Criteria | Governments | U.S. Public Finance:

U.S. State Ratings Methodology

October 17, 2016

(**Editor's Note:** *On Aug. 15, 2023, we republished this criteria article to make nonmaterial changes related to the archival of "Guidance: Assessing U.S. Public Finance Pension And Other Postemployment Obligations For GO Debt, Local Government GO Ratings, And State Ratings," published Oct. 7, 2019. See the "Revisions And Updates" section for details.*)

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METHODOLOGY CONTACT

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1. This paragraph has been deleted.

SCOPE OF THE CRITERIA

2. These criteria apply to ratings on all U.S. state governments and U.S. territories. "Rating" refers to the rating assigned to general obligation (GO) debt of U.S. states and territories or the issuer credit rating (ICR) if no GO debt is outstanding.

SUMMARY OF CRITERIA

3. S&P Global Ratings rates U.S. states based on an analysis of a range of financial, economic, managerial, and institutional factors, including, for example, environmental, social, and governance considerations. Our criteria reflect pension considerations, which are aligned with governmental pension reporting and disclosure standards. For example, we view management's proactive modification of pension and other post-employment benefit (OPEB) plan assumptions as supporting our view of strong governance associated with risk management and oversight. Given the specific delegation of powers to states under the U.S. Constitution, we view states as having sovereign powers to establish their own tax structures and expenditure responsibilities and therefore possess unique administrative and financial flexibility.

4. The general analytic framework for U.S. states involves five main factors, which we assess using various credit metrics as outlined in chart 1. We average the five main factors to arrive at the anchor. The rating is established after applying any appropriate positive or negative overriding factors and after performing our holistic analysis. The rating may be capped based on the presence or absence of certain conditions or characteristics. If more than one cap is applicable, the rating would be no higher than the lowest cap.

5. This paragraph has been deleted.

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METHODOLOGY

A. Analytic Framework

7. S&P Global Ratings assigns ratings to U.S. states and territories based on our qualitative and quantitative analysis of a range of financial, economic, managerial, and institutional factors, including, for example, environmental, social, and governance considerations. Our overall analytic framework centers around the following factors:

   - Government framework;

   - Financial management;

   - Economy;

   - Budgetary performance; and

   - Debt and liability profile.

8. 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 (rounded to two decimal points). If the quantitative metric or indicator evaluating a particular factor falls at or near a cut-off, 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.

9. Our assessment of all factors in these criteria is based on our forward looking view of the entity's performance. Commonly, we begin our assessment with examining historic and current performance metrics, including the volatility and trend of historic results. Our view of future performance may differ from historic or current results. Our forward looking view of a factor is informed by our opinion of macro conditions such as economic, legislative, and regulatory; our view of entity-specific factors such as capital plans, revenue stream trends, and management actions; and the entity's own forecast.

10. For example, when we evaluate debt burden we typically start with a review of historic data. The trend of historic results, and our understanding of the reasons for those trends, may inform our view of whether debt burden will go up or down in the future. In addition, we may view the economic environment as likely to positively or negatively impact debt burden going forward. Finally, if the entity has debt plans, which will result in higher debt service, it would likely impact our view of debt burden. In this example, our final assessment of debt burden will be based on our forward looking view after taking all these factors into account.

11. We average the metrics for each factor (rounded to two decimal points) 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 rounded to the nearest decimal point then translated to an anchor as illustrated in table 1. (A glossary of selected terms is provided at the end of this article.)

Chart 1
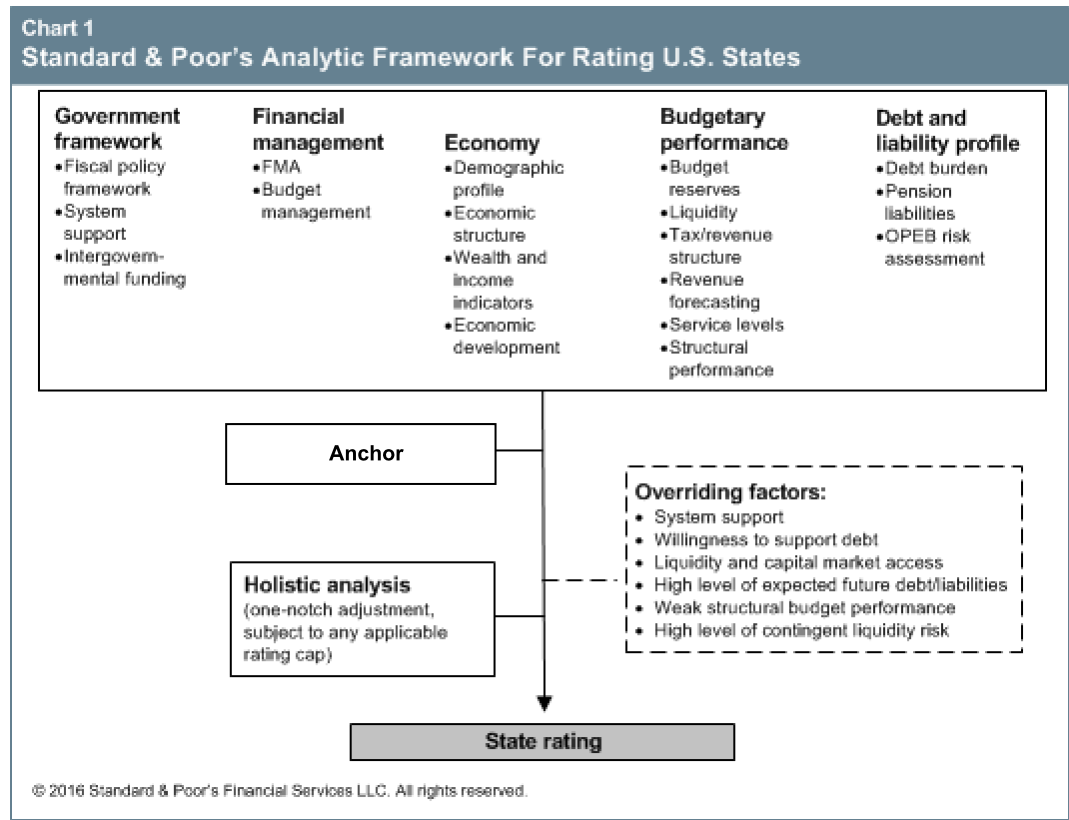
12. Table 1 below lists the anchor that is associated with the overall score assigned. To determine the rating, we evaluate the presence of various overrides. We apply overrides as described in section 1 to the anchor. If a state has several overriding factors, we would adjust its anchor by the cumulative effect of those overriding factors and would take into account the lowest cap indicated by those adjustments. After incorporating overrides (if applicable), our holistic analysis can result in a rating improving or worsening by one notch up or down, subject to any applicable rating caps. Our holistic view of creditworthiness recognizes sustained, predictable operating and financial underperformance or outperformance, and may be informed by peer analysis. This holistic analysis could also include rare or strongly positive or negative characteristics which the criteria do not separately identify, including, for example, environmental, social, or governance credit factors, such as cyber risk.

Table 1

Scores and anchor

Score	Anchor
1-1.5	AAA
1.6-1.8	AA+
1.9-2	AA

Table 1

Scores and anchor (cont.)

Score	Anchor
2.1-2.2	AA-
2.3-2.4	A+
2.5-2.6	A
2.7-3	A-
3.1-4	BBB category

Ratings below the 'BBB' category, from 'BB+' to 'B-', would be indicated based on various overriding factors as outlined in paragraphs 13-20. Ratings in the 'CCC' category and below would be indicated based on our criteria, "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings", published Oct. 1, 2012.

1. Overriding factors

13. In certain circumstances, the following overriding factors may result in a rating different from the anchor in table 1:

14. **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 lower than the score assigned to all states, we will assign a rating at least one notch below the anchor, and we could further adjust the anchor downward by more notches for a U.S. territory or commonwealth that has a system support score well below that of all states as well as a weak anchor (see paragraph 29).

15. **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 the anchor, 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 GO rating or ICR, as detailed in "Issue Credit Ratings Linked To U.S. Public Finance Obligors' Creditworthiness," published Nov. 20, 2019. If government officials were to take actions that suggest an unwillingness to fund debt in accordance with the priority payment status of the debt obligation(s), we would likely assign the state a GO rating or ICR that is no higher than the 'BB' category. If government officials were to take actions that indicate active consideration of debt restructuring, bankruptcy (or similar actions) in the near term, or if we perceive a current lack of willingness to pay an unconditional debt obligation, the rating would be no higher than the 'B' category (and the rating would likely be lower). Such conditions might be evidenced by way of conversations with management or government officials, verifiable reports in the media, public disclosure, or other informational sources we judge to be relevant and reliable. If applicable, we would apply "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," published Oct. 1, 2012. The state's issuer ratings would be 'D' or 'SD' following a default on an actual financial obligation.

16. **Liquidity and capital market access.** A state's management of liquidity can take many forms in different states, including deferral of payments, interfund borrowing, etc. This flexibility is a key credit strength but there can be limits in periods of sharp or prolonged budget stress, in which case the rating would be capped as follows:

- "BBB" category. The state is relying on the use of extraordinary cash management measures but there are indications that the effectiveness of these measures has diminished or its ability to do so may be approaching a legal or practical limit. States that are subject to the 'BBB' cap with fiscal frameworks that make debt service a priority in their payment structures--and they are abiding by these provisions--typically can endure periods of considerable budgetary strain. The rating on these states generally would remain investment grade if the state retains options to preserve sufficient liquidity to meet its priority obligations as they come due. States in the 'BBB' rating category generally would have access to external liquidity although this access may be limited in duration or subject to changing circumstances.

- "BB" category. The state has exhausted its available cash flow management mechanisms and is largely reliant on external liquidity options to meet financial commitments, the timing of which is inflexible reflecting potential inadequate capacity to meet its financial commitments. External liquidity options include debt, notes, lines of credit, and other external options.

- "B" category. We deem access to the external liquidity from capital markets or other sources as uncertain and we view that access as necessary to fund financial commitments in the near term, and the priority of payment on debt is impaired from a capacity or willingness standpoint. Difficult or uncertain access to external liquidity sources could include when access is only available from nontraditional lenders, or at interest rates or terms that could further impair capacity or willingness to meet financial commitments.

17. **High level of expected future debt/liabilities.** 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. 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 64-68), we will lower the anchor one notch. Where a majority of the debt burden measures are at the level that is 50% worse than that indicated for a '4' and there is recurring debt issuance to fund operations or other deficit financing measures which will exacerbate future cost pressures, we will cap a rating at the 'BB' category. (For example, this cap could apply to a state with a debt burden that exceeds $5,250 per capita and 10.5% of personal income, and debt service that represents 15% of expenditures, and has recurring debt issuance or other deficit financing measures that will exacerbate future cost pressures). In addition, if we believe a state's pension funded ratio will fall below 40%, with no credible plan to reverse these trends; a one-notch negative adjustment to the anchor in table 1 would be applied. If we believe that the state's funded pension ratio will fall to 20% or lower funded, a two-notch negative adjustment would be applied, and if we believe that it will fall to 10% or below, a three-notch adjustment would be applied. Our beliefs may be informed by actuarial projections, plan performance; the state's funding discipline, and our views on the reasonableness of plan assumptions.

18. We believe that the inclusion of these overriding factors will allow for a forward-looking assessment of future debt and liabilities and its impact on the state's future operating budget performance. The notches downward would also be additive. For example, a state with debt levels high enough to warrant a one-notch negative adjustment to the anchor that also has a pension funded ratio of less than 40%, would be subject to a two-notch negative adjustment.

19. **Weak structural budget performance.** In cases where we score a state's structural budget performance at 4, and the trend is exacerbated by low liquidity and sustained with no credible plan to reverse the trend, we would adjust the anchor in table 1 downward by at least one notch and we could further adjust the anchor downward by more notches based on the expected duration and severity of the structural imbalance and if we believe the state's liquidity position is unlikely to stabilize in the near term.

20. **High level of contingent liquidity risk.** In cases where a state has a liquidity score of '4' (see paragraphs 45-50) and also has what we consider a high level of contingent liquidity risk relating to certain obligations, (see "Contingent Liquidity Risks In U.S. Public Finance Instruments: Methodology And Assumptions," published March 5, 2012) we will lower the anchor in table 1 by one notch. 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

21. 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.

B. Government Framework

22. Government framework is the first factor we assess to arrive at the anchor. 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 governance structure factors and metrics we use to assess government framework. For example, we may view the political environment in which a state operates as a governance weakness that leads to a lower score if it results in a state's inability to quickly respond to budgetary stress. Each is scored individually, and we then average the scores to determine the overall government framework score.

1. Fiscal policy framework

23. 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).

24. **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 24

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.

25. **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 25

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.

26. **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 26

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.

Table 4 - As described in paragraph 26

Disbursement autonomy (cont.)

Score	
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.

27. **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 27

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.

28. **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 28

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

29. System support refers to our assessment of the predictability, reliability and supportiveness of the public finance system in a federal context. It is the same for all U.S. states, but may be different for each U.S. territory. We determine the system support score by first determining the

institutional framework score as described in "Methodology For Rating Local And Regional Governments Outside Of The U.S.," published July 15, 2019, then converting that score, which uses a '1' to '6' scale, to our '4' point scale as described in table 7.

Table 7 - As described in paragraph 29

System support

Score	Institutional Framework Assessment
1	1 and 2
2	3
3	4
4	5 and 6

3. Intergovernmental funding

30. Table 8 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 cash flow. 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 8 - As described in paragraph 30

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

31. Financial management is the second of the five major factors shown in chart 1 contributing to our assessment of the anchor. Our view of the rigor of a government's financial management practices is an important factor in our 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

32. S&P Global Ratings analyzes the impact of financial management policies 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). For example, we would view favorably, within the FMA, long-term capital planning that demonstrates a state's approach to infrastructure requirements that mitigate physical risks, including event-driven or longer-term shifts in climate patterns, such as hurricanes or chronic heat waves. 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

33. 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 ratings above or below the 'AA' rating level. Table 9 details our scoring methodology for this area.

Table 9 - As described in paragraphs 33 and 34

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.

34. 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.

35. 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 the these characteristics will likely result in the lowest score.

D. Economy

36. Economy is the third of the five major factors shown in chart 1 contributing to our assessment of the anchor. 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

37. 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. As an example, demographics skewed toward an aging population may lead to a weaker score for an entity because health care costs typically escalate late in life, resulting in higher state spending. To assess this we review the age dependency ratio calculated by the U.S. Census Bureau. As detailed in table 10, the key indicators of our demographic profile score are our view of:

- Population growth trends; and

- Age distribution of population.

Table 10 - As described in paragraph 37

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

38. 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 cyclicality 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 11, 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 11 - As described in paragraphs 38 and 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.

39. As part of our review of the employment composition and diversity of the employment base as outlined in table 11, we analyze the largest employers in the state relative to current economic conditions to assess the potential for cyclicality 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

40. 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 is per capita personal income, as detailed in table 12.

Table 12 - As described in paragraph 40

Income and wealth

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

4. Economic development

41. 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. For example, a state with identifiable long-term environmental risks, such as climate transition risk and its impact on economic activity, could face weaker growth prospects. 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 13:

Table 13 - As described in paragraph 41

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

42. Budgetary performance is the fourth of the five major factors shown in chart 1 contributing to our assessment of the anchor. 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

43. State revenues tend to be cyclical and in our view generally are sensitive to changing economic and environmental 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, physical risks, or a 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. For instance, for a state with significant coastal exposure, we would view positively higher reserve levels that offset the costs associated with emergent physical risks such as a severe weather event.

44. 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 14) 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 14 - As described in paragraph 44

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.

Table 14 - As described in paragraph 44

Budget-based reserves relative to revenue and spending (cont.)

Score	
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

45. S&P Global Ratings 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. For example, liquidity can offer protection against an unexpected adverse event, and the state's ability to access either internal or external forms of liquidity in the face of physical risks like a severe weather event could ensure timely debt service payment despite the potential for short- or long-term revenue disruption. 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.

46. **(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.

47. **(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.

48. **(c) Internal cash flow generation capacity.** States often have what we view as broad discretion to access liquidity from other than its main operating fund or general fund. 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.

49. **(d) External cash flow borrowing.** We review borrowing for operations and how that has fluctuated over time.

50. Table 15 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 15 - As described in paragraphs 45-50

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

51. 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 16) and the revenue adjustment history (table 17). In making these assessments we focus our analysis on the general fund or principal operating funds of the state.

52. **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 16 - As described in paragraph 52

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.

53. **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 17 - As described in paragraph 53

Revenue adjustment history

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

54. 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 (see table 18). 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 18 - As described in paragraph 54

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

55. 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 19.

56. **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.

57. **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.

58. **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). As a result, we may view a state as having risk management, culture, and oversight weakness where high fixed-cost pressures limit its ability to manage revenue volatility.

Table 19 - As described in paragraphs 55-58

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

59. Table 20 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 20 - As described in paragraph 59

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

60. The debt and liability profile is the fifth of the five major factors in our assessment of the anchor. 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

61. S&P Global Ratings' 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 21, 22, 23, 24, and 25.

62. 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 "Debt Statement Analysis," published Aug. 22, 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.

63. 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:

64. **Debt per capita.** Table 21 shows the scoring ranges for tax-supported debt per capita, based on the population that is served and pays for the debt.

Table 21 - As described in paragraph 64

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)

65. **Debt as a percentage of personal income (table 22).** 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 22 - As described in paragraph 65

Tax-supported debt/personal income

1	Below 2% (Low)
2	2%-4% (Moderate)
3	4%-7% (Moderately high)
4	Above 7% (High)

66. **Debt service as a percentage of expenditures (table 23).** 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 23 - As described in paragraph 66

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)

67. **Debt to gross state product (table 24).** 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 24 - As described in paragraph 67

Tax-supported debt as a % of gross state product

1	Below 2% (Low)
2	2%-4% (Moderate)
3	4%-7% (Moderately high)

Table 24 - As described in paragraph 67

Tax-supported debt as a % of gross state product (cont.)

4	Above 7% (High)

68. **Debt amortization (table 25).** 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 25 - As described in paragraph 68

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

69. 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, funding discipline, and unfunded pension liability. Pension asset valuations can change, as can the liabilities. A state's commitment to funding annual contributions that address the long-term pension liability is a key credit consideration.

70. Our assessment of pension liabilities includes these indicators, averaged to develop an initial pension score:

   - Three-year average of pension funded ratio (table 26), and

   - Pension funding discipline (table 27).

Table 26 - As described in paragraph 70

Three-year average pension funded ratio

1	90% or above	Strong
2	80%-90%	Good
3	60%-80%	Relatively low
4	60% or below	Weak

71. Our assessment of pension funding discipline, as indicated in table 27, begins with our review of a state's funding policy, whether it has an actuarial basis, and whether annual contributions usually meet or exceed the actuarially determined levels. We also review whether total annual plan

contributions usually cover certain costs that we believe drive the annual changes in the unfunded pension liability across plans, as well as an estimated annual amortization component of the unfunded liability. There is still a broad range of actuarial assumptions used by governments in the U.S. and interest earnings assumptions differ by state. As such, we also analyze management factors and actuarial inputs to inform our assessment of a state's funding discipline.

Table 27 - As described in paragraph 71

Pension funding discipline

	State pension contribution is actuarially based and state's full actuarially determined pension contribution is usually funded.	State's pension contribution is not actuarially based or its full actuarially determined pension contribution is not usually funded.
Total plan contributions usually > service cost + interest cost + amortization component§	----------------------------- 1 -----------------------------	----------------------------- 2 -----------------------------
Total plan contributions usually < or equal to service cost + interest cost + amortization component	----------------------------- 3 -----------------------------	----------------------------- 4 -----------------------------

Positive adjustment factors

If majority of the following factors apply for the largest plans*, the pension funding discipline score improves by one point.
• Pension funding based on closed/fixed level $ amortization assumption <20 years.
• Assumed long-term plan rate of return is well below five-year average rate of return.
• Future plan contribution assumptions used in projections to determine potential crossover date are realistic and align with historical track record or credible commitment to funding.
• Active to beneficiaries ratio is significantly higher than median, coupled with a strong funded ratio.
• Experience studies are updated more frequently than every five years and incorporate experience trends and industry standards.

Negative adjustment factors

If majority of the following factors apply for the largest plans*, or if any one characteristic identified below poses significant credit risk, in our view, the pension funding discipline score worsens by one point.
• Pension funding based on open/rolling level % of pay amortization or >20 years.
• Assumed long-term plan rate of return significantly exceeds five-year average rate of return.
• Future plan contribution assumptions used in projections to determine potential crossover date do not align with historical track record or are unlikely, in our view, due to weak funding commitment or projected significant future budget pressures.
• Active to beneficiaries ratio is well below median, coupled with a relatively low plan funded ratio.
• Experience studies are not updated at least every five years or repeatedly fail to incorporate experience trends or industry standards.
*For states with multiple plans, we typically base our analysis on those plans that represent about one-third or more of the state's unfunded pension liability. When a state has more than one large plan, we would evaluate the majority of factors for each plan. The total net adjustment is limited to one point. Positive and negative adjustments to separate plans may offset each other. §See Glossary for definition of interest cost and amortization component.

72. We have historically not included pension liabilities in our calculation of tax supported debt ratios due to variation in how the liabilities are calculated. However, we analyze and adjust for outlying unfunded pension liabilities for states relative to population and personal income to allow for a comparative framework to evaluate these liabilities relative to state tax supported debt. The initial pension score receives a positive or negative adjustment by one point based on the indicators listed in table 28. Those indicators relate to the size of the state's unfunded pension liability relative to population and personal income. We typically derive this information from audit reports as well as actuarial reports. In deriving the state's unfunded pension liability, we incorporate plan information available as of the most recent measurement date. We could also incorporate unfunded pension liabilities associated with pension contributions we expect the state is likely to make on behalf of other plan employers, even if such contributions are not legally required or do not flow directly to the plan. The final pension score cannot be adjusted to greater than 4 or less than 1.

Table 28 – As described in paragraph 72

Adjustment to initial pension score

Positive adjustment factors
The following improves the initial pension score by one point:

Unfunded pension liability per capita at or below $500, or Unfunded pension liability as % of income at or below 2%.

Negative adjustment factors
The following worsens the initial pension score by one point:

Unfunded pension liability per capita at or above $3500, or Unfunded pension liability as % of income at or above 7%

3. Other post-employment benefits (OPEB) risk assessment

73. Our OPEB risk assessment focuses on the relative level of unfunded OPEB liability compared to other states as well as the legal and practical flexibility that a state has to adjust these liabilities and the overall strategy to manage the cost of these benefits, which will affect future contribution rates and budgetary requirements (see table 29).

Table 29 - As described in paragraph 73

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 an actuarially determined 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 I: S&P Global Ratings' Use Of Stress Scenarios And Calibration Of State Criteria

74. To calibrate the criteria for state ratings, S&P Global Ratings uses the stress scenarios associated with each rating category level, as presented in Appendix A of "S&P Global Ratings Definitions," published Aug. 7, 2020 (hereafter called the "stress scenario article"). We believe that the strongest U.S. states can achieve a rating of at least 'AA', 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 to restore budgetary balance.

75. 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 100 years.

76. When defaults have occurred, reforms have generally followed. Historically, 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 financed 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 in states' financial controls, reporting, and disclosure followed in the postwar period.

77. We believe the distress and default scenario associated with the Commonwealth of Puerto Rico (2015) is unique compared to trends among U.S. states since the Great Depression. Nevertheless, the Puerto Rico stress scenario demonstrates that distress and default, while expected to remain atypical, is possible due to a weak combination of the factors analyzed under these criteria. The guidance in the section on 'overriding factors' (paragraphs 13-20) address how we analyze these weak combinations, which in turn would lead to ratings below 'BBB-'.

APPENDIX II: Guidelines For Assessing Pension And OPEB Obligations

78. This appendix focuses how S&P Global Ratings assesses pension and other postemployment benefit (OPEB) funding assumptions and methods, and their impact on U.S. governments' projected costs and liabilities. Provided are example guidelines that we commonly consider when analyzing the potential for cost acceleration and budget stress. We may adjust guideline numbers as we consider appropriate, such as if market conditions change.

79. When we refer to "guidelines", we mean that we will consider the degree to which an obligor's assumptions or methods vary in relation to the guidelines. Given no two pension plans are exactly alike, there is no single answer for what "good" assumptions look like. Therefore, we use the figures in the table to analyze these assumptions and methods within the context of an obligor's overall credit profile, including its ability to afford rising costs and proactive management measures to address them.

80. Specifically, we use these pension and OPEB guidelines when applying the following sections: Financial Management, paragraphs 34, 57, 59; Debt and Liability Profile, paragraphs 69-71 and 73.

Guidelines

81. Assumptions as well as funding methods underpin the trajectory of pension and OPEB costs, informing our assessment of obligor credit risk. We believe the most sustainable pension and OPEB plans prioritize long-term savings and stability over short-term budgetary relief by using conservative assumptions and methods and proactively addressing liabilities.

82. S&P Global Ratings views the following assumptions and methods as guidelines for practices to consider when assessing pension and OPEB risks. We start our analysis by reviewing these guidelines when assessing typical plans, but expect that thresholds may be adjusted, as appropriate, for the context of individual obligors. A part of our pension and OPEB analysis includes how these risks factor into an obligor's unique overall credit profile and what strengths or weaknesses arise as a result.

Table 30 - as described in paragraph 82

Guidelines for typical U.S. public finance pension and OPEB plans

Actuarial assumption or method	S&P Global Ratings guideline as of Sept. 7, 2021
Funding goal	100%
Discount rate	6.00%
Actual contribution	Minimum funding progress
Amortization methods	
Period	Closed
Length	<= 20 years
Basis	Level-dollar or minimal payment acceleration
Payroll growth assumption	< 1% + long-term inflation
Longevity	Generational improvements
Long-term medical cost trend	4.50%

OPEB--Other post-employment benefits.

Funding Goal

83. In our view, the funding target for public pension and OPEB plans should typically be at least 100%. We view funding targets of less than 100% as a credit weakness because these plans carry higher interest costs associated with the unfunded liability.

Discount Rate

84. We expect the discount rate to not only align with expected realistic performance of the target asset portfolio, but also reflect prudent and informed decision-making on how much market volatility and liquidity risk, or budgetary stress, an issuer can absorb. When a target asset portfolio contains more risk, it may provide a higher return and lower required contributions (assuming actuarially determined contributions are required). Higher risk typically means exposure to greater volatility. In the event of a market correction, a drop in asset values would necessitate an escalation in required contributions. We incorporate this volatility and exposure to budgetary stress in our analysis of the discount rate.

85. In our view, based on current market conditions, a sustainable discount rate guideline for the typical plan is 6.00%. This discount rate reflects our view of the expected asset return of an average plan in the U.S. without regard to unique attributes or risk tolerances of a given issuer. By using a hypothetical target asset portfolio adjusted according to our view of inflation, reasonable liquidity, and market volatility risk tolerance, we enhance our analysis of the stability and risks of the long-term obligation.

86. We generally view plans with discount rates near our guideline as less likely to contribute to budgetary stress than plans with much higher discount rates. There may be credit-unique circumstances allowing for a higher or lower accepted risk and corresponding assumed return. For example, our discount rate guideline may be aggressive for plans that are closed to new participants or based on an older population. Many plans may have higher discount rates, and we will evaluate credit risk for an obligor based on its assumptions relative to or in conjunction with our view of its overall credit profile.

Actual Contribution

87. Not all pension plans have an actuarial funding plan in place, which can hinder evaluation of the funding discipline. One way we may evaluate how effective the most recent year's contributions are at reaching 100% funding within a reasonable timeframe is our minimum funding progress (MFP) metric. The MFP metric assesses whether the most recent employer and employee contributions cover total service cost plus unfunded interest cost plus 1/30th of the principal and is defined as follows:

88. MFP = SC + IC + NPL/30

    - Service cost = new benefits earned during the year

    - Unfunded interest cost = interest earned during the year on the net pension liability

    - Net pension liability (NPL) = NPL at beginning of year

89. When contributions are to equal service cost plus unfunded interest cost alone, the plan would typically maintain its current funding levels and not make any progress toward full funding; in other words, it is "static funding." We generally do not view static funding as prudent because failing to make measurable progress on the unfunded liability, especially during periods of economic expansion, indicates poor plan management that increases the risk of higher costs during down markets. We view contributions that cover static funding plus 1/30th of the unfunded liability in the most recent annual contribution as a minimum amount of progress that governments should make toward full funding, without regard to an actuarial funding plan.

Amortization Methods

90. Within an actuarial funding plan, we view favorably amortization methods that make progress toward paying down unfunded liabilities within a reasonable timeframe and result in stable and manageable costs over the long run. Weak amortization practices defer contributions to the future and have been a leading cause of pension and OPEB underfunding. We view closed or layered amortizations with reasonably level payments over a time period of 20 years or less as the most prudent practice.

91. Amortization methods are a leading indicator of short-term and long-term impact on budgetary stress because they dictate how quickly an issuer's annual contributions will escalate, as well as the timeframe for making progress toward reducing liabilities. In practice, there is a broad range

of amortization methodologies among U.S. public pension plans, which results in significant variance within the measurement of unfunded liabilities and funded positions, as well as contribution trajectories over time.

92. **Period:** Open amortization methods reset, or refinance, the entire unfunded liability every year so that it is never projected to actually be paid down; this is in contrast to closed amortization methods, which pay off the entire current unfunded liability in a given number of years. Constantly "refinancing" the obligation over a static number of years does not make sufficient funding progress, in our opinion.

93. **Length:** In our view, amortization lengths of less than 20 years most effectively pay down unfunded liabilities. We view amortization lengths of 25 years or more negatively because progress toward paying down unfunded liabilities is minimal.

94. **Basis:** Level dollar, or flat, amortization indicates a payment schedule where annual payments are unchanged from year to year. Level percent, or increasing amortizations, often allow growth in the unfunded liability, which leads to an acceleration in future costs.

95. **Payroll growth assumptions:** A level percent method also may add risk because payroll growth, if not met, would lead to even faster-than-expected cost increases. We view a payroll growth assumption of more than 1% above a long-term inflation guideline of 2.4% negatively, unless there is indication that such growth can be sustained over the amortization period for a given credit.

Longevity

96. We view the use of up-to-date generational improvement projections as the most stable and best way for pension plans to anticipate longevity improvements over time and minimize resulting credit pressures. Pension plans typically provide benefits to retirees for life. This means that as more of the U.S. working population reaches retirement age and people continue to live longer than they did in the past, pension promises are likely to continue to grow more expensive.

97. Generational improvement projections build in incremental changes to life expectancy for each year indefinitely, minimizing the need for major updates and corresponding contribution "jumps." In contrast, static projections incorporate a set number of years into today's valuations and become quickly outdated, and when revised, frequently result in increased liabilities and costs.

Long-Term Medical Cost Trend

98. We believe an appropriate long-term medical cost trend assumption, often referred to as the ultimate rate, is about 4.5%. Medical trend is the year-over-year increase to medical claims costs for OPEB plans, primarily stemming from inflation and utilization due to economic growth and medical advances. The long-term trend rate is influential in the liability calculation, and is typically second only to the discount rate in terms of the trajectory of OPEB costs, especially for plans that are not prefunding. When the long-term medical trend assumption is aggressively below our guideline, liabilities are likely to be understated, as is the understanding of the contribution trajectory. This could reduce an obligor's ability to plan for future costs and could lead to budgetary stress.

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.

Amortization component. The beginning unfunded pension liability across plans divided by 30. (If the aggregate beginning unfunded pension liability across plans is negative, the amortization component equals zero.)

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.

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.

Crossover date. Refers to a projected point in time when pension plan assets no longer cover benefit payments based on a plan's long-term projected cash flow analysis as required by GASB 67. To the extent a plan projects a crossover date, GASB standards direct it to apply a blended rate to its reported pension liability using: 1) its assumed rate of return for the period before the crossover date and, 2) a discount rate equal to a 20-year tax-exempt municipal bond yield or index rate for the period after the crossover date.

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.

Funded ratio. Ratio between pension plan assets and liabilities.

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.

Independent revenue forecast. 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.

Interest cost. For the calculation in table 27, we multiply a factor equivalent to 1 minus the three-year average plan funded ratio by total plan interest cost to derive an estimate of the aggregate interest cost on the unfunded liability across plans. For funded ratios at or above 100%, the minimum interest cost is zero. For example, a three-year average plan funded ratio of 80% would result in a factor of 20%, which would be multiplied by total interest cost to derive the aggregate interest cost on the unfunded liability.

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.

REVISIONS AND UPDATES

This article was originally published on Oct. 17, 2016. These criteria became effective on Oct. 17, 2016.

Changes introduced after original publication:

- Following our periodic review completed on Oct. 10, 2017, we updated the contact information and deleted paragraphs 5 and 6, which were related to the initial publication of our criteria and no longer relevant.

- Following our periodic review completed on Oct. 9, 2018, we updated the contact information and references to related research and two criteria articles, including one that was fully superseded and archived following the prior periodic review.

- On Oct. 7, 2019, we republished this criteria article to make nonmaterial changes. We added the guidance article "Guidance: Assessing U.S. Public Finance Pension And Other Postemployment Obligations For GO Debt, Local Government GO Ratings, And State Ratings" to "Related Publications." That guidance provides additional information about our approach to assessing financial management of states, under paragraphs 34, 57, and 59. It also provides additional information about our approach to assessing a state's debt and liability profile, under paragraphs 69-71 and 73.

- On Nov. 19, 2019, we republished this criteria article to make nonmaterial changes. We updated the contact information and framework terminology in chart 1 and throughout the article to improve consistency across criteria.

- On Nov. 25, 2020, we republished this criteria article to make nonmaterial changes. We updated the contact information and criteria references.

- On Oct. 11, 2021, we republished this criteria article to make nonmaterial changes. We updated paragraphs 3, 7, 12, 22, 32, 37, 41, 43, 45, and 58 to include examples describing how we incorporate environmental, social, and governance credit factors in our criteria framework. We also updated the "Related Publications" section.

- On Nov. 22, 2021, we republished this criteria article to make nonmaterial changes to update the contact information.

- On Aug. 15, 2023, we republished this criteria article to make nonmaterial changes by adding Appendix II. As announced in "Evolution Of The Methodologies Framework: Introducing Sector And Industry Variables Reports," published Oct. 1, 2021, we are phasing out guidance documents over time. As part of that process, we have archived "Guidance: Assessing U.S. Public Finance Pension And Other Postemployment Obligations For GO Debt, Local Government GO Ratings, And State Ratings" and moved its contents to Appendix II of this article without any substantive changes. In addition, we made editorial changes to improve readability and updated the "Related Publications" section.

RELATED PUBLICATIONS

Fully superseded criteria

- U.S. State Ratings Methodology, Jan. 3, 2011

Related criteria

- Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- Issue Credit Ratings Linked To U.S. Public Finance Obligors' Creditworthiness, Nov. 20, 2019
- Methodology For Rating Local And Regional Governments Outside Of The U.S., July 15, 2019
- Assigning Issue Credit Ratings Of Operating Entities, May 20, 2015
- Ratings Above The Sovereign: Corporate And Government Ratings—Methodology And Assumptions, Nov. 19, 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

- Principles Of Credit Ratings, Feb. 16, 2011

- GO Debt, Oct. 12, 2006

- Debt Statement Analysis, Aug. 22, 2006

- Financial Management Assessment, June 27, 2006

Related sector and industry variables reports and guidance

- ARCHIVE Guidance | Criteria | Governments | U.S. Public Finance: Assessing U.S. Public Finance Pension And Other Postemployment Obligations For GO Debt, Local Government GO Ratings, And State Ratings, Oct. 7, 2019

Other related publications

- Evolution Of The Methodologies Framework: Introducing Sector And Industry Variables Reports, Oct. 1 ,2021

- Rising U.S. States' OPEB Liabilities Signal Higher Costs Ahead, Nov. 28, 2018

- U.S. State Pensions Struggle For Gains Amid Market Shifts And Demographic Headwinds, Oct. 30, 2018

- Level U.S. State Debt Reflects Long-Term Management Strategies And Affordability Concerns, May 14, 2018