuer's noncompliance.

For utilities with a strong financial profile, strong or weak legal covenants will not correlate with a higher or lower rating. For a weaker utility, liberal legal covenants will continue to be viewed as a weakness and could serve as the basis for the assignment of a lower rating to systems with modest credit quality.

The most important legal provisions reviewed are the security pledge, rate covenant, flow of funds, additional bonds test, and debt service reserve. Also, a growing number of issuers are incorporating swaps or other derivatives into bond transactions, to supplement the traditional legal structure..

Security

The most common form of bond security for utility bonds is system net revenue. Some issuers elect to secure bonds on a gross revenue basis. However, Standard & Poor's believes that pledged system revenues should always be sufficient to cover debt service and operating expenses and, therefore, does not differentiate between net and gross revenue pledges. Similarly, off-balance sheet debt obligations of retail utilities that are usually secured by system operating expenses are treated as senior-lien debt. Typically, these payments are take-or-pay obligations with wholesale agencies.

Rate Covenant

The rate covenant establishes the minimum level of debt service coverage that a system must provide on a fiscal-year basis. Standard & Poor's analyzes the rate covenant in relation to the overall operational and financial performance of

the individual system. Generally, a mature system with stable operational and financial performance will not need as strong a covenant as a system that can be subject to volatile financial margins or anticipates a large capital program.

A rate covenant addresses all obligations--senior and subordinate debt, as well as other system fund requirements. Typically, rate covenants for retail systems range from 1.10x- 1.25x the annual principal and interest requirements of senior-lien debt. This extra margin provides bondholders with financial protection. Sufficiency-only rate covenants of senior-lien debt are of less concern for issuer's that consistently set and achieve internal coverage policies well in excess of coverage levels required by the rate covenants.

For issuers that operate with less substantial margins, weak or sufficiency-only rate covenants will play a greater role in determining the rating. For these issuers, a covenant that allows the issuer to use existing cash reserves, otherwise known as "carryover coverage", or one-time revenue sources would likewise have negative rating consequences, especially if such funds are forecast to be necessary for coverage compliance.

Flow Of Funds

The flow of funds specifies the order and timing in which system revenues are used to meet the obligations created by the indenture. Of critical importance to the rating is the lien position of debt service payments in relation to other system obligations created by the indenture. The flow of funds defines the issuer's ability to transfer surplus funds out of the system. Such transfers can drain the utility's cash position or restrict capital improvements otherwise financed from earnings. Transfer payments that are limited to a reasonable amount and limited to a specific formula, such as a percentage of revenues, partially offset this concern. However, Standard & Poor's will calculate coverage both with and without transfers for comparative purposes. Frequency of payments to the debt service fund range from monthly to semiannual deposits. From a financial perspective, monthly deposits are preferred, since this approach allows a smooth buildup of the debt service fund and an early indication of any shortfalls.

Additional Bonds Test

As with the rate covenant, the additional bonds test is viewed in conjunction with the financial and debt profile of the system. The purpose of the additional bonds test is to protect existing bondholders from dilution of their security position. Standard & Poor's focuses on whether the issuer's right to and likelihood of issuing parity bonds at a later time would result in a decline in coverage. Attributes of a strong additional bonds test for parity debt include a test based on historical net revenues that preserve sound coverage of existing and proposed obligations. A test that measures historical earnings is preferred, since it is less speculative than those based on revenue projections. Often, projected tests rely on assumptions that might not be realized, such as future rate increases or revenues generated by new facilities.

Likewise, adjustments to historical net revenues to reflect new customers, system acquisitions, rate increases, or contracts for additional services can weaken an otherwise strong historical earnings test.

Reserves

Standard & Poor's looks for established reserve funds, such as debt service reserve accounts maintained at specific funding level, to provide additional cushion for debt service payments and system maintenance within a given budget year. For issuers with thinner margins, a fully funded debt service reserve is important, since it provides an additional layer of protection for bondholders.

Typically, a debt service reserve requirement is equal to the lesser of 125% of average annual debt service, 10% of bond proceeds, or maximum annual debt service thresholds, which are derived from Internal Revenue Service regulations. This restricted reserve is expected to be funded from bond proceeds, or built up from pledged revenues, usually over no more than five years. The former approach adds more credit strength. Substitution of cash-funded reserve by a surety bond and/or letter of credit obtained from a creditworthy entity also is acceptable. If the reserve fund is tapped to meet debt service payments, a reasonable replenishment schedule should follow. Renewal and replacement accounts and rate stabilization fund accounts are also common, and provide additional financial cushion, but are not considered necessary from a credit standpoint.

Typically, a system with stable operations and strong financial margins can carry diminished debt service reserve provisions, including the use of springing covenants, without credit implications. Alternatively, the absence of fully funded reserves for systems that generate thinner margins, exhibit asset or customer base concentration, operate in a shallow service area economy, or have cash flow constraints, may result in a lower rating.

Suggested Documentation

Financial Documents

- Official statement
- Indenture/resolution (including supplemental resolution and indenture)
- Other legal documents
- Debt service schedule (with and without current financing)
- Five years of audited financial information
- Capital improvement plan
- Current year budget
- Pro forma projections
- Contracts for purchased power (including participation agreements)
- Contracts for fuel (if applicable)
- Contracts with leading customers
- Details on power and interest rate swaps.

System Information

- Type of unit (base, intermediate, peaking), fuel type, availability, capacity, load factors and installation date for individual generation units
- Peak data (historical)
- Load factors for leading customers
- Leading customers as a % of revenue
- Revenue by customer class (residential, commercial, industrial, other), historical
- Customers by class (residential, commercial, industrial, other) historical
- % power purchased, % power generated, historical & projected
- % of purchased power under contract; % of purchased power brought on spot market
- Fuel mix, historical and projected (for generators)
- Rates historical, projected
- Fixed charges for off-balance-sheet obligations, historical and projected
- Debt service schedule for off-balance-sheet projects, and participation percentages.
- Transfers, historical and projected
- Rate stabilization funds (historical/projected) held at the issuer level
- Transfer policy and methodology if available
- Debt and hedge policies if available
- Policies related to entering into non-traditional ventures, if available
- Summary of power supply, transmission, and fuel purchase contracts, including term, price, amounts, fixed and/or capacity payments, and other key facets.

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These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

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Criteria | Governments | U.S. Public Finance:

Methodology For Assessing The Impact Of Securitized Debt On The Ratings Of U.S. Public Finance Waterworks, Sanitary Sewer, Electric And Gas Enterprise Issuers And Their Unsecuritized Debt

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VI. RELATED CRITERIA AND RESEARCH

Methodology For Assessing The Impact Of Securitized Debt On The Ratings Of U.S. Public Finance Waterworks, Sanitary Sewer, Electric And Gas Enterprise Issuers And Their Unsecuritized Debt

1. Standard & Poor's Ratings Services is publishing its methodology for evaluating the impact of debt securitization on the ratings of U.S. Public Finance waterworks, sanitary sewer, electric and gas enterprise issuers, their unsecuritized debt, and their stand-alone credit profiles (collectively, "ratings").
2. We are publishing this article to help market participants better understand our approach to reviewing the impact of securitizations that meet Standard & Poor's securitization criteria on our utility ratings.
3. This article is related to the following criteria articles:
 - "Principles Of Credit Ratings", published on Feb. 16, 2011;
 - "Securitizing Stranded Costs", published on Jan. 18, 2001;
 - "Legal Criteria For U.S. Structured Finance Transactions: Special-Purpose Entities", published on Oct. 1, 2006;
 - "Electric And Gas Utility Ratings", published Dec. 16, 2014;
 - "Standard & Poor's Revises Criteria For Rating Water, Sewer, And Drainage Utility Revenue Bonds", published Sept. 15, 2008; and
 - "Key Water And Sewer Utility Credit Ratio Ranges", published Sept. 15, 2008.

I. SCOPE OF THE CRITERIA

4. These criteria apply to U.S. public finance issuers operating waterworks, sanitary sewer, electric or gas municipal utilities (collectively, "utilities") that use securitization debt that meets Standard & Poor's criteria for enterprise securitizations.
5. The ratings evaluation of the securitization debt is distinct from this methodology and is addressed exclusively by Standard & Poor's securitization criteria cited in paragraph 3.

II. SUMMARY OF THE CRITERIA

6. These criteria address the financial adjustments Standard & Poor's makes when issuers' debt portfolios include securitization debt.
7. When the securitization financing meets the elements of Standard & Poor's securitization criteria as described in paragraph 11 and there is statutory provision for a mandated recovery of the securitization costs, as also described in

paragraph 11 (hereafter referred to as "segregated securitized debt"), the securitization effectively makes all consumers responsible for principal and interest payments, and the utility is simply a pass-through entity for servicing the debt. As such, we deconsolidate securitization debt, or, more precisely, remove the debt and related revenues and expenses from our financial metrics when establishing the ratings on utilities.

III. IMPACT ON OUTSTANDING RATINGS

8. We do not expect changes in existing ratings to result from the publication of this methodology, which is largely driven by the objective of increasing the criteria transparency and is consistent with current analytic practice.

IV. EFFECTIVE DATE AND TRANSITION

9. These criteria are effective immediately for all new and outstanding public finance waterworks, sanitary sewer, electric and gas utility ratings.

V. METHODOLOGY

10. Segregated securitized debt that securitizes a portion of an enterprise's revenue debt reduces an issuer's exposure to direct debt obligations because securitization financings create a revenue pledge that is legally separate from the revenues that fund utility operations and debt service because of a statutory authorization that mandates recovery, even when securitization and nonsecuritization charges are billed together on customers' billing statements. At the same time, even where utility financial statements consolidate securitization debt, a securitization financing does not have a claim on utility revenues that fund utility operations and unsecuritized debt service.
11. When securitization financings contain the structural features described in this paragraph, we deconsolidate segregated securitized debt from the utility's financial statements, meaning we remove securitization debt, revenues, and expenses from the utility's financial statements, and we remove the securitization-related debt service from our debt service calculations. The securitization financing must be pursuant to statutes enacted by a government entity constitutionally authorized to mandate recovery of securitization financing costs that are segregated for specialized recovery. Also, the securitization financing structure needs to exhibit protective features, including: an irrevocable, non-bypassable charge and an absolute transfer and first-priority security interest in transition property; periodic adjustments ("true-up") of the charge to remediate over- or under-collections compared with the debt service obligation to ensure collections match debt service over time and do not diverge significantly in the short run; and reserve accounts to cover any temporary shortfall in collections.
12. Specifically, Standard & Poor's makes the following financial adjustments for segregated securitized debt:
 - Adjustment to debt: We subtract the securitized debt from total debt.
 - Adjustment to revenues: We reduce revenue allocated to securitized debt principal and interest. The adjustment is the sum of securitization interest and principal payments made during the year.
 - Adjustment to interest expense: We remove the interest expense of the securitized debt from total interest expense.

- Adjustment to debt service: We reduce debt service by netting out the securitization debt's principal and interest payments.
13. After deconsolidating segregated securitized debt, we assign our ratings to the utility's unsecuritized debt in accordance with the relevant utility enterprise criteria.
14. Utilities generally act as the servicers for segregated securitized debt and collect securitization debt service requirements for the benefit of securitization debt bondholders. Utilities aggregate these charges on customer bills together with ordinary charges covering operating expenses and unsecuritized debt service. It is our view that customers focus on the total amount of a utility bill, rather than its component parts. We believe that customers do not disaggregate securitization charges from traditional utility charges in assessing whether the utility's traditional charges are favorable or onerous following a securitization. Consequently, while we exclude securitization-related revenue collections, debt, and debt service from the analysis of a utility's financial metrics, we do not make any adjustment for securitization in our qualitative assessments of financial and rate-making flexibility. As such, the analysis of a utility's capacity to adjust rates, a fundamental element of the qualitative analysis of utility credit quality, takes into consideration the entire amount of the customer bill, including securitization-related charges.

VI. RELATED CRITERIA AND RESEARCH

Related Criteria

- Principles Of Credit Ratings, Feb. 16, 2011
- Securitizing Stranded Costs, Jan. 18, 2001
- Legal Criteria For U.S. Structured Finance Transactions: Special-Purpose Entities, Oct. 1, 2006
- Electric And Gas Utility Ratings, Dec. 16, 2014
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- Key Water And Sewer Utility Credit Ratio Ranges, Sept. 15, 2008

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Under Standard & Poor's policies, only a Rating Committee can determine a Credit Rating Action (including a Credit Rating change, affirmation or withdrawal, Rating Outlook change, or CreditWatch action). This commentary and its subject matter have not been the subject of Rating Committee action and should not be interpreted as a change to, or affirmation of, a Credit Rating or Rating Outlook.

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Criteria | Governments | U.S. Public Finance: Solid Waste System Financings

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(Editor's Note: This criteria article originally was published June 15, 2007. We're republishing this article following our periodic review completed on Feb. 23, 2015. As a result of our review, we updated the author contact information.)

Areas reviewed to reach a rating determination include:

- Economic considerations;
- Financial data/capital improvement plan;
- Rate criteria;
- Operational characteristics;
- Management assessment; and
- Legal provisions.

Particular concerns related to solid waste management within different states are included in the analysis of these factors. Generally, areas that could differ from state to state are environmental laws, the power to create franchises, the magnitude of competing alternative disposal options, and lastly, the level of government responsible for the implementing of solid waste disposal plans. Those unique features applicable to credit quality of individual issuers will be reviewed on a case-by-case basis.

Economic Considerations

The economic assessment of the markets in which the issuer operates will be discussed in this section. The analysis will primarily consider waste flow available within the service area, and the ability of these flows to generate sufficient revenues to repay debt, and also includes an analysis of historic and projected waste flow trends. The characteristics (commercially generated versus residential generated) of the waste flow will also be considered. In addition, the service area economy and demographics will be scrutinized. Another key element of waste flow availability and control relates to the arrangements and relationships with waste haulers. Consideration of the different types of arrangements under which haulers and the system operate, such as franchise agreements and contracts, among others, are factored into the rating analysis.

The economic analysis will also examine the service area, and how it is defined including consideration of agreements and relationships with participating municipal governments for the regional or countywide systems. An adversarial or litigious history with either haulers or with municipal governments will present greater market risk. Employment, population trends, and wealth and income indices are reviewed to establish the underlying economic strength of the service area and its capacity to repay the financing. Service demand (garbage flow) typically reflects the service area's economic activity. From the economic base analysis, Standard & Poor's Ratings Services can assess the waste stream service demand. As a starting point, historical garbage disposal alternatives, tonnage, and costs are reviewed. Per capita disposal rates can be indicative of the volatility of the waste flows and the effectiveness of recycling and reduction programs.

A review of the area's future disposal alternatives and reliability of facilities is performed. Competition from alternatives (versus control of the waste stream) is assessed to understand tonnage projections. The capacity of all available facilities on an annual and lifetime basis is then compared with the forecasted service area demand. If surplus capacity exists, an analysis is performed of the additional costs and exposure inherent in carrying that excess. If the facilities are inadequate to handle current or projected service area demand, the evaluation includes the cost of financing additional facilities.

Rating Criteria

The rating criteria includes a review of the system's cost structure with a primary focus on current and projected tipping fees relative to alternative or competing facilities. The proximity of competing facilities, as well as the capacity for those facilities to accept outside waste will typically be examined. The assessment will also generally consider the total household cost including collection and disposal. While the overall system or project cost profile is of primary importance, some consideration will be given to fee structure since risk of waste diversion can be mitigated through the method of cost recovery. However, the overall system or project cost profile is a critical factor.

Operational Characteristics

In evaluating the operations of a solid waste system or project, Standard & Poor's focuses on the service provider's flexibility in handling changing industry requirements while efficiently fulfilling its primary purpose. As mentioned, waste disposal methods address a number of environmental issues.

A key consideration in the analysis is bond amortization versus the useful life of the facilities. The expected life of the landfill generally at least matches the term of the debt, and the legal structure typically provides flexibility to respond to the variability in landfill life if waste flow levels change. A system, by its nature, has an advantage over project financings in handling these risks. However, a project also can be structured to manage them effectively—for example, a landfill disposal contract that provides project back-up disposal capacity. However, contracts also have risk. Contracts generally allow less control than system-owned capacity and can be subject to legal, regulatory, and performance concerns.

System or project operations are evaluated against demand for disposal over the term of the bonds. If components of a system or a facility are temporarily or permanently out of service, the ability to dispose of waste elsewhere is reviewed. The capacity to handle such a situation with a minimum of shock to operations or cost is viewed as a credit strength. The greater the volume of waste that can be disposed of at redundant facilities, the better the ability of the issuer to generate revenues to repay debt. This leeway allows time for the development of other alternatives that might guard against a sudden increase in the price of disposal and reliance on an outside source for the service. Such reliance subjects the operations to the whims of another entity for continuance and cost, and the lack of control is viewed as a weakness.

Standard & Poor's considers the entire waste stream and disposal process to evaluate if changes have been adequately addressed. The size of facilities or provisions and plans for expansion are evaluated. An inordinate reliance on one

method of waste management raises questions regarding the system's flexibility to respond to waste flow changes and facility problems.

An assessment of the impact of the external pressures brought on by regulation and environmental mandates, whether at the federal, state, or local level is typically performed. The analysis will consider how complying with the regulatory environment will impact a system or project's ability to compete.

One unique concern that must be addressed by solid waste issuers is the transportability of solid waste. Since there is usually no direct link between the solid waste utility and the customer, the haulers collecting the waste can choose the disposal site. The ability to direct waste to the project or system's facilities provides an important link between the waste generator and the disposal system. Waste-flow control can be provided by municipal ownership of collection vehicles, some form of contractual arrangements, or through economic means. Based on the competitive nature of the solid waste industry, a system that cannot effectively retain the waste flow typically bears a riskier profile, unless alternative revenue sources are available and pledged for debt repayment.

Financial Data/Capital Improvement Plan

In evaluating finances, primary concerns are the levels of coverage and liquidity. As with Standard & Poor's focus on the legal structure, a review of different operating and nonoperating scenarios that demonstrate sufficient debt service coverage in all cases is generally expected. Costs are viewed relative to the capacity to pay. As the cost of disposal is generally rising, the comparison of future costs with historical costs has less meaning, but the control and management over future cost increases are weighed against the risks. Also, the effectiveness of the chosen disposal options is measured against the cost of future alternatives. By operating a solid waste system, a community generally has more cost control. It also assumes more risk in ownership and/or operation than if a private enterprise provides disposal. Landfill closure costs, for example, can be substantial and should be amortized over the life of the landfill in order to match revenue generation with costs.

Costs are reviewed in terms of tip fees per ton and household costs. The former is a relevant measure for systems that rely, for their major cash flow component, on tipping fees paid by franchised and private haulers. Clearly, the competitive position of the tipping fee impacts financial performance. However, total household costs also provide an important basis for evaluating the costs of the system. Household costs should include not only disposal cost, but also the cost of collection and transportation to the disposal site; individuals are concerned with their total bill for garbage service, not the various components. Household cost increases are reviewed for acceptability and affordability.

Costs under different scenarios are reviewed and measured for variance. Large variances may raise concerns. How attendant increases and risks are mitigated is factored into the analysis. For example, if the revenue stream depends heavily on a secondary revenue stream, such as energy revenues, the risk of lower energy sales and the impact on household cost are evaluated. The steps that an issuer takes to mitigate as many of its revenue generation risks, that ultimately lessen the financial impact on household cost, the stronger the rating.

Additionally, Standard & Poor's will focus on whether a system is in compliance with its EPA mandated post closure costs, such as is management setting aside sufficient funds to meet this future liability fully, and if not what plan does

management have to eventually meet this liability. When calculating annual debt service coverage the operating expense labeled provision for post closure cost will not be included in determining total operating expenses, thereby insuring that debt service coverage will not be adversely affected by the decision to annual fund the post closure cost liability.

Management Assessment

An assessment of management's ability to adapt and respond within the business environment and consider strategies for ensuring waste flow and revenue streams is undertaken. One of the most critical aspect is to determine whether the management team is proactive or reactive. Standard & Poor's focuses on who ultimately makes the key decisions (an elected versus appointed governing body), such as when and how much to increase rates, what the additional debt plans will be, what policies are to be adopted and more importantly the history of making timely and effective decisions.

An independent consulting engineer's report, historical operating records and a meeting with management provide information to evaluate management's ability to construct and operate the facilities. If a private operator is contracted to run the system or facility, Standard & Poor's focuses on what the incentives there are for that operator to provide efficient operations. In all cases, an equitable agreement for both parties and termination clauses for nonperformance are necessary.

Long Range Planning

Policies focusing on short- and medium-term issues may be implemented with some success, but they are likely to prove insufficient without some focus on relating the system's current status to its long-term needs. True operational stability assumes that a system's current and likely future needs have been measured and are relatively known.

The average increase in rates to be targeted over the next decade cannot be known without some idea of the cost pressures a utility may face, and without an effort to estimate these needs, it will be extremely difficult to educate and inform ratepayers. Cost pressures to be estimated include those for operations, replacement, regulatory compliance, and accommodating additional growth. The nature of these cost increases should be considered, that is, whether they are ongoing or likely to be diminished over time, along with their magnitude.

Legal Provisions

Legal provisions are defined through the bond indenture and other documents, which outline the basic structure of the financing. Whether the structure provides for an integrated solid waste system, a stand-alone project or a subsidized financing of facilities, the analysis focuses on what is the security for the bonds and the identification of the supporting revenue stream.

Standard & Poor's Ratings Services generally reviews all contracts concerning service, operation, construction, and energy sales for possible credit implications. The revenue stream pledged under these documents can vary

considerably. A mixture of special taxes, disposal fees, and a municipal entity's credit can be pledged in addition to other revenues, such as those from the sale of by-products. The nature and diversity of the revenue stream is an important factor, given the transportability of solid waste. A system or facility that receives all or most of its revenues from tipping fees paid by private haulers is likely to be more vulnerable to competition than a system that can use alternative revenue streams, such as household disposal fees

A detailed analysis begins with identification of the source of revenues for debt service payments. The ultimate credit strength depends upon the primary revenue stream, such as revenues influenced by market events (i.e. tipping fees) or the general fund pledge of the community. Through a service agreement, a municipality might covenant to make payments from general fund by the use of annual appropriations. In these circumstances, Standard & Poor's establishes a GO assessment that generally is critical to the rating determination. A general fund pledge is assessed at less than the full faith and credit pledge of the municipality; factors considered are the presence or lack of, appropriations risk, the level of financial flexibility available to the general fund, and the economics of the project.

When a user fee is pledged to debt repayment, Standard & Poor's focuses on the history of the user fee and how it is collected and assessed. Cases where the user fee is formulated, but has yet to be implemented, generally provide weaker credit support. If a method of billing and collection exists, and such a fee only needs to be levied, the credit generally is considered stronger.

Under different operating scenarios, the legal structure must provide a sufficient revenue stream to cover operating costs and debt service payments. The legal structure should provide a revenue stream that can be maintained, despite additional maintenance cost, lower throughput, reduced energy output or price, and outages caused by system failure or environmental requirements. For example, recovered material sales from a recycling program are likely to vary, depending on product quality and market price. The ultimate or primary revenue stream generally has the flexibility to make up for any declines in revenue flow from a more unpredictable secondary stream. Here, reserve funds may be required to provide a bridge from one budget year to the next, depending on the flexibility of the primary revenue stream.

Suggested Documentation

Financial information

- Three years of audited financial reports (if available)
- Current year's budget

Legal information

- Bond resolution or trust indenture
- Enabling legislation
- Disposal and transportation contracts
- Solid waste management plan

System information

- Engineer's report or feasibility study, if available
- Anticipated capital improvement plan
- Three to five years of historical and projected rates, with locally targeted comparisons
- Three to five years of operating statistics (if applicable)
- Customer or hauler trends
- Waste-flow tonnage
- Per capita generation
- Recycling rates

Economic information

- Population trends
- Income trends
- Composition of employment by sector
- Unemployment rates
- Largest employers in service area
- Tax base trends
- Building permit activity
- Sales tax trends

Typical additional information for project financings

- Construction, electric sales, service, and operating contracts
- Site lease
- Vendor performance guarantee
- Project operating statistics (if applicable)
- Throughput
- Energy generation/revenue
- Capacity factor

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Criteria | Governments | U.S. Public Finance: Wholesale Utilities

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Wholesale Utilities

(Editor's Note: This article, originally published May 24, 2005, has been amended and partially superseded by "Assigning Issue Credit Ratings Of Operating Entities", published May 20, 2015.)

Wholesale utilities include electric, water, and sewer utilities that provide services to other utilities or other governmental entities, rather than to individual retail customers, such as residences and businesses. Wholesalers typically provide either system service, or project-specific service, for instance, the output of a single power plant, sewer treatment plant, or water treatment plant.

In public finance, a common form of utility wholesaler is a joint action agency (JAA), which is formed with a primary mission of providing cooperative service for municipal utility systems. These agencies pool the resources and expertise of their participant municipal utility systems to achieve economies of scale. While some JAAs serve members under all-requirements contracts, JAAs will also incur project-specific debt on behalf of participating municipal utility systems for the acquisition or construction of specific utility assets, with a set apportionment of the cost and benefits of the plant. In this case, a participant's ownership interest in a project is generally defined by each participant's fixed entitlement to project output. Governing agreements typically obligate participants to unconditionally pay a pro rata share of the project's variable costs and fixed costs.

In most cases, contracts governing the relationship between the wholesaler and its customers stipulate that payments to the wholesaler are considered operating and maintenance expenses, which means in the case of default, the wholesaler would be paid ahead of the bondholders or the individual customer. Nevertheless, for the purpose of gauging the credit quality of the cash flows of the wholesale utility, these operating and maintenance expenses are deemed to be of equivalent credit quality with the senior lien debt of the individual customer.

The rating on a wholesale utility's debt is a function of numerous factors, including the diversity and overall credit quality of its members or customers, operational characteristics, financial strength, and legal provisions. In terms of analysis, the all-requirements or system service form of wholesale service is closer to the typical retail utility system analysis than it is to that of a project-based wholesaler.

The Number Of Participants Is A Factor

Wholesalers range in size from as small as three customers, to 50 or more. The precise rating approach will generally be determined by, and may vary by, the size of the wholesaler's customer base. Since a debt-issuing wholesale utility is reliant on the ability of its customer base to pay all operating costs plus debt service, the credit quality of a wholesale utility's participants (whether they are considered members or customers) will impact the wholesale utility's credit quality to varying degrees. If a wholesaler is made up of 10 or fewer participants, and there are no contractual provisions that require non-defaulting members or customers to increase their payments to account for such delinquency, then Standard & Poor's Ratings Services will employ a weak-link approach to the analysis. This is because the failure by a single participant to fulfill its payment obligations to the wholesaler would result in a project

deficiency, thereby exposing bondholders to the credit quality of the project's weakest participant.

In cases where a wholesale utility has about 10-25 members, there may be certain additional factors that allow the wholesale utility's credit rating to move up or down from its customers' or members' credit quality. These factors include the project operating history; attractiveness of the system's unit costs; consistently high debt service coverage, which is uncommon for wholesalers; or the level of reserves typically carried by the wholesaler. For example, in the case of a wholesale electric utility that operates in a competitive market, extremely high debt or weak project operating performance could drag the wholesaler's credit rating to a level below that of its customers. Conversely, a power plant that has consistently demonstrated a low-variable and low-fixed cost may be able to recover its costs through bilateral or spot market transactions with entities that are not members or customers, enabling the wholesaler's credit rating to float above that of its constituents.

Wholesale utilities with more than 25 members or customers, assuming there is not undue concentration among a very small group of customers, can be expected to exhibit sufficient diversity to allow for a more system-oriented approach. Factors such as debt service coverage, equity in the form of unrestricted cash and investments, and overall economic considerations will become more prominent in the credit analysis, similar to the analysis of municipal retail utility providers. Wholesalers of this type do not generally have limited step-up language in their governing agreements.

Take-Or-Pay Contracts Versus Take-And-Pay Contracts

Wholesale utility customer relationships are governed by two types of financing agreements: take-or-pay (TOP) contracts and take-and-pay (TAP) contracts.

Contracts with TOP obligations (i.e., hell-or-high-water contracts) require participants to make full revenue payments sufficient to cover debt service and operating expenses regardless of a project's operational performance or level of service used by individual participants. As such, ratings for wholesale entities with TOP provisions rely more heavily on the credit quality of the participants than do TAP projects whose financial profile is heavily influenced by project economics and performance or participant use. Although the importance of the project's operating performance is diminished with TOP payment provisions, a project's operations may still affect the project's rating, but only when project's economics make market participation a viable response to a member default.

In the case of contracts that require participants to make TAP payments, participant use, and/or the strength of a project's operations plays a key role. Under a TAP arrangement, participant obligations are contingent on the adequate operating performance of the project, or on each member's quantity of service consumed. A poor operating history, projected operating difficulties, or volatile participant demand patterns could have negative implications for credit quality.

Step-Up Provisions

Many wholesale utilities include step-up provisions, whether implicit or explicit, in their customer or member contracts. Step-up provisions generally call for non-defaulting members to step-up, or increase, their original allocation

of the project in the event of a member default. To the extent that a member's credit profile remains above that of the weakest participant after considering its contingent obligation to increase its share of the project's costs to cover the obligations of the weaker member, the presence of step-up provisions would add strength to a wholesaler's credit profile. This is because step-up provisions partially insulate the project sponsor from its weaker project participants in the event one or more of them should default.

The implied step-up is accomplished through contract language that suggests the wholesale utility may increase rates to project participants in an amount sufficient to cover all of its costs. Implied step-up provisions are by their nature, unlimited, meaning that the wholesaler is free to adjust its rates in response to deviations from projected levels of revenues and expenses. In other words, should a participant fail to meet its financial obligations to the wholesaler, the wholesaler can recoup defaulted payments from non-defaulting participants without restriction by revising its budget. It is possible that the wholesaler's rating could rise to levels matching that of the strongest participants if the strongest participants could incur the entire obligations of all weaker members in amounts dictated by the step-up provision. Often, however, this amount of contingent obligation would alter a participant's leverage position to a point where it would be unable to maintain its rating. In this case, the wholesale rating would fall to the level of the strongest participant ratings after recognizing these potential downward pressures.

Alternatively, explicit step-up provisions typically indicate an upper limit, expressed as a fixed percentage, of how much additional responsibility relative to its initial project share that each participant would be required to make up for the defaults of others. Explicit step-up percentages are usually within the 20% to 35% range, which usually limits the number of weaker participants that can be reviewed less rigorously when considering the wholesale rating. For projects with limited step-up provisions and a small number of participants, the credit quality of all participants must be assessed, taking into consideration each participant's ability to deliver on the full-specified step-up. By taking into account the cumulative stepped up share size of the most creditworthy participants, the impact of the weakest participants on the overall project's rating is diminished. For example, for a transaction with an explicit and limited step-up of 25%, participants whose original shares totaled only 80% of the total project could provide full support for the rating because their maximum step-up, 25% of 80%, would yield enough for 100% coverage of project costs under this methodology. The weakest 20% could thus be subject to reduced analytic scrutiny in determining the project's rating.

Senior And Subordinate Lien

For project-related JAA debt, legal agreements usually specify that payments flowing from the project participants to the JAA are to be classified as operating expenses, and are thus, paid ahead of the participants own debt service. While public finance utility revenue bond criteria is already flexible with regard to the notching of senior and subordinate liens if certain conditions are met, the above-mentioned classification of payments to a JAA further diminishes the effect of cash flow subordination of JAA debt. As with any public utility enterprise debt, notching decisions will be made on a case-by-case basis. However, in cases where the debt rating of the JAA is determined strictly by the ratings of so many of its participants as is necessary to ensure 100% coverage of debt service after giving effect to required step-ups, the senior and subordinate liens should be equivalent.

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