



Moody's GO Methodology and Scorecard

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Agenda

- 1. Municipal Credit Ratings in a Global Context
- 2. Moody's General View of Local Government Credit Quality
- 3. Moody's Approach to Evaluating Local Government GO Bonds



Municipal Credit Ratings in a Global Context



Moody's Approach to Credit Ratings

- Moody's ratings reflect the rated security's relative probability of default and the likely degree of loss in the event of default
- All ratings should be comparable across sectors, geography, and security types
- All ratings are assigned and monitored in accordance with a publicly available rating methodology
- Methodologies are reviewed annually and updated as circumstances warrant
- Whenever methodologies are updated we:
 - Identify all ratings subject to the methodology
 - Fully review all ratings that could change, given the new methodology
 - Announce all rating changes or review actions related to the new methodology



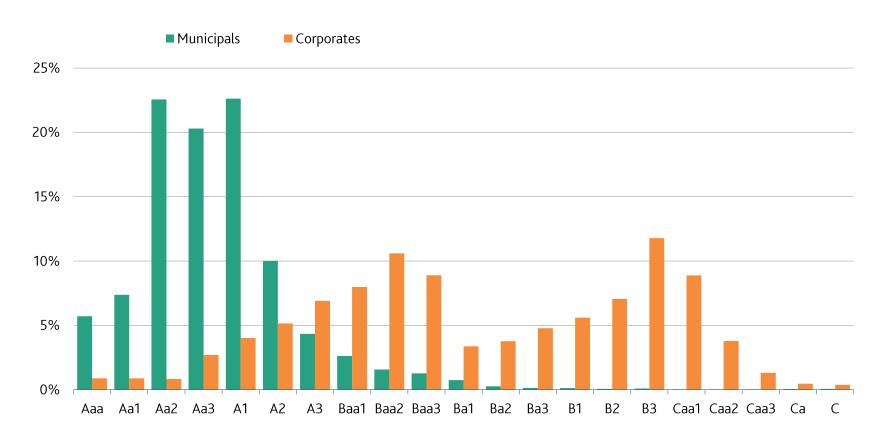
Moody's Ratings Indicate Relative Credit Risk

Glob	Global Long-Term Rating Scale							
Aaa	Obligations rated Aaa are judged to be of the highest quality, subject to the lowest level of credit risk.							
Aa	Obligations rated Aa are judged to be of high quality and are subject to very low credit risk.							
Α	Obligations rated A are judged to be upper-medium grade and are subject to low credit risk.							
Baa	Obligations rated Baa are judged to be medium-grade and subject to moderate credit risk and as such may possess certain speculative characteristics.							
Ba	Obligations rated Ba are judged to be speculative and are subject to substantial credit risk.							
В	Obligations rated B are considered speculative and are subject to high credit risk.							
Caa	Obligations rated Caa are judged to be speculative of poor standing and are subject to very high credit risk.							
Ca	Obligations rated Ca are highly speculative and are likely in, or very near, default, with some prospect of recovery of principal and interest.							
С	Obligations rated C are the lowest rated and are typically in default, with little prospect for recovery of principal or interest.							



Municipals Ratings Are Generally Well Above Corporate Ratings

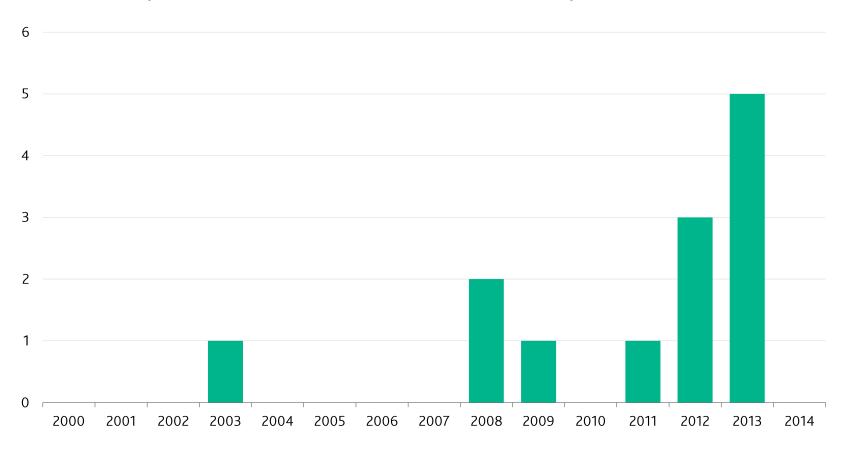
- 93% of municipal issuers are rated single-A or higher reflecting the relatively low likelihood of default and expected loss
- Only 0.4% of municipal GO debt has a speculative-grade rating





Very Few Local Governments Defaults, but Recent Increase

Moody's Rated Local Government Default Rates by Year, 2000-2014







Moody's General View of Local Government Credit Quality



US Local Government Outlook is Stable

Key drivers:

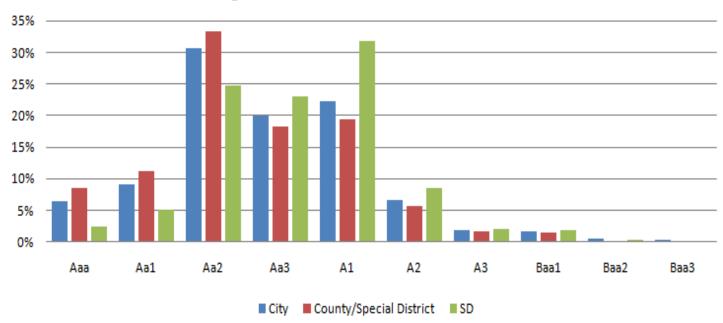
- The housing market has stabilized
- Property tax revenues are on a slow, steady growth trajectory
- State funding arrangements have stabilized and this is no longer a pressure point for the sector as a whole
- Local governments are controlling costs, though pension burdens remain a challenge for many
- Reserve fund balances remain healthy



Local Government GO Bond Ratings Remain High Overall

- Strong sector due to the potency of the ad valorem taxing power, amortizing debt structures, and overall stable institutional frameworks
- Sector median is Aa3
- Only 2% rated Baa1 or below

Current Local Governments Ratings Distribution





California GO Ratings Compare Well to US Municipal Averages







Moody's Approach to Evaluating Local Government GO Bonds



Updated GO Methodology Released January 2014



RATING METHODOLOGY

US Local Government General Obligation Debt

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This methodology explains how Moody's evaluates the credit quality of US local government General Obligation (GO) debt. This document is intended to provide general guidance that helps local governments, investors, and other interested market participants understand how key quantitative and qualitative risk factors are likely to affect rating outcomes for local governments that issue GO bonds. This document does not include an exhaustive treatment of all factors that are reflected in our ratings but should enable the reader to understand the qualitative considerations, financial information, and ratios that are usually most important for ratings in this sector.

This rating methodology replaces the Rating Methodology for General Obligation Bonds Issued by US Local Governments published in April 2013. While reflecting many of the same core principles that we have used in assigning ratings to this sector for many years, this updated methodology introduces a scorecard that quantifies several factors that we previously evaluated in qualitative ways. A modest number of ratings are expected to change as a result of the publication of this methodology.

The purpose of the scorecard is to provide a reference tool that market participants can use to approximate most credit profiles within the local government sector. The scorecard provides summarized guidance for the factors that we generally consider most important in



GO Scorecard User Guide Released July 2014





Updated Methodology: Small Methodological Revisions But Significant Increase in Transparency

Goals of New Methodology:

- Update prior methodology to reflect recent trends & key issues, including pensions
- Develop quantitative scorecard

Purpose and Use of the Scorecard:

- Enhances the transparency of our rating process
- Captures the key considerations that correspond to particular rating categories
- Not an exhaustive list of factors that we consider in every local government rating
- Each sub factor is a quantitative metric
- May notch up or down from scorecard-indicated rating based on additional factors
- Scorecard acts as a starting point for a more thorough and individualistic analysis
- Final rating is determined by a Rating Committee



New GO Scorecard

Changes from Previous Methodology:

Ed	Factor 1 conomy/Tax Base	Factor 2 Finances	Factor 3 Management	Factor 4 Debt/Pensions
	30%	30%	20%	20%
	Was 40%	Unchanged	Unchanged	Was 10%



GO Scorecard – Factors, Sub-factors and Weights

Factors & Sub-Factors	Weights
Factor 1: Economy/Tax Base	30%
Full Value (market value of taxable property)	10%
Full Value per Capita	10%
Median Family Income	10%
Factor 2: Finances	30%
Fund Balance as % of Operating Revenue	10%
5-Year Dollar Change in Fund Balance as % of Revenues	5%
Cash Balance as % of Revenues	10%
5-Year Dollar Change in Cash Balance as % of Revenues	5%
Factor 3: Management	20%
Institutional Framework	10%
Operating History: 5-Year Average of Operating	
Revenues / Operating Expenditures	10%
Factor 4: Debt/Pensions	20%
Net Direct Debt / Full Value	5%
Net Direct Debt / Operating Revenue	5%
3-Year Average of Moody's Adjusted Net Pension Liability	
/ Full Value	5%
3-Year Average of Moody's Adjusted Net Pension Liability / Operating Revenues	5%



Scorecard Factor 1: Economy/Tax Base – 30%

	Very Strong	Strong	Moderate	Weak	Poor	Very Poor	
	Aaa	Aa	Α	Ваа	Ва	B & Below	Weight
ECONOMY/TAX BASE (30%)							
Tax Base Size: Full Value	> \$12B	\$12B ≥ n > \$1.4B	\$1.4B ≥ n > \$240M	\$240M ≥ n > \$120M	\$120M ≥ n > \$60M	≤\$60M	10%
Full Value Per Capita	>\$150,000	\$150,000 ≥ n > \$65,000	\$65,000 ≥ n > \$35,000	\$35,000 ≥ n > \$20,000	\$20,000 ≥ n > \$10,000	≤\$10,000	10%
Socioeconomic Indices: MFI	> 150% of US median	150% to 90% of US median	90% to 75% of US median	75% to 50% of US median	50% to 40% of US median	≤ 40% of US median	10%

- The tax base is the source of most local government revenues
- The tax base scorecard weight was reduced to 30% from 40%
 - Lowered to reflect our observation that some local governments have been either unwilling or unable to convert tax base strength into revenues
- Full value: "Assessed value" in California
- MFI: Median Family Income from the most recent American Community Survey



Scorecard Factor 2: Finances – 30%

	Very Strong	Strong	Moderate	Weak	Poor	Very Poor	
	Aaa	Aa	Α	Ваа	Ва	B & Below	Weight
FINANCES (30%)							
Fund Balance as % of Revenues		30.0% ≥ n > 15.0% 25.0% ≥ n > 10.0% for SD		5.0% ≥ n > 0.0% 2.5% ≥ n > 0.0% for SD	$0.0\% \ge n > -2.5\%$ $0.0\% \ge n > -2.5\%$ for SD	≤ -2.5% ≤ -2.5% for SD	10%
5-Year Dollar Change in Fund Balance as % of Revenues	> 25.0%	25.0% ≥ n > 10.0%	10.0% ≥ n > 0.0%	0.0% ≥ n > -10.0%	-10.0% ≥ n > -18.0%	≤ -18.0%	5%
Cash Balance as % of Revenues		25.0% ≥ n > 10.0% 10.0% ≥ n > 5.0% for SD	10.0% ≥ n > 5.0% 5.0% ≥ n > 2.5% for SD	5.0% ≥ n > 0.0% 2.5% ≥ n > 0.0% for SD	0.0% ≥ n > -2.5% 0.0% ≥ n > -2.5% for SD	≤ -2.5% ≤ -2.5% for SD	10%
5-Year Dollar Change in Cash Balance as % of Revenues	> 25.0%	25.0% ≥ n > 10.0%	10.0% ≥ n > 0.0%	0.0% ≥ n > -10.0%	-10.0% ≥ n > -18.0%	≤ -18.0%	5%

- Fund Balance *Operating* funds total fund balance
- Cash Balance *Operating* funds total cash balance
- 5-Yr. \$ Change in Fund Balance and Cash Balance as % of Revs
 - Incorporated to capture trend information; avoids overweighting point-in-time data



Scorecard Factor 3: Management – 20%

	Very Strong	Strong	Moderate	Weak	Poor	Very Poor	
	Aaa	Aa	Α	Baa	Ва	B & Below	Weight
MANAGEMENT (20%)							
Institutional Framework	Very strong legal ability to match resources with spending	Strong legal ability to match resources with spending	Moderate legal ability to match resources with spending	Limited legal ability to match resources with spending	Poor legal ability to match resources with spending	Very poor or no legal ability to match resources with spending	10%
Operating History: 5-Year Average of Operating Revenues / Operating Expenditures	> 1.05x	1.05x ≥ n > 1.02x	1.02x ≥ n > 0.98x	0.98x ≥ n > 0.95x	0.95x ≥ n > 0.92x	≤ 0.92x	10%

Institutional Framework

- Focuses on issuers' legal ability to match revenues with expenditures based on their legal options
- Factors that drive the institutional framework score include tax caps, organized labor, difficulty of increasing revenues, predictability of costs and state imposed limitations on fund balance or reserves

Operating History

- Measures the extent to which an issuer has demonstrated the practical willingness and ability to match revenues with expenditures
- Input: Five-year average of the ratio of operating revenues to operating expenditures



Scorecard Factor 4: Debt/Pensions – 20%

	Very Strong	Strong	Moderate	Weak	Poor	Very Poor	
	Aaa	Aa	Α	Baa	Ва	B & Below	Weight
DEBT/PENSIONS (20%)							
Net Direct Debt / Full Value	< 0.75%	0.75% ≤ n < 1.75%	1.75% ≤ n < 4%	4% ≤ n < 10%	10% ≤ n < 15%	> 15%	5%
Net Direct Debt / Operating Revenues	< 0.33x	0.33x ≤ n < 0.67x	0.67x ≤ n < 3x	3x ≤ n < 5x	5x ≤ n < 7x	> 7x	5%
3-Year Average of Moody's Adjusted Net Pension Liability / Full Value	< 0.9%	0.9% ≤ n < 2.1%	2.1% ≤ n < 4.8%	4.8% ≤ n < 12%	12% ≤ n < 18%	> 18%	5%
3-Year Average of Moody's Adjusted Net Pension Liability / Operating Revenues	< 0.4x	0.4x ≤ n < 0.8x	0.8x ≤ n < 3.6x	3.6x ≤ n < 6x	6x ≤ n < 8.4x	> 8.4x	5%

- Overall factor weight increased to 20% from 10% to capture pension risks more fully
- Net Pension Liability: Moody's adjusted net pension liability (ANPL) rather than reported liability
 - Three-year average ANPL is used to smooth the volatility inherent in the metric
 - Each rating category's threshold is higher than for net direct debt to reflect the fixed nature of debt obligations compared to pensions, which may be volatile across years and/or renegotiated



GO Scorecard – Standard Adjustments

Adjustments/Notching Factors	
<u>Description</u>	<u>Direction</u>
Economy/Tax Base	
Institutional presence	up
Regional economic center	up
Economic concentration	down
Outsized unemployment or poverty levels	down
Other analyst adjustment to Economy/Tax Base factor (specify)	up/down
Finances	
Outsized contingent liability risk	down
Unusually volatile revenue structure	down
Other analyst adjustment to Finances factor (specify)	up/down
Management	
State oversight or support	up/down
Unusually strong or weak budgetary management and planning	up/down
Other analyst adjustment to Management factor (specify)	up/down
Debt/Pensions	
Unusually strong or weak security features	up/down
Unusual risk posed by debt/pension structure	down
History of missed debt service payments	down
Other analyst adjustment to Debt/Pensions factor (specify)	up/down
Other	
Credit event/trend not yet reflected in existing data sets	up/down



Applying the Analytical Factors

Grid-Indicated Rating

Notching Factors

Adjusted Scorecard Rating

- Analysts score each subfactor in the grid
- The weighted average of the analyst-assigned subfactor scores will determine a raw score that maps to Moody's rating scale
- Analyst and rating committee will determine any notching factors to add to the automatic state/sector adjustments; this results in the "adjusted scorecard rating"
- The adjusted scorecard rating is typically the assigned, public rating.
- However:
 - The final rating assignment is determined by the vote of rating committee members
 - The assigned public rating may be different from the adjusted, scorecard indicated rating based on this vote



Moody's Approach to Monitoring Ratings

- All ratings and outlooks are monitored at least once each year
- Types of surveillance reviews
 - "Threshold Filtering": Quantitative reviews with audit note word searches (no issuer contact)
 - Analyst "Batch Reviews" of like credits and "Portfolio Reviews" of all credits within a sector (issuer contact only if annual financial information is missing)
 - Individual Credit Reviews
 - "Panel Review": Issuer contact only if necessary to clarify reported data or other issues; no written report
 - Rating committee review: Analyst will contact issuer for update; written credit report immediately following rating committee
- Decisions about rating and outlook changes can only be made by a rating committee

Moody's New Issuer Guide, Published Feb. 21, 2014



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