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U.S. Tax-Supported Rating Criteria

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November 2019

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Agenda

- Introduction
- Rating Framework
- Scenario Analysis
- Rating Specific Securities
- Other Considerations

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Introduction

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Introduction

Tax-Supported Debt

- Debt issued by state/local government
- Repayment depends on generation/receipt of tax revenues
- Assign Issuer Default Rating (IDR) - indicator of general credit quality
- Sector risk profile ranges from ‘AAA’ to ‘A-’
- Low cumulative default rate means transition risk information is most important

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Introduction – Framework Overview

Sector Risk Profile

AAA	AA	A	BBB	BB
Expected Rating Range given overall U.S. Tax-Supported Sector Profile				

Economic Base

Revenue Framework	Expenditure Framework	Long-Term Liability Burden	Operating Performance
Expectations for growth prospects for revenues	Expectations for pace of spending growth	Expectations for affordability of liabilities	Expectations for ability of revenues to support spending needs throughout economic cycles and over time

Key Rating Factor Assessments

Revenue Framework	aaa	aa	a	bbb	bb
Expenditure Framework	aaa	aa	a	bbb	bb
Long-Term Liability Burden	aaa	aa	a	bbb	bb
Operating Performance	aaa	aa	a	bbb	bb

Scenario Analysis
Asymmetric Additional Risk Considerations

Final Issuer Default Rating (IDR) Outcome

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Rating Framework

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Key Rating Factors: Determining IDR

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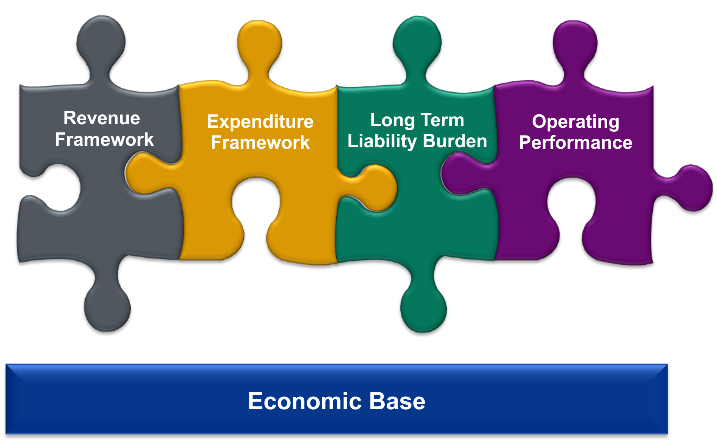

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Economic Base

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- Understanding of drivers and expectations is critical to overall credit analysis
  - Expectations inform assessments of revenue growth prospects, spending demands, affordability of liabilities and budget balancing ability
  - Highly concentrated, small, or remote economies - more susceptible to sudden and unpredictable change
- Evaluation begins with determination of dominant types of economic activity
  - Level and direction of activity are important
  - Affect expectations for growth

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Elements of Economic Analysis

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- Employment levels and trends
- Income levels
- Population trends and projections
  - Stability and growth are both positive
  - Declining or high-growth areas can pose risks
- Tax base evaluation (for property tax-dependent issuers)
  - Property tax base composition, concentration, and growth trends
  - Home price trends and expectations
  - Tax rates
  - Assessment procedures
  - Appeals activity

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Economic Base

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Economic Analysis: Key Considerations

State Governments	Local Governments
Growth trend in employment	Growth trend in employment
Growth trend in population	Growth trend in population
Growth trend in personal income	Growth trend in median household income
Unemployment rate	Unemployment rate
Per capita personal income	Median household income
	Market value per capita

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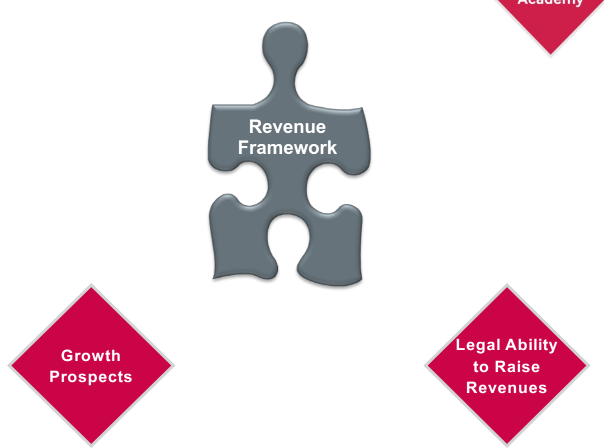

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Revenue Framework

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Revenue Framework	aaa	aa	a	bbb	bb
Growth Prospects for Revenues Without Revenue-Raising Measures	Strong	Solid	Slow	Stagnant	Negative
Independent Legal Ability to Raise Operating Revenues Without External Approval (in Relation to Normal Cyclical Revenue Decline)	High	Substantial	Satisfactory	Moderate	Limited
Additional Considerations	Requirement for periodic re-authorization of existing revenue streams is a negative consideration.				

Revenue Framework

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Growth Prospects for Revenues

- Issuer's revenue base may be narrower than its economic base
- Focus on historical and expected revenue performance and risks rather than revenue diversity as a stand-alone factor
- Diverse revenue system with foundation of broad-based taxes better able to capture an issuer's economic activity than one that relies on narrow and/or variable revenues (e.g. real estate transaction or hotel occupancy taxes)

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Revenue Framework

Metrics to Support Assessment

	aaa	aa	a	bbb	bb
Growth Prospects for Revenues	State Governments - 10-year performance of tax revenues (adjusted for policy changes) in comparison to growth in national GDP and inflation Local Governments - 10-year performance of general fund revenues in comparison to growth in national GDP and inflation. If property taxes make up a material and generally consistent portion of revenues, we consider an adjusted metric based on a constant tax rate.				
	Growth in line with or above level of U.S. economic performance	Growth below U.S. economic performance but above level of inflation	Growth in line with level of inflation	Growth below level of inflation or flat performance	Declining revenue trajectory

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Revenue Framework

Independent Legal Ability to Raise Revenues

- Consideration of the range of legal limits on the government's revenue autonomy
- Analyze legal revenue-raising ability in the context of revenue sensitivity to economic downturns
- Issuers with revenues that decline steeply in a downturn must have greater revenue raising flexibility than those with more steady performance through the cycle

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Revenue Framework

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Metrics to Support Assessment

	aaa	aa	a	bbb	bb
Legal Ability to Raise Operating Revenues	No metric required if no legal limitation on ability to increase revenues For issuers with a legal limitation on raising revenues for operations, metric calculated				
	Maximum revenue increase at least 300% of scenario revenue decline	Maximum revenue increase at least 200% of scenario revenue decline	Maximum revenue increase at least 100% of scenario revenue decline	Maximum revenue increase at least 50% of scenario revenue decline	Maximum revenue less than 50% of scenario revenue decline

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Revenue Framework

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Revenue Control Worksheet

Legal Ability to Raise Revenues

Note: This worksheet applies to the General Fund unless other funds also include fungible revenues.

Is the issuer's ability to raise property tax revenue for operations unlimited? ○ Unlimited ◉ Not Unlimited — If unlimited, the key rating factor assessment is automatically aaa.

Revenue Source	Maximum Allowable Increase	Notes
Note: If percentage amounts are input, the dollar amount represented by that percentage will automatically calculate based on the latest year of actual data in FDR. Analysts may override this by typing in a specific dollar amount in the final row of each section.		
A. Property Tax		
% Allowable Increase	4%	
Historical Value (2015 Audit)	$328,993	
$ Allowable Increase	$13,160	
B. Sales Tax		
% Allowable Increase	0%	
Historical Value (2015 Audit)	$0	
$ Allowable Increase	$0	
C. Other Taxes		
% Allowable Increase	0%	Use 20% if no other basis for determination. Include sources not currently levied.
Historical Value (2015 Audit)	$0	
$ Allowable Increase	$0	
D. Fees, Charges, Other Locally-Controlled Revenues		
% Allowable Increase	9%	Use 10% if no other basis for determination. Include sources not currently levied.
Historical Value (2015 Audit)	$90,223	
$ Allowable Increase	$8,120	

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Expenditure Framework

Pace of Spending Growth

Flexibility

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Expenditure Framework

Expenditure Framework	aaa	aa	a	bbb	bb
Natural Pace of Spending Growth Relative to Expected Revenue Growth (Based on Current Spending Profile)	Slower to equal	In line with to marginally above	Above	Well above	Very high
Flexibility of Main Expenditure Items (Ability to Cut Spending Throughout the Economic Cycle)	Ample	Solid	Adequate; legal or practical limits to budget management may result in manageable cuts to core services at times of economic downturn.	Limited; cuts likely to meaningfully, but not critically, reduce core services at times of economic downturn.	Constrained; adequate delivery of core services may be compromised at times of economic downturn.
Additional Considerations	Considers potential funding pressures, including outstanding or pending litigation, internal service fund liabilities (worker's compensation) and contingent obligations.				

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Expenditure Framework

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Pace of Spending Growth

- Analyzes the issuer's ability to support the types and levels spending it undertakes
- Compares pace of natural spending growth to natural revenue growth in the absence of policy actions
- Identifies potential operating gaps going forward

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Expenditure Framework

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Metrics to Support Assessment

Pace of Spending Growth	Review time-series data on issuer's revenue and spending; however historical figures of limited use in identifying organic spending growth trends Most heavily influenced by Fitch's analysis of and expectations for main areas of a government's spending

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Expenditure Framework

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Expenditure Flexibility

- Local governments are labor-intensive; workforce evaluation highlights issuer's relative ability to control labor costs
- States have significantly more spending flexibility
- Carrying costs can be a notable spending area for both states and locals
- Carrying costs compare combined debt service, pension actuarially-determined contribution (ADC) and other post-employment benefits (OPEB) pay-go spending to governmental expenditures
- A supplemental metric calculates a hypothetical benchmark pension contribution that amortizes the Fitch-adjusted pension liability over 20 years at 5%

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Expenditure Framework

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Metrics to Support Assessment

	aaa	aa	a	bbb	bb
Flexibility of Main Expenditure Items	State and Local Governments: carrying costs = governmental debt service + pension ARC/ADEC + OPEB actual contribution/governmental expenditures (most recent year) Local Governments: -Work force evaluation – Control over work force spending based on management's independent control of compensation and work rules, existence/terms of contractual agreements with labor, level of collective bargaining and laws covering ability to strike				
	Carrying cost metric less than 10%	Carrying cost metric less than 20%	Carrying cost metric less than 25%	Carrying cost metric less than 30%	Carrying cost metric 30% or greater

ARC/ADEC – actuarially calculated annual required contribution/actuarially determined employer contribution

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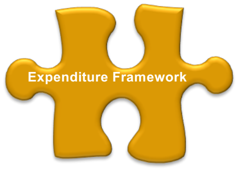

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Workforce Evaluation Worksheet

Workforce Evaluation			
	Instructions: highlight all appropriate descriptions & the category		
	aaa	aa	a
Management control over headcount (considering ability to use furloughs and layoffs or other reductions in force as well as any operational requirements such as minimum class sizes or staffing levels)	Full	Strong	Moderate
Management control over wages, benefits and work rules that would have a financial impact	Full	Strong	Moderate
Conflict resolution process	N/A (no contractual obligations)	Management can impose terms unilaterally if no agreement is reached	Management can ultimately impose terms but only after following a structured framework in which they bargain with labor; a few unions may be subject to binding arbitration but arbitration award must take financial and/or economic conditions into account
Ability to strike	N/A (no contractual obligations)	Strikes prohibited	Strikes prohibited with very few exceptions
Flexibility of terms of typical contracts	N/A (no contractual obligations)	Flexible; expected to be manageable to favorable in the event of a change in economic condition.	Somewhat flexible; expected to be challenging but manageable in the event of a change in economic condition.
		The workforce evaluation could be negatively affected if contracts have expire	
Note: binding arbitration refers only to labor contracts.			

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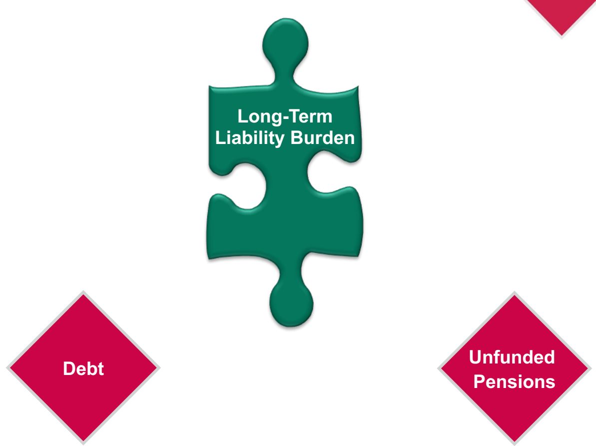

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Long-Term Liability Burden

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Long-Term Liability Burden	aaa	aa	a	bbb	bb
Combined Burden of Debt and Unfunded Pension Liabilities in Relation to Resource Base	Low	Moderate	Elevated but still in moderate range	High	Very high

Long-Term Liability Burden

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Debt Considerations

- Trends in debt burden relative to issuer’s resource base
- Future capital and debt needs
- Evidence of deferred maintenance
- Rate at which debt repaid
- Exposure to derivatives, short-term and variable rate debt, and bullet maturities

Long-Term Liability Burden

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Pension Considerations

- Current liability and expected trajectory
- Actuarial and other assumptions affecting burden
- Standardized investment return scenario used in analysis for comparability
- Analysis considers defined benefit pension plans only
- Consistent ARD/ADEC funding supports stable to declining liabilities
- Efforts to reduce the liability are considered a positive credit factor

Long-Term Liability Burden

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OPEB Considerations

- Not included in liability burden calculation
- More flexible liability than pensions
- Actuarial calculations subject to variation
- Large liabilities without capacity to change benefits cause concern

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Metrics to Support Assessment

	aaa	aa	a	bbb	bb
Long-Term Liability Burden	State Governments - Direct debt + Fitch-adjusted direct unfunded pension liability as a percentage of personal income Local Governments - Overall local debt + Fitch-adjusted direct unfunded pension liability as a percentage of personal income (population multiplied by per capita income) Considers liabilities in relation to issuer's budget				
	Liabilities less than 10% of income	Liabilities less than 20% of income	Liabilities less than 40% of income	Liabilities less than 60% of income	Liabilities 60% or more of income

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- Operating performance addresses how an issuer functions within the framework of three foundational credit factors
- Looking at management in both downturns and recovery focuses the analysis on the fundamental financial profile
- The goal is not to change ratings based on the point in the economic cycle
- Ratings will change if actual performance diverges significantly from expectations

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Operating Performance	aaa	aa	a	bbb	bb
Financial Resilience Through Downturns (Based on Interpretation of Scenario Analysis)	Exceptionally strong gap-closing capacity; expected to manage through economic downturns while maintaining a high level of fundamental financial flexibility.	Very strong gap-closing capacity; expected to manage through economic downturns while maintaining an adequate level of fundamental financial flexibility.	Strong gap-closing capacity; financial operations would be more challenged in a downturn than is the case for higher rating levels, but expected to recover financial flexibility.	Adequate gap-closing capacity; financial operations could become stressed in a downturn, but expected to recover financial flexibility.	Limited gap-closing capacity; financial operations could become distressed in a downturn and might not recover.
Budget Management at Times of Economic Recovery	Rapid rebuilding of financial flexibility, with no material deferral of required spending/ nonrecurring support of operations	Consistent efforts in support of financial flexibility, with limited to no material deferral of required spending/ nonrecurring support of operations	Some deferral of required spending/nonrecurring support of operations	Significant deferral of required spending/ nonrecurring support of operations	Deferral of required spending/ nonrecurring support of operations that risks becoming untenable given tools available to the issuer.
Additional Considerations	Could be negatively affected by liquidity or market access concerns; risk of an outside party (e.g. another level of government) having a negative impact on operations; evidence of an exceptional degree of taxpayer dissatisfaction, particularly in environments with easy access to the voter-initiative process; or management weaknesses not captured above.				

Operating Performance

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Metrics to Support Assessment

Financial Resilience Through Downturns	Interpretation of scenario analysis results - primary driver of the financial resilience assessment for both state and local governments.

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Operating Performance

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Metrics to Support Assessment

Budget Management at Times of Economic Recovery	State Governments - Consideration of historical and expected budgeting practices Local Governments – -Consideration of historical and expected budgeting practices -Dollar difference between pension ARC/ADEC and actual pension funding as a percentage of spending

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Additional Considerations

- Operating performance assessment could be negatively affected by the following:
  - Liquidity concerns
    - For local governments <60 days government-wide days cash on hand
  - Risk of outside party (eg. another level of government) affecting operations
  - Evidence of exceptional taxpayer dissatisfaction
  - Market access concerns
  - Management weaknesses, such as late or problematic audited financials

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Scenario Analysis

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Scenarios and Rating Tolerance

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- Considers potential performance under a common set of assumptions, illustrating how cycles affect individual issuers differently
- Fitch Analytical Sensitivity Tool (FAST) highlights
  - How an issuer's financial position can change through an economic cycle
  - What level of change can be considered consistent with the existing rating
- FAST Fitch's through-the-cycle analysis but is not a forecast
- Does not generate a rating but provides analytical information used in the rating process
- Rating change occurs only when issuer performance is outside of expectations for performance through the cycle

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Revenue Sensitivity Analysis

Fitch Credit Academy

- Considers an issuer's historical revenue performance and estimates future possible revenue behavior in a downturn
- National GDP as a key scenario input
- Scales the revenue impact of a cyclical decline for a given issuer based on the GDP scenario being considered
- Provides a plausible range of outcomes that can be evaluated in a through-the-cycle analysis
- Uses historical issuer-specific CAFR revenue data, then adjusts for clear outliers so as not to skew the analysis

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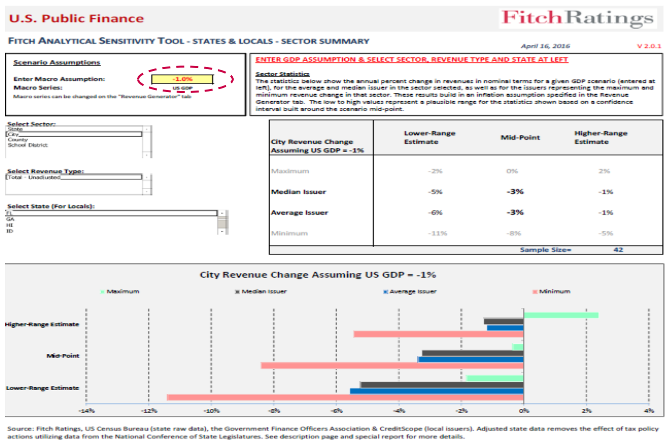
Sector Summary



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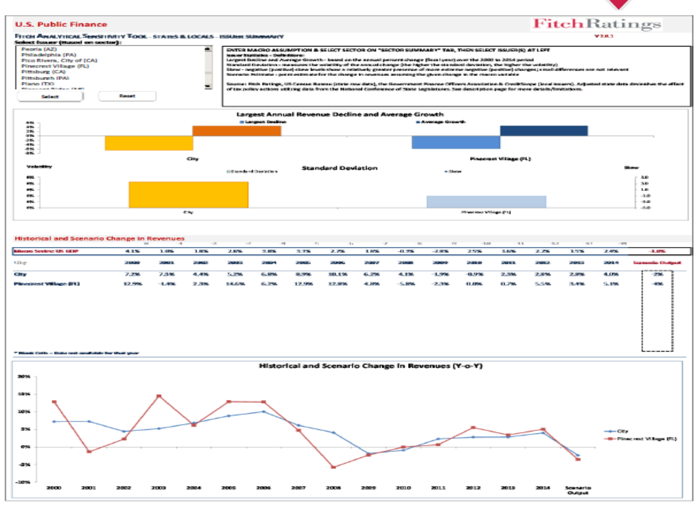
Issuer Summary



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Scenario Analysis

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- Incorporates issuer’s inherent budget flexibility to respond to revenue downturns and its available resources
- Three-year scenario – U.S. GDP falls by 1% in year one, followed by growth of 0.5% and 2% in years two and three
- Revenue decline of 1% = moderate economic downturn
- Differs for state and local governments
- States have substantial control over revenue raising and spending – focus on level of budget shortfall to address in a downturn
- Local governments have less control but generally higher available reserves – focus on cushion in form of reserves

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Local Scenarios

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- Considers the impact of the three-year scenario on an issuer’s general fund position in the absence of any offsetting policy action, using the most recently completed year as the starting point
- Revenue impact of a downturn is estimated from the revenue sensitivity analysis
- Expenses assumed to rise at an inflation rate assumed at 2%
- Scenario shows the amount of reserves Fitch would consider a minimum financial cushion for a given assessment level in context of the scenario = reserve safety margin
- The analysis considers how the issuer is likely to respond in such a scenario and whether that response would allow the issuer to maintain a financial position consistent with the current financial resilience assessment level

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Scenario Analysis – Locals
Superior Inherent Budget Flexibility

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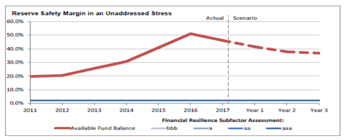
Scenario Analysis v. 2.0 2017/03/24



Analyst Interpretation of Scenario Results:
In a moderate economic decline scenario Fitch believes the city would maintain an operating reserve cushion well above the level needed to maintain high levels of financial flexibility throughout the economic cycle, given the city's superior revenue and spending control and minimal revenue volatility. The city demonstrated its financial stability by maintaining balanced operations through the last recession, by reducing capital and maintenance spending as well as holding salaries flat among those measures.

Scenario Parameters:	Year 1	Year 2	Year 3
GDP Assumption (% Change)	(1.0%)	0.5%	2.0%
Expenditure Assumption (% Change)	2.0%	2.0%	2.0%
Revenue Output (% Change)	(1.0%)	2.9%	4.8%
Inherent Budget Flexibility	Superior		

Revenues, Expenditures, and Fund Balance	Actuals							Scenario Output		
	2011	2012	2013	2014	2015	2016	2017	Year 1	Year 2	Year 3
Total Revenues	176,120	173,530	170,958	170,985	188,464	176,121	176,801	175,033	180,091	188,743
% Change in Revenues	-	(1.5%)	(1.5%)	0.0%	10.2%	(6.5%)	0.4%	(1.0%)	2.9%	4.8%
Total Expenditures	173,499	168,283	150,666	153,584	157,038	159,527	170,989	174,409	177,897	181,455
% Change in Expenditures	-	(3.0%)	(10.5%)	1.9%	2.2%	1.6%	7.2%	2.0%	2.0%	2.0%
Transfers In and Other Sources	22,468	18,320	1,350	633	614	1,760	557	551	567	594
Transfers Out and Other Uses	28,980	25,360	17,962	10,784	12,777	4,920	7,838	7,995	8,154	8,318
Net Transfers	(6,512)	(7,040)	(16,612)	(10,151)	(12,163)	(3,160)	(7,281)	(7,444)	(7,588)	(7,723)
Bond Proceeds and Other One-Time Uses	-	-	-	-	-	-	-	-	-	-
Net Operating Surplus(+)/Deficit(-) After Transfers	(3,891)	(1,793)	3,680	7,250	19,263	13,433	(1,470)	(6,820)	(5,393)	(436)
Net Operating Surplus(+)/Deficit(-) (% of Expend. and Transfers Out)	(1.9%)	(0.9%)	2.2%	4.4%	11.3%	8.2%	(0.8%)	(3.7%)	(2.9%)	(0.2%)
Unrestricted/Unreserved Fund Balance (General Fund)	23,223	20,119	21,534	28,610	42,587	55,604	50,107	43,287	37,894	37,458
Other Available Funds (Analyst Input)	16,632	19,364	21,608	21,786	26,769	28,366	32,446	32,446	32,446	32,446
Combined Available Funds Balance (GF + Analyst Input)	39,855	39,483	43,142	50,396	69,356	83,971	82,553	75,733	70,340	69,904
Combined Available Fund Bal. (% of Expend. and Transfers Out)	19.7%	20.4%	25.6%	30.7%	40.8%	51.1%	46.2%	41.5%	37.8%	36.8%

Reserve Safety Margins	Inherent Budget Flexibility				
	Minimal	Limited	Midrange	High	Superior
Reserve Safety Margin (aaa)	16.0%	8.0%	5.0%	3.0%	2.0%
Reserve Safety Margin (aa)	12.0%	6.0%	4.0%	2.5%	2.0%
Reserve Safety Margin (a)	8.0%	4.0%	2.5%	2.0%	2.0%
Reserve Safety Margin (bbb)	3.0%	2.0%	2.0%	2.0%	2.0%

Notes: Scenario analysis represents an unaddressed stress on issuer finances. Fitch's downturn scenario assumes a -1.0% GDP decline in the first year, followed by 0.5% and 2.0% GDP growth in Years 2 and 3, respectively. Expenditures are assumed to grow at a 2.0% rate of inflation. Inherent budget flexibility is the analyst's assessment of the issuer's ability to deal with fiscal stress through tax and spending policy choices, and determines the multiples used to calculate the reserve safety margin. For further details, please see Fitch's US Tax-Supported Rating Criteria.

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Scenario Analysis – Locals
Minimal Inherent Budget Flexibility

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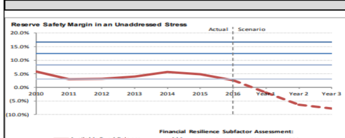
Scenario Analysis v. 1.10 2016/06/22



Analyst Interpretation of Scenario Results:
The district's financial resilience given a moderate economic downturn is relatively poor despite expected limited revenue volatility, given low reserves and minimal budget flexibility. The board lowered the district's unassigned ending fund balance policy to 1% from 2% from fiscals 2010 through 2016. The district added $5 million to fund balance in fiscal 2016, bringing the unassigned balance to 1.75% of spending ($37.5 million). It had planned to add $5.8 million in fiscal 2017 to bring the balance back to 2%, but instead used the funds to pay for support employees cost increases following arbitration. The total available general fund balance at fiscal year-end 2016 was 2.6% of general fund spending.

Scenario Parameters:	Year 1	Year 2	Year 3
GDP Assumption (% Change)	(1.0%)	0.5%	2.0%
Expenditure Assumption (% Change)	2.0%	2.0%	2.0%
Revenue Output (% Change)	(1.0%)	2.0%	5.1%
Inherent Budget Flexibility	Minimal		

Revenues, Expenditures, and Fund Balance	Actuals							Scenario Output		
	2010	2011	2012	2013	2014	2015	2016	Year 1	Year 2	Year 3
Total Revenues	1,985,934	1,951,218	1,866,484	1,890,324	1,992,786	2,037,695	2,060,317	2,038,869	2,080,279	2,186,456
% Change in Revenues	-	(1.7%)	(4.3%)	1.3%	5.4%	2.3%	1.1%	(1.0%)	2.0%	5.1%
Total Expenditures	2,037,415	2,071,660	1,667,131	1,633,261	1,723,465	1,775,870	1,804,137	1,840,219	1,877,024	1,914,564
% Change in Expenditures	-	1.7%	(19.5%)	(2.0%)	5.5%	3.0%	1.6%	2.0%	2.0%	2.0%
Transfers In and Other Sources	10,000	66,397	47,500	44,299	60,364	36,128	39,730	39,317	40,115	42,163
Transfers Out and Other Uses	2,445	2,600	266,491	285,748	302,379	312,231	329,700	336,294	343,020	349,880
Net Transfers	7,555	63,797	(218,991)	(241,449)	(242,015)	(276,103)	(289,970)	(296,977)	(302,905)	(307,718)
Bond Proceeds and Other One-Time Uses	-	-	-	-	-	-	-	-	-	-
Net Operating Surplus(+)/Deficit(-) After Transfers	(43,926)	(56,645)	(19,638)	15,614	27,306	(14,278)	(33,789)	(98,327)	(99,650)	(35,826)
Net Operating Surplus(+)/Deficit(-) (% of Expend. and Transfers Out)	(2.2%)	(2.7%)	(1.0%)	0.8%	1.3%	(0.7%)	(1.6%)	(4.5%)	(4.5%)	(1.6%)
Unrestricted/Unreserved Fund Balance (General Fund)	119,885	63,240	62,064	77,803	114,440	100,199	56,396	(41,931)	(141,581)	(177,407)
Other Available Funds (Analyst Input)	-	-	-	-	-	-	-	-	-	-
Combined Available Funds Balance (GF + Analyst Input)	119,885	63,240	62,064	77,803	114,440	100,199	56,396	(41,931)	(141,581)	(177,407)
Combined Available Fund Bal. (% of Expend. and Transfers Out)	5.9%	3.0%	3.2%	4.1%	5.6%	4.8%	2.6%	(1.9%)	(6.4%)	(7.8%)

Reserve Safety Margins	Inherent Budget Flexibility				
	Minimal	Limited	Midrange	High	Superior
Reserve Safety Margin (aaa)	16.7%	8.3%	5.2%	3.1%	2.1%
Reserve Safety Margin (aa)	12.5%	6.2%	4.2%	2.6%	2.0%
Reserve Safety Margin (a)	8.3%	4.2%	2.6%	2.0%	2.0%
Reserve Safety Margin (bbb)	3.1%	2.1%	2.0%	2.0%	2.0%

Notes: Scenario analysis represents an unaddressed stress on issuer finances. Fitch's downturn scenario assumes a -1.0% GDP decline in the first year, followed by 0.5% and 2.0% GDP growth in Years 2 and 3, respectively. Expenditures are assumed to grow at a 2.0% rate of inflation. Inherent budget flexibility is the analyst's assessment of the issuer's ability to deal with fiscal stress through tax and spending policy choices, and determines the multiples used to calculate the reserve safety margin. For further details, please see Fitch's US Tax-Supported Rating Criteria.

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Reserve Safety Margin

Fitch Credit Academy

- Level of Reserves important credit concern
- Reserve expectations are credit and rating specific
- Fitch recognizes reserve levels fluctuate through the economic cycle and does not set static expectations for reserves
- 'Reserve safety margin' considered in context of
  - 'Inherent budget flexibility' (revenue control + expenditure flexibility)
  - Revenue volatility
- 2% 'reserve safety margin' is the minimum considered in the tool for local issuers

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Reserve Safety Margin

Fitch Credit Academy

Step 1: Determining Inherent Budget Flexibility[a]

Flexibility of Main Expenditure Items

Legal Ability to Raise Revenues	Factor assessment	aaa	aa	a	bbb	bb
	aaa	Superior	Superior	High	Midrange	Midrange
	aa	Superior	High	Midrange	Midrange	Midrange
	a	High	Midrange	Midrange	Limited	Limited
	bbb	Midrange	Midrange	Limited	Minimal	Minimal
	bb	Midrange	Midrange	Limited	Minimal	Minimal

[a]Based on prior assessments.

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Reserve Safety Margin

Fitch Credit Academy

Step 2: Determining Reserve Safety Margin

Multiples of the scenario revenue decline generated by the revenue sensitivity tool; minimum reserve safety margin is 2%

Financial Resilience Assessment

Inherent Budget Flexibility	Margin	aaa	aa	a	bbb	bb[a]
	Superior	2.0	1.5	1.0	0.5	N.A.
	High	3.0	2.5	1.5	1.0	N.A.
	Midrange	5.0	4.0	2.5	1.5	N.A.
	Limited	8.0	6.0	4.0	2.0	N.A.
	Minimal	16.0	12.0	8.0	3.0	N.A.

[a]Not applicable (N.A.), because credits rated below investment grade are assumed to be in a situation in which either fund balance is already minimal to negative or any amount of fund balance in itself would be insufficient to keep the rating stable.

State Scenarios

Fitch Credit Academy

- Assumptions on revenue and spending performance in the three-year scenario are similar for states and locals
- Tool shows the budget shortfall in an unaddressed scenario and communicates how Fitch would expect the issuer to address the gap
- Considers explicit financial cushion readily available for budget balancing and any other policies that provide a cushion against revenue underperformance
- No minimum reserve level due to states' strong budget flexibility and response time

Asymmetric Risk Considerations

Fitch Credit Academy

- Final rating considers certain additional risk factors that work asymmetrically – only below-standard features are factored into the rating
- Management and governance – assumed to be adequate but demonstrated weakness (e.g. lack of consensus on budget issues) can lower the rating
- Economic considerations – unusually small, remote or concentrated economies are more susceptible to sudden and unpredictable change in profile.
- Long-term structural deterioration in the economy will also affect the rating negatively

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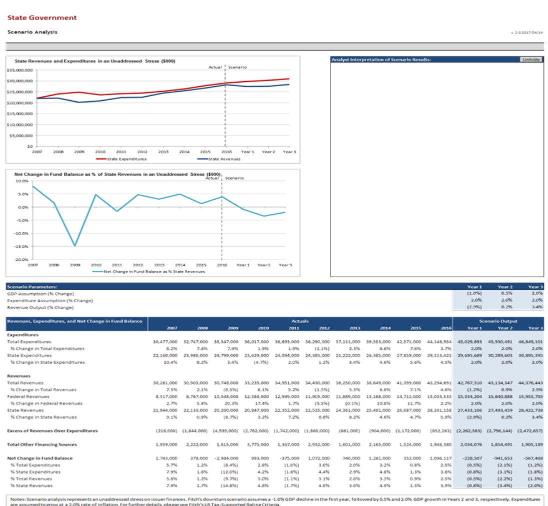
Scenario Analysis Tool – States

Fitch Credit Academy



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Fitch Credit Academy

Determining Ratings for Specific Securities

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Determining Ratings for Specific Securities

Fitch Credit Academy

- Ratings assigned to specific securities based on
  - Legal provisions
  - Relationship to/separation from the general credit quality of the related government
- Vast majority of tax-supported bonds backed by General Obligation (GO), appropriation or dedicated tax pledges

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General Obligation Bonds

Fitch Credit Academy

- IDR=GO rating in most cases
- Two exceptions:
  - Bonds secured by special revenues under U.S. Code
  - Enhanced recovery prospects can be identified
- No rating distinction between ULTGO and LTGO
- Local government ratings make no distinction between states that allow for bankruptcies and those that do not

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Appropriation Backed Bonds

Fitch Credit Academy

- Lease and other appropriation-supported obligations require appropriation by governing body for debt service to be paid
  - Covenant to budget and appropriate (CB&A) – covenant is ongoing and enforceable issuer obligation
  - Obligor payments subject to annual appropriation (annual appropriation debt)
  - Lease debt in which lease payments can be reduced if the leased assets are not fully available for use (abatement lease debt)
- Appropriation-backed bonds generally rated one notch below obligor's IDR reflecting slightly higher optionality – may differ if
  - Debt service payable solely from narrow or volatile revenue source
  - Obligor's budgets/ financial plans expect debt service will be repaid by an uncertain source
  - Bonds fund economic development or entertainment projects where attainment of expected benefits is yet to be realized
  - Lower rated credits where lease opt-out incentives are heightened

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Dedicated Tax Bonds

Fitch Credit Academy

- Payable from a specific tax revenue stream (such as sales or hotel tax) but not covered by a GO pledge
- Evaluated in two-step process
  - Stand-alone basis
  - Exposure to operating risk of the issuing entity

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Dedicated Tax Bonds

Fitch Credit Academy

Step 1: Stand-alone Analysis

- Builds on foundation of IDR framework
- Considers only factors relevant to the specific dedicated tax security
- Fitch looks at debt service coverage margins similarly to the reserve safety margin
- Focus on maximum annual debt service (MADS) and additional bonds test
- Additional liquidity within structure can be considered

Expectations for MADS Coverage Cushions by Rating Level			
Multiples of decline from -1% GDP revenue sensitivity analysis			
aaa	aa	a	bbb
8.0x	6.0x	4.0x	1.5x
Multiples of the largest actual revenue decline in review period			
aaa	aa	a	bbb
3.0x	2.5x	2.0x	1.25x

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Dedicated Tax Bonds

Fitch Credit Academy

Step 2: Analysis of Exposure to Issuing Entity Operations

- Extent to which bondholder security can be threatened by the operating risk of the related government as expressed by IDR
- Different criteria for states and locals as Chapter 9 framework only applies to locals

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Dedicated Tax Bonds

Fitch Credit Academy

- State Government Issuers
- *Rated without consideration of the IDR if no nexus with general state functions*
  - Separation can be due to a dedicated revenue stream coming from a system or function that is clearly distinct from general state activity, e.g. unemployment compensation system bonds
- *In other cases, rated above but linked to IDR if flow of dedicated revenues clearly segregated from general government operations*
- A rating no more than three notches above the state's IDR, with degree of allowable notching informed by:
  - Breadth of the dedicated revenues (the narrower the better)
  - Nature of the borrowing program (the more specific the better)
  - Use of residual revenues (the more segregated the better)

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Dedicated Tax Bonds

Fitch Credit Academy

- State Government Issuers
  - To achieve a rating higher than IDR flow of pledged revenue must be structurally protected form state's general financial operations
- Local Government Issuers
  - Not rated higher than IDR due to bankruptcy risk, except if
    - Revenue clearly considered special revenues under Ch. 9 of Bankruptcy Code
    - Enhanced recovery prospects through statutory lien or visibility in bankruptcy
    - Debt issued pursuant to a specific state intercept program
    - Debt structured as securitization specifically authorized by state law
- Bank Bonds
  - Rated in conjunction with or subsequent to issuance of variable–rate demand bonds (VRDBs), carry same rating if security is on parity with VRDB

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Special Revenue Status

Fitch Credit Academy

- Section 902(2) defines 'special revenues'
  - Not subject to the automatic stay
  - Lien survives bankruptcy
- 902(2) (A) applies to revenues derived from the operation of a utility or transportation system – not taxes
- 902(2)(B) applies to excise taxes on particular activities (e.g. fuel, tourism)
- 902(2)(C) applies to tax increment revenues
- 902(2)(D) applies to revenues or receipts from particular functions of the debtor (e.g. vehicle license and deed recordation fees)
- 902(2)(E) also applies to taxes but is more ambiguous, so requires legal review

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Special Revenue Status

Fitch Credit Academy

- Each of the elements below required (subject to legal review) for special revenue status under 902(2)(E) of the Code:
  - Statutory scheme limiting authority to levy a specific property tax to the financing of capital projects
  - Statutory requirement that a governmental official outside the municipality collects and remits the tax revenues directly to the trustee
  - Clarity that pledged taxes are property of the municipality, not the collector
  - Express statutory prohibition on use of any revenues from the taxes in operations of the municipality (unless there is a legal basis for concluding the tax revenues would not be subject to being subordinated to operating spending)
  - Identification of capital projects in ballot initiative or resolution limiting use of debt proceeds to capital projects
  - A structure in which bondholders do not have a claim on general revenues of the municipality, but are solely secured by the dedicated tax

Summary of Proposal - Exposure Draft Dated July 23

Fitch Credit Academy

Security Protections	Maximum Notches Above IDR of Related Municipality	Example
Consensual lien on general revenues of the obligor	0	Most sales, income and property tax-supported bonds
Continuation of the lien on revenues post-bankruptcy petition	2	Statutory Lien
+		
Not subject to the automatic stay under section 922(d)	3	Utility, tax increment revenues
+		
Legal barriers to the issuer's ability to divert revenues away from bondholder repayment:		Utility (if state law does not allow use of revenues for general purposes)
a. Strong state statutory or constitutional restrictions on use of revenues, limiting their ability to be used for general operations.		Utility (if state law does not allow use of revenues for general purposes)
OR	4	
b. Legal provisions that require physical separation of the revenues from the issuer (e.g. revenues collected and debt service paid by a different unit of government).		County collects and remits revenues to paying agent.
c. Both a and b	5	CA school district ULTGOs
True sale structures, commonly referred to as municipal securitizations, involving the isolation of assets in an issuing entity that has no significant operating risk of its own. Most commonly, these securitizations involve sales of personal income or sales tax revenue streams.	6	City sells its sales tax revenues to a special purpose financing vehicle; receives residual revenues after debt service is paid.

Enhanced Recovery Prospects

Fitch Credit Academy

- Statutory liens
  - Defined in Section 101(53) of the Code - lien arising automatically by force of statute on specified circumstances or conditions
  - Different from consensual liens, which do not provide preferential treatment in bankruptcy
  - ULTGOs with statutory liens 2 notches above the IDR
  - Dedicated tax bonds up to 2 notches above the IDR, depending on the relative strength of the pledged revenue stream and the IDR
  - Broad-based laws that cover issuers of a defined type in a state can be applied generally once Fitch completes necessary legal evaluation of statute
- Visibility in bankruptcy
  - Recovery rates in actual cases vary widely
  - Case-by-case analysis; no standard rules given lack of examples

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Fitch Credit Academy

Other Considerations
- School Districts
- State Credit Enhancement Programs
- Moral Obligations

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School Districts

Fitch Credit Academy

- Analysis includes state-specific inputs
  - Legal requirements and policies related to school funding
  - Overall state financial position
- Targeted consideration of economic base
  - Focus on population and enrolment trends
  - Considerations used for general purpose governments less relevant

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Key Rating Factors Applied to School Districts

Fitch Credit Academy

- Revenue framework affected by enrolment and state funding trends
  - Growth prospects based on enrolment and state funding expectations
  - Little to no revenue control at the district level
  - State's high priority on education somewhat offsets this concern
- Expenditure framework focuses on specifics of school operations
  - Class size, number of school days
  - Considers state support for debt service
- Long-term liability burden considers state capital funding and support for pensions
- Same operating performance analysis as for general purpose governments

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State Credit Enhancement Programs

Fitch Credit Academy

- Criteria covers programs that provide enhancement linked to a state's general credit quality
  - Excludes enhancement through permanent funds
- Timely payment expectation critical
- Revenue adequacy and stability key
- Program rating replaces that of borrower

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Moral Obligations

Fitch Credit Academy

- Most common MO is Debt Service Reserve Fund (DSRF) replenishment
- Legislative statement of intent but a nonbinding mechanism provided by a governmental entity to support separately issued debt
- To give credit to MO, must
  - Be a formal stated intent detailed in bond documents or other public records
  - Cover full amount of debt service
  - Have mechanism for timely payment ahead of missed debt service payment
- Bottom-up analytic approach most common
  - Adjust underlying rating upward based on value of MO
  - Can provide a one to three notch rating enhancement
- Rating Linkage to MO provider (top down) approach possible
  - Limited to two notches below provider's IDR

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Moral Obligations

Fitch Credit Academy

- MO debt rated three notches below provider's IDR in most cases
- Rating can be 2 notches below if the MO:
  - is provided to an entity that serves a broad government-wide or core purpose;
  - funds an ongoing program rather than a specific project and relates to essential or core governmental operations; and
  - comes from an MO provider that demonstrates further evidence of its involvement in the program.

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