MOODY'S INVESTORS SERVICE

CREDIT OPINION

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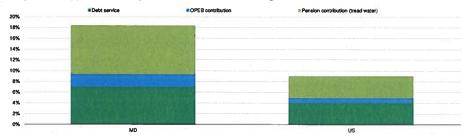
Maryland (State of)

Update to credit analysis

Summary

Maryland (Aaa stable) benefits from a significant federal presence that provides well-paid civilian and national defense jobs and has generally led to a stable economic environment. The state has strong budgetary and financial management practices and a history of proactive initiatives in response to economic cycles. A relatively high debt and pension burden leads to high fixed costs compared to peers and will continue to test the state's commitment to reducing its long term liabilities while providing the level of services expected by its residents.

Exhibit 1
Maryland's support of local governments reflected in high fixed costs



Source: Moody's Investors Service; Maryland audited financial statements

Credit strengths

- » Proactive financial management
- » Stable economy with high personal income levels
- » Adequate budgetary reserves and strong liquidity

Credit challenges

- » High net pension liabilities and above average debt burden relative to Maryland's Aaa peers, leading to high fixed costs
- » Vulnerability to swings in federal spending priorities

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Rating outlook

The outlook for Maryland's general obligation debt is stable. The state's proactive fiscal management enables it to make midcourse corrections and weather economic cycles. It has also taken often difficult actions to strengthen the foundation for long term fiscal sustainability. Even so, growth in fixed costs for pensions, debt service and retiree health benefits will continue to be a challenge.

Factors that could lead to a downgrade

- » Economic and financial deterioration that results in deficits, fund transfers and reserve draws without a plan for near-term replenishment and structural balance
- » Failure to adhere to policies to redress large unfunded pension liabilities
- » Downgrade of the US government

Key indicators

Exhibit 2

Maryland (State of)	2013	2014	2015	2016	2017	50-State Median (2017)
Operating Fund Revenues (000s)	\$18,809,434	\$18,954,432	\$19,769,076	\$20,471,039	\$20,394,570	\$11,064,791
Available Balances as % of Operating Fund Revenues	0.5%	-0.8%	0.1%	1.6%	0.2%	4.6%
Nominal GDP (billions)	\$341.3	\$352.5	\$367.3	\$384.4	\$399.5	\$224.4
Nominal GDP Growth	1.9%	3.3%	4.2%	4.7%	3.9%	3.9%
Total Non-Farm Employment Growth	0.9%	0.9%	1.5%	1.2%	1.0%	1.0%
Fixed Costs as % of Own-Source Revenue	NA	13.9%	16.4%	17.3%	18.4%	NA
Adjusted Net Pension Liabilities (000s)	\$42,291,999	\$47,401,327	\$45,790,041	\$46,208,447	\$62,769,580	\$12,033,341
Net Tax-Supported Debt (000s)	\$10,617,996	\$11,290,500	\$11,577,387	\$12,558,200	\$13,095,582	\$4,450,975
(Adjusted Net Pension Liability + Net Tax-Supported Debt) / GDP	15.5%	16.6%	15.6%	15.3%	19.0%	8.3%

Source: Moody's Investors Service; Maryland audited financial statements

Profile

Maryland is located on the east coast of the United States and has 3,190 miles of shoreline, according to the National Oceanic and Atmospheric Administration. Its population of 6 million places it 19th among the 50 states. Its state gross domestic product is 15th largest. The state has above average wealth, with per-capita personal income equal to 118% of the US level in 2017.

Detailed credit considerations

Economy

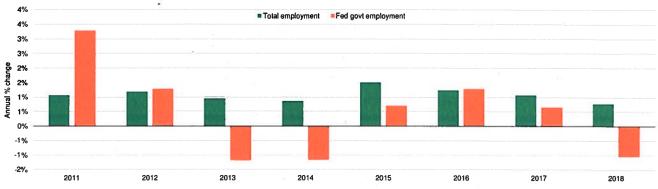
Maryland's highly educated workforce and proximity to the nation's capital will continue to support steady economic growth. About 40% of the population age 25 and over have at least a bachelor's degree, compared to about 32% nationwide. The state's economy is more concentrated than the nation's in business and professional services, education and health services, and government.

While historically a source of stability, the large federal presence in Maryland has in recent years been a mixed blessing. Federal jobs account for more than 5% of Maryland employment, compared to about 2% nationally. Federal sequestration slowed overall job growth in 2013. While the state economy gained steam after that adjustment period, employment has grown less rapidly than in the nation. In 2018, total employment growth slowed to 0.8% compared to 1.7% growth nationwide, as federal jobs contracted. The state expects that the impacts of the federal shutdown that spanned late 2018 into early 2019 will be transitory.

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Exhibit 3
Federal employment drives employment trends in Maryland



Source: Moody's Analytics; US BLS

The state's Board of Revenue Estimates forecasts slowing employment growth over the next several years, reflecting demographic trends that limit growth in the labor force. However, personal income and wage growth is expected to be sustained as a tight labor market helps to bolster earnings.

Given the highly skilled workforce and concentration in government and related employment, Maryland's unemployment rate is typically below the US. In January, Maryland's unemployment rate was 3.7% compared to 4% in the nation.

Environmental Considerations

Maryland is moderately exposed to climate risk because of its location on the Atlantic Ocean and Chesapeake Bay, the nation's largest estuary. The state is a signatory to a series of agreements with neighboring states and the US Environmental Protection Agency to protect the watershed and counteract contamination of the bay that accompanied agriculture and economic development. The agreements address pollution rather than sea level rise.

The statewide property tax, which is dedicated to pay debt service on general obligation debt, is affected by erosion and coastal storms because of the impact of adverse developments on property values. However, the state reports that coastal properties remain more valuable, on average, than non-coastal properties.

The state is considerating initiatives to reduce carbon emissions and increase resiliency to climate events. It has established a Climate Change Commission which is overseeing plans to reduce carbon emissions by 40% by 2030 and is also developing requirements for major state projects to assess both emissions related to the project and the sustainability of the project given projections for rising sea levels. In addition, the legislature is considering increasing the state's target for renewable energy sources.

Finances and Liquidity

The state will continue to be challenged by recurring structural imbalances. These projected imbalances reflect revenue growth that is slow relative to historical norms and increasing costs for major expense areas such as Medicaid.

Governor Hogan's proposed fiscal 2020 budget would increase general fund spending nearly 9%. The increase incorporates certain one-time or discretionary expenditures such as a net transfer of about \$290 million into the state's rainy day fund, an additional payment into the state's pension fund, and a grant to WMATA (A2 positive). Other spending drivers include education (up 6.1%), health, and higher ed. The projected closing balance is pegged at \$105 million. The state's Department of Legislative Services estimates that the state will have a \$62 million structural deficit in fiscal 2020, which is small by historical standards.

Although the state struggles with structural gaps, it is also quick to address mid-year shortfalls. In fiscal 2018, the Board of Public Works, which has extensive authority to adjust budgets, made \$67 million in general fund agency reductions to address an identified shortfall. The state also has built its rainy day fund to 6.5% of revenues since balances were replenished after the recession. With the expected fiscal 2020 deposit into the fund, the balance is expected to reach \$1.2 billion.

On an audited GAAP basis, the state's available balances (unassigned balances plus the rainy day fund balance) have been low but positive since fiscal 2015. The state's unassigned fund balance—those funds that are not otherwise restricted or committed—has been negative partly due to the state carrying a liability stemming from the transfer of funds from a local income tax reserve fund during the 2010-2015 period. Unassigned balances were -\$507 million at the end of fiscal 2017, slightly offset by a \$884 million balance in the revenue stabilization account (RSA) (see Exhibit). At less than 2% of operating revenues, available balances remain below those of the state's Aaa peers. During the previous decade the state built its GAAP-basis available balances to nearly \$2.3 billion in 2007, a cushion of more than 15% of revenues.

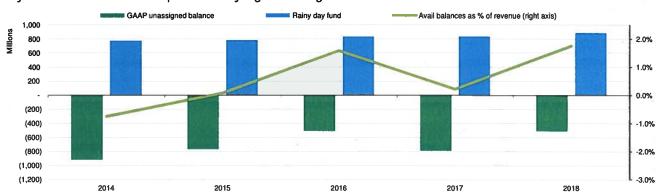


Exhibit 4
Maryland's available fund balances pulled down by negative unassigned balances

Source: Moody's Investors Service; Maryland audited financial statements

In 2017, the state enacted House Bill 503, which is designed to reduce the impact of volatility on state budgeting, including conservative treatment of revenues from personal income tax non-withholding collections and allocation of positive revenue variances to reduce long-term liabilities such as pensions and retiree health insurance or bolstering the state's rainy day reserves. If the state abides by the guidelines, the measures should strengthen the state's overall credit profile in the long run by bolstering reserves and reducing leverage.

LIQUIDITY

Maryland's liquidity is strong, bolstered by unfettered access to the state's short-term investment pool. As of February 28, 2019, the market value was about \$7.8 billion

Debt and Pensions

Maryland's debt levels relative to 50-state medians are high. Moody's 2018 state <u>debt medians</u> ranks Maryland 15th for debt as a percent of personal income and 11th on a per capita basis. The state's debt burden has historically remained within the recommendations of its Capital Debt Affordability Committee, which advises limiting total debt to within 4% of personal income and debt service to within 8% of revenues.

DEBT STRUCTURE

The state's tax-supported debt is about \$13 billion (see exhibit). The state's debt, as of December 2017, consists primarily of general obligation bonds (71%) and consolidated transportation revenue bonds (20%). The remaining debt consists of GARVEEs, lease commitments and bay restoration bonds. Maryland has about \$36.2 million of outstanding variable rate debt that was issued by the Maryland Stadium Authority for baseball stadium improvements.

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Exhibit 5
Maryland's net tax-supported debt dominated by GO, Highway bonds

Security	Debt outstanding
GO	9,334,205
Lease/Approp	477,733
Highway	2,578,385
Other tax-backed	292,880
GARVEEs	206,590
Capital lease	205,789

Source: Moody's Investors Service; Maryland financial reports

Maryland's constitution requires a rapid 15-year amortization of tax-supported debt. This policy increases debt service as a percentage of revenues, but also quickly replenishes the state's debt capacity and helps restrain growth in the outstanding balance. The state ranked 9th in debt service as a percent of own-source governmental funds revenue adjusted for net transfers in our 2017 State Debt Medians report.

Maryland has a single series of variable rate demand bonds outstanding, issued through the Maryland Stadium Authority. Liquidity support for tenders is provided through an SBPA provided by <u>Sumitomo Mitsui Banking Corporation</u> (counterparty risk assessment A1(cr)/P-1(cr)) that expires in 2022. The state also has about \$62.4 million in privately placed loans under the Qualified Zone Academy Bond program as of July 1, 2018.

DEBT-RELATED DERIVATIVES

There is a swap with notional value of \$40.2 million in conjunction with the Maryland Stadium Authority's variable rate debt. The mark-to-market value of the swap was about -\$6.8 million as of February 28, 2019.

PENSIONS AND OPEB

The state's pension costs will continue to grow in coming years, reflecting the poor investment performance in several of the last five fiscal years. The financial condition of Maryland's retirement system represents the state's most significant credit challenge. The state's weak pension position stems from the combined effects of asset losses associated with the financial crisis and the enactment in 2002 of a corridor funding method that resulted in contributions less than actuarially required when the pension system had a funded ratio of less than 90%.

The state's reported net pension liability for fiscal 2018 is \$20.39 billion for the Maryland State Retirement and Pension System (MSRPS), representing 94.3% of the plan's total net pension liability, and \$973 million for the Maryland Transit Administration Pension Plan. In fiscal 2017, the state's Moody's adjusted net pension liability (ANPL) ranked seventh-highest among the states at 15.9% of GDP, more than twice the median of 6.1%. Our adjustments to reported state pension data include a market-based discount rate to value the liabilities rather than the long-term investment return used in reported figures, and are designed to improve comparability among state pension metrics.

Demonstrating its proactive management approach, the state has taken a number of steps to manage its pension burden that have included reductions in its liabilities and efforts to improve funding. It has enacted reforms to both pension and retiree health (OPEB) legislation and has shifted the responsibility for paying the normal cost of teacher pension to local governments. The state has phased out its corridor funding method and starting with fiscal 2017 makes contributions based on full payment of actuarially determined contribution (ADC) amounts. In addition, the state has committed to adding \$75 million to its contributions to amortize its liabilities more rapidly than the baseline actuarial schedule and to contribute additional amounts depending on year-end general fund surpluses. The additional contributions bring the state's contribution level nearer than would otherwise be the case to the "tread water" amount that would prevent the state's pension liabilities from growing by covering interest on the beginning of year net pension liability and annual service cost.

The state's pension liabilities and resulting state contributions are exposed to asset volatility risk. The state ranks fourth highest on our pension asset shock indicator, which estimates the probability that pension assets could decline by 25% or more of revenue. The high ranking is primarily due to pension assets that are high as a percent of state revenue because the state takes responsibility for the unfunded liabilities of the teachers retirement system.

The state's reported net OPEB (retiree health insurance) liability was \$11.7 billion as of June 30, 2018, including liabilities of the Maryland Transit Administration. Adjusting for a common discount rate across OPEB plans, the net OPEB liability was \$11.1 billion. The state made contributions of \$575 million, representing the pay-go cost of retiree health benefits. While the state established a trust fund to accumulate assets to offset accrued OPEB liabilities, it does not regularly contribute to it. As of July 1, 2018, the fund held \$329 million in assets. The state implemented OPEB reforms in 2011 that increased eligibility requirements to contain long-term growth in OPEB liabilities.

Governance

Maryland's financial practices and flexibility are very strong. For example, the state has a binding consensus revenue forecast, multiyear financial planning, and its Board of Public Works, consisting of the Governor, the Comptroller and the Treasurer, is able to respond swiftly to mid-year budget challenges. The state also has no tax and spending limitations or supermajority requirements limiting its flexibility.

Rating Methodology and Scorecard Factors

The <u>US States and Territories Rating Methodology</u> includes a scorecard, which summarizes the 10 rating factors generally most important to state and territory credit profiles. Because the scorecard is a summary, and may not include every consideration in the credit analysis for a specific issuer, a scorecard-indicated outcome may or may not map closely to the actual rating assigned. Maryland's scorecard falls one notch below the assigned Aaa rating because the state's strengths in aspects of its finances and governance are not fully captured in the grid.

Exhibit 6

States rating methodology scorecard

Maryland (State of)

Rating Factors	Measure	Score
Factor 1: Economy (25%)	首都是他是《四天》 (1945年) [2] [2] [3]	
a) Per Capita Income Relative to US Average [1]	117.8%	Aaa
b) Nominal Gross Domestic Product (\$ billions) [1]	\$399.5	Aaa
Factor 2: Finances (30%)		ALL STREET, STR.
a) Structural Balance	Aa	Aa
b) Fixed Costs / State Own-Source Revenue [2]	18.4%	Α
c) Liquidity and Fund Balance	Aaa	Aaa
Factor 3: Governance (20%)	And and a second of the second	
a) Governance / Constitutional Framework	Aaa	Aaa
Factor 4: Debt and Pensions (25%)	A COLUMN TO THE TAXABLE PARTY.	MARK NEW YORK
a) (Moody's ANPL + Net Tax-Supported Debt) / State GDP [2] [3]	19.0%	Aa
Factors 5 - 10: Notching Factors [4]	建设,在1000年的	(1分钟音) 图63
Adjustments Up: None	0	
Adjustments Down: None	0	
Rating:	。 第1888年 - 大型中国 (1988年)	
a) Scorecard-Indicated Outcome		Aa1
b) Actual Rating Assigned		Aaa

[1] Economy measures are based on data from the most recent year available

[2] Fixed costs and debt management measures are based on data from the most recent debt and pensions medians report published by Moody's

[3] ANPL stands for adjusted net pension liability

[4] Notching factors are 5-10 are specifically defined in the US States and Territories Methodology

Source: US Bureau of Economic Analysis; State CAFRs; Moody's Investors Service

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