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Moody's Approach To Analyzing Municipal Long-Term Debt

A Focus On Local Government Analysis

Moody's ratings for tax-backed municipal bonds are derived from five primary credit factors: legal security, local economy, financial operations, debt profile and management. This special comment will focus on the debt component of Moody's analysis and ratings.

Debt as a credit factor can not be isolated from the other credit factors, nor viewed as a stand-alone ratio or set of ratios. Rather, as with each of the credit factors, understanding a local government's debt profile in relationship to the other credit factors is crucial to making rating distinctions.

- As a long-term commitment, debt represents a leverage against the local economic base and the taxable resources that are ultimately responsible for the debt retirement.
- From an annual financial perspective, debt represents a fixed line-item expense that local governments must budget for with adequate supporting revenues or sufficient cash flow.
- Growing communities must manage the capital costs of expanding infrastructure demands, while mature communities must plan for deferred maintenance issues and redevelopment costs. Optimally, both require long-term planning for infrastructure costs coupled with affordability studies.

Moody's Investors Service
Global Credit Research

DEBT BURDEN - HOW MUCH IS TOO MUCH?

The debt burden measures how leveraged a community is by calculating the amount of debt outstanding compared to the city's full valuation (equivalent to the size of the tax base). Ultimately, the more leveraged a taxbase is, the more difficult it is to afford additional debt. Moody's assesses both the direct and indirect debt burden, which includes debt incurred by overlapping entities, such as a school district and a city in the case of a county, as the property taxpayers are responsible for repaying the debt of all overlapping governmental entities. There could be extreme instances when significant borrowing by one entity could have adverse credit implications for an overlapping entity.

Debt Burden Calculation

Debt Burden = Overall Net Debt / Full Valuation

Sample Computation of Overall Net Debt

Gross Bonded Debt	$57M	
Certificates of Participation	$2M	
Lease Rental Obligations	$3M	
Capital Leases	$4M	
Short Term Obligations	$1M	
Other Obligations	$6M	
Gross Direct Debt		$73M
Less Self-Supporting Debt:	$24M	
Net Direct Debt		$49M
Overlapping Debt	$18M	
Overall Net Debt		$67M

Debt burdens that range from 3-4% tend to be viewed as average. A rapidly growing secondary or tertiary suburban community may have infrastructure construction that precedes actual development and may have high debt burdens in the 6-8% range reflecting the inherent capital needs. Characteristics of mature communities can vary as communities that maintain their fixed assets may exhibit lower debt burdens; though deferred maintenance or redevelopment efforts frequently result in significant capital expenditures driving up their leveraged position. In addition to looking at the current debt burden (current debt outstanding and current tax base value), Moody's performs internal pro-forma analysis incorporating expected tax base growth and future borrowing needs - this is especially important for fast growing communities where debt becomes more easily absorbed into the broader tax base as it continues to develop or annex property.

DEBT BURDENS ARE AFFECTED BY MORE THAN G.O. DEBT

Moody's reviews a municipality's outstanding obligations to determine debt burden and debt per capita. Frequently our definition of "debt" differs from states' definitions of debt, with respect to statutory debt limitations. Specifically, state statute may exclude from its calculation general obligation debt that has any source of supporting revenue, even a dedicated property tax. While assessing how much debt a city can issue under statutory constraints, our inclusion of debt for Moody's debt ratio's are broader. For example, in certain states bonds issued for open space and supported by an open space property tax will be excluded from an entity's statutory debt limits. However, Moody's would continue to carry this debt on the debt statement. Further, Moody's analysts include capital leases, lease revenue debt and other fixed obligations in our debt burden calculation.

Joint Debt Committee Provides Regional Approach To Debt

Recognizing the combined impact of the debt levies on taxpayers, the overlapping entities of Minneapolis, Hennepin County, and the Minneapolis Special School District formed a Joint Debt Committee. This forum, which meets regularly, allows for structured exchange of information and financing plans. While only property tax-supported debt is now reviewed, it is expected that greater coordination among the three units will eventually lead to the prioritization of regional needs and an eventual curtailment of debt load growth. Moody's believes this type of regional coordination is a positive element for infrastructure planning throughout the metropolitan area.

Analysts may back-out general obligation tax debt that is supported by self-supporting revenues. As a general guideline, if an essential enterprise system with supporting revenue streams has been self-supporting for the three preceding years, we will exclude the debt. For this reason, general obligation water and sewer supported debt is frequently deducted from our debt burden analysis. However, recently enacted rate adjustments or reliance on one-time revenues (ie: connection fees) may provide for analytical differences to this approach.

Unlike certain enterprise revenues, Moody's does not back-out tax increment or special assessment supported debt. While we internally analyze the mitigating impact of these revenue streams on the general levy, we believe that these concentrated revenue streams from benefited properties are more similar to property tax supported obligations putting a burden on property values. Similarly, sales tax debt is included in the debt burden, even though the supporting revenue stream is not directly tied to taxable property values; however, Moody's analyzes debt with and without the sales tax component to better understand the debt burden's source impact. This is particularly true for tourism economies, where sales tax receipts are largely driven by non-residents.

In addition to analyzing the leveraged position of a city compared to its full value, debt per capita can provide insight into the composition of the taxbase, and clarify if the burden is borne by individual residents or by large, capital intensive businesses. For enterprise revenue debt, Moody's uses the debt ratio to determine the leveraged position of a system. For more information regarding pure revenue debt, please refer to Moody's special comment, Water and Sewer Sector Outlook.

Moody's includes off-balance sheet debt and joint-venture debt in our analysis. In the case of joint-venture debt, we explore the ultimate security, access to and control over the financed asset, payment flexibility and "outs" for partnering entities. The latter is particularly important if the joint agreement stipulates a "step-up" provision, in which the remaining partner entities are responsible for making proportional debt service should one of the partners leave the venture. This can cause an unbudgeted expense and further pressure financial operations. Also, some municipalities issue pension bonds to shift pension liabilities into fixed debt service expenses. Moody's approach to assessing the credit quality of pension obligation bonds and promissory notes remains consistent and the impact is generally viewed as essentially neutral. For more information, please refer to:

- "Moody's Perspective on Increased Pension Costs For California Local Governments",
- "Increased Borrowing by Local Wisconsin Governments to Fund Pension Liabilities Not Expected to Adversely Impact Credit Quality", and
- "Moody's Expects Accelerated Borrowings For New Jersey Local Units of Governments Reflecting Recent Legislative Approval to Issue Pension Obligation Bonds".

STRUCTURING FLEXIBILITY

The structure of principal amortization is one tool to gauge an entity's willingness and ability to repay debt. Generally, the principal amortization should match the useful life of the financed project. For example, structuring thirty year bonds for technology upgrades would be inconsistent with the expected useful life of the project - in this case, technology upgrades. In such a scenario, repaying a liability for an asset that no longer exists could challenge the willingness of an entity to make debt payments; this is particularly relevant for appropriation-backed debt. Further, back end-loaded debt structures make it more difficult for borrowers to layer additional debt in the future. Principal amortization of 50% retired in ten years is considered average; however, this is also driven by matching the useful life of the projects.

Balloon payments, or large final payments, could pose uncertainty and liquidity risks. Balloon payments are sometimes used in anticipation of future permanent financings (at which point the amortization is usually lengthened) or in anticipation of one-time revenues. Similar to short-term ratings, a history of market access provides comfort that investors will express interest in the refinancings. Contingency liquidity or tax levy timing (relative to bond retirement) should be sufficient in the event that the planned one-time revenues fail. Lastly, the structure of an individual series of debt may look irregular as a stand-alone repayment, but when considered in conjunction with the total amortization schedule of all community debt, actually result in a smooth amortization.

REVENUES SHOULD PROVIDE ADEQUATE TIMING FOR DEBT SERVICE PAYMENTS

For general obligation debt, most taxing authorities have institutionalized systems to provide for ample time for imposing the debt service levy, levy receipt, and debt service payment. If alternate revenues are expected to support debt service, there should be adequate time to recognize possible shortfalls in the supporting revenue streams and the ability to levy and receive debt service levies. Alternately, liquidity at the time of debt service could provide for short-term cash support in the event that supporting revenues are insufficient. In large measure, it is this direct relationship between the taxable resources and the debt service levy that supports the analytic importance of the economic component of our local government analysis.

DEBT IN RELATION TO FINANCIAL OPERATIONS

The structure of debt, the level of debt and future borrowing needs can all impact the financial operations of a community. Debt service payments represent a fixed expense. As such, there is limited line-item flexibility available should financial operations become stressed. This is particularly true for limited tax general obligation debt or appropriation leases, in which debt service expenditures effectively compete with operating expenditures. Debt service as a percent of operating expenditures can vary, and frequently ranges from 5 - 15%. However, for communities experiencing rapid growth or pursuing aggressive principal amortization, this range can increase significantly.

Financial Challenges Affect Pay-Go

Persistent financial challenges can eventually pressure the debt component. In times of financial stress, communities may shift away from pay-go financing and halt their maintenance or construction programs. Some communities which are subject to operating levy limits, may shift from pay-go to debt financing in order to create operating tax margin. By shifting the levy to the debt service levy, excess margin is created on the operating levy and providing for some financial flexibility. While not inherently a credit weakness, once exercised, this reduces overall financial flexibility and results in greater reliance on debt instruments to fund capital projects and further leverages the tax base with long-term commitments. Additionally, such action may result in the accumulation of deferred maintenance issues that must be resolved at a later time.

Moody's views the use of long-term debt to fund current governmental operations as an unfavorable financial strategy, and believes it represents a significant red flag for financial management. Our rationale is very similar to structuring amortization to match the useful life of the financed asset, but in this case, the useful life is the one year of operations being covered. More importantly, this strategy is a harbinger for severe financial stress and inability, or unwillingness, to employ structurally balanced approaches such as enhancing revenues or reducing ongoing expenditures.

Trend of Short-Term Notes

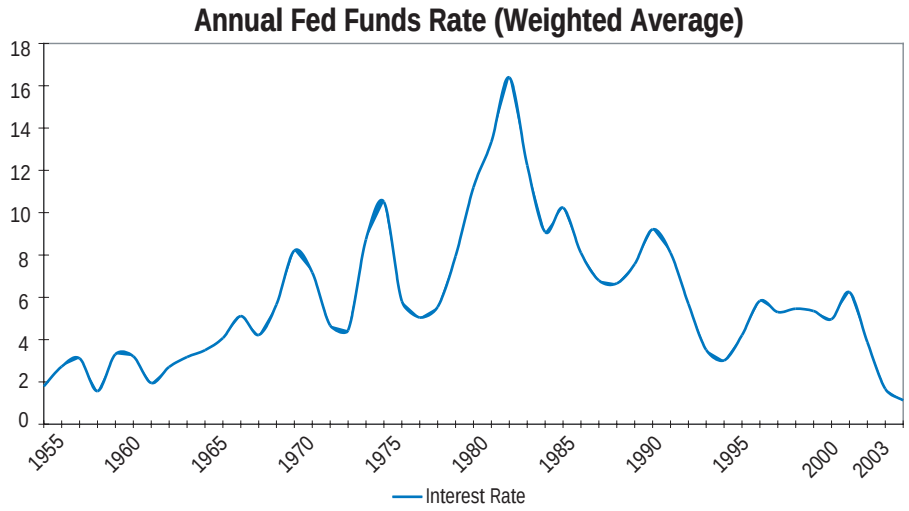
Many sectors have inherent cash-flow cycles which may necessitate cash-flow borrowing. For example, Wisconsin school districts' monthly expenditures are relatively even throughout the school year but revenues are largely concentrated annual property tax receipts (February and May) and state aid payments (15% in September, 25% in December, 25% in March, and the reminder in June). Thus, November tends to be the month when Wisconsin school districts experience the tightest cash position.

Some governments are able to ride through the low cash-flow cycle using reserves, while others borrow short-term revenue anticipation notes. Importantly, coupled with year-end audited results, the trend of increasing or decreasing short-term note par values can be used to gain significant insight into ongoing financial operations.

Reliance on short-term notes can reach a critical point if an entity is "rolling" notes, or issuing notes for the sole purpose of paying off existing notes. If such an overlapping structure is evident, Moody's conducts detailed cash flow analysis; Moody's believes that an inability to pay existing revenue-anticipation notes without issuing new notes is a serious credit weakness. For more information on Moody's analysis of short-term debt, please refer to Short-Term Note Rating Methodology.

Variable Rate Minimizes "Fixed" Nature of Expense

Despite interest rates being at forty years lows, variable rate demand obligations (VRDO) or swaps are used to provide for short-term interest savings, to match potential future asset valuation (ie: pension obligation bonds) or simply to diversify debt portfolios. While variable rate debt in and of itself does not constitute a credit weakness, use of VRDO's or other non-fixed rated instruments expose borrowers to interest rate risk. This is best illustrated by a 50 year trend of United States interest rates. There is no rule of thumb for acceptable levels of interest-sensitive debt with acceptable levels often determined by the issuer's own debt profile and management sophistication as it relates to ongoing cash and monitoring requirements. For more information on Moody's Variable Rate methodology, please refer to Moody's Approach To Rating Variable Rate Debt Obligations.



MANAGING INFRASTRUCTURE NEEDS AND CAPITAL PLANNING

Flexibility is a recurring theme in each of Moody's key credit factors, whether it be management authority and capacity, legal covenants, or financial flexibility; debt is no different. An entity at, or near, statutory debt limits can pose significant capital or financial challenges for a community. Many states limit the amount of debt a local government can carry, typically measured against market or assessed valuation. Once a community is at the statutory debt limit, they are forced to either scale back capital expenditures, enter into obligations that are not statutorily defined as debt, or cash-finance capital projects. These options potentially limit a city's ability to meet their capital or deferred maintenance needs.

Moody's receives Capital Improvement Plans (CIP) or other long-range debt plans to forecast a local government's future borrowing expenditures. Internally, we conduct pro-forma debt burden analysis, accounting for probable future debt, to predict future leveraging of the tax base. In the long-term, Moody's believes that the fixed-asset valuation as outlined by GASB 34 will help make more transparent the capital needs of a community. Local governments that lack debt affordability targets or a CIP may have more difficulty matching financial and capital needs. The history of voter support for proposed debt evidences a community's willingness to pay, as well provides insight into a local governments ability to communicate the bond rationale. All of these represent a overlap of the management and debt portion of a Moody's analysis.

CONCLUSION

The credit impact of a community's debt profile is fully understood only in relation to the four other credit factors. In general, Moody's analyzes how much debt the supporting economic base is responsible for; the flexibility to absorb additional borrowing needs; expected future borrowing needs and the resulting pro-forma impacts. Additionally, Moody's examines the impact of debt on financial flexibility, and management's ability to appropriately structure debt repayment.

Related Research

Rating Methodologies:

The Determinants of Credit Quality, May 2002, (75047)

Moody's Approach To Rating Variable Rate Debt Obligations, September 2000, (59984)

Rating Short-Term Notes, October 2003, (78837)

How Moody's Examines Economic Conditions As a Factor In Its Local Government Credit Analysis, July 2003, (78882)

Special Comments:

Moody's Approach to Local Government Financial Analysis, January 2002, (73689)

Moody's Perspective On Increased Pension Costs For California Local Governments, June 2003, (78417)

Moody's Expects Accelerated Borrowings For New Jersey Local Units Of Government Reflecting Recent Legislative Approval To Issue Pension Obligation Bonds, December 2002, (76854)

Increased Borrowing by Local Wisconsin Governments to Fund Pension Liabilities Not Expected to Adversely Impact Credit Quality, February 2003, (77529)

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