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 and proximity to the nation's capital 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, which will serve the state well as it continues to grapple with the coronavirus crisis. A relatively high debt and pension burden leads to high fixed costs compared with 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
High fixed costs reflect Maryland's support of local government
Fiscal 2019 fixed costs as % of own-source governmental revenue
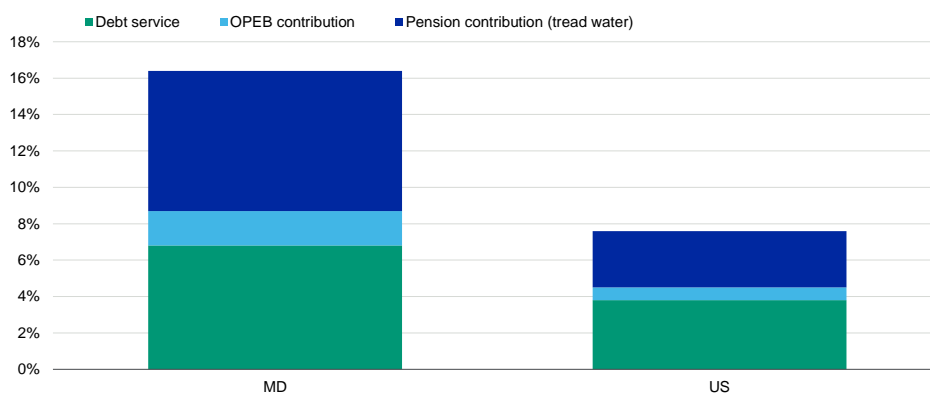
The "tread water" contribution would be sufficient to keep liabilities from rising if all actuarial assumptions were met
Source: Maryland audited financial statements; Moody's Investors Service

Credit strengths

» Proactive financial management

» Stable economy with high personal income levels

» Strong liquidity

Credit challenges

» High net pension liabilities and above-average debt burden compared with Maryland's Aaa peers, leading to high fixed costs

» Vulnerability to swings in federal spending priorities

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 an upgrade

» Not applicable

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 address large unfunded pension liabilities

Key indicators

Exhibit 2

Maryland (State of)	2016	2017	2018	2019	2020	50-State Median (2019)
Operating Fund Revenues (000s)	$20,471,039	$20,394,570	$21,492,002	$23,143,059	$23,592,029	$12,439,906
Available Balances as % of Operating Fund Revenues	1.6%	0.2%	1.8%	3.7%	-1.0%	9.1%
Nominal GDP (billions)	$387.6	$399.7	$411.6	$426.7	$422.7	$250.6
Nominal GDP Growth	4.5%	3.1%	3.0%	3.7%	-0.9%	3.6%
Total Non-Farm Employment Growth	1.2%	1.1%	0.9%	0.6%	-6.8%	1.0%
Fixed Costs as % of Own-Source Revenue	17.3%	18.7%	17.8%	16.4%	NA	7.8%
Adjusted Net Pension Liabilities (000s)	$46,208,447	$67,240,080	$59,264,776	$53,509,910	NA	$11,258,253
Net Tax-Supported Debt (000s)	$12,558,200	$13,095,582	$14,157,927	$14,044,517	$14,593,876	$3,864,531
(Adjusted Net Pension Liability + Net Tax-Supported Debt) / GDP	15.2%	20.1%	17.8%	15.8%	NA	6.9%

Source: Maryland Audited Financial Statements; US BEA; US DOL; Moody's Investors Service

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 people 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 114.3% of the US level in 2020.

Detailed credit considerations

Economy

Maryland has recovered about two-thirds of the nearly 400,000 jobs lost from February to April of 2020 when the coronavirus pandemic led to nationwide shutdowns, leaving total employment in the state just shy of 95% of its January 2020 peak. The state's recovery has lagged the nation's somewhat, as the US has recovered 70% of its peak payroll employment. The unemployment rate never rose as high as the nation's (10.1% in Maryland vs 14.8% nationwide) and had fallen to 6.2% by June 2021, compared to the national rate of 5.9%. Like the US, however, the state's labor force has contracted as some people have ceased looking for work because of limited child care options or other reasons.

Exhibit 3
Maryland's payroll employment moved in concert with the US through the coronavirus pandemic, with recent slight divergence
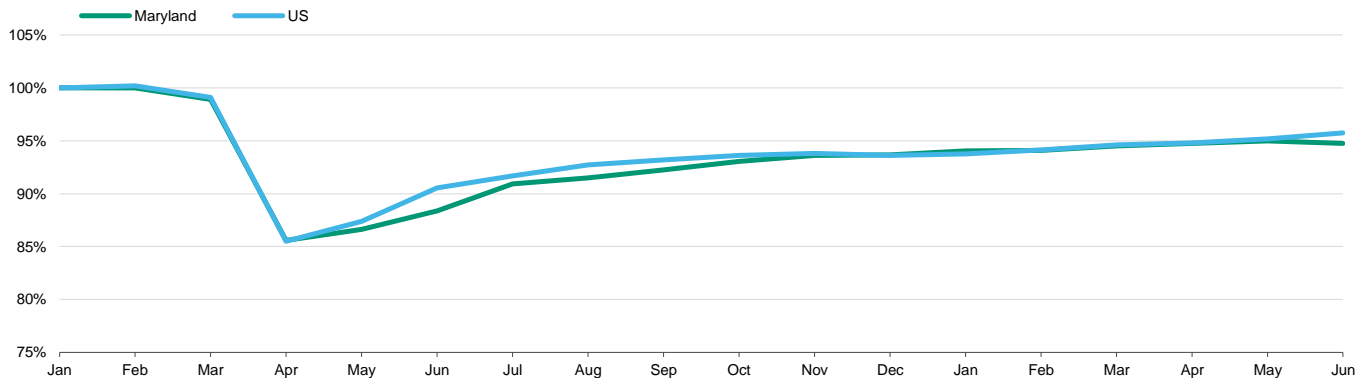
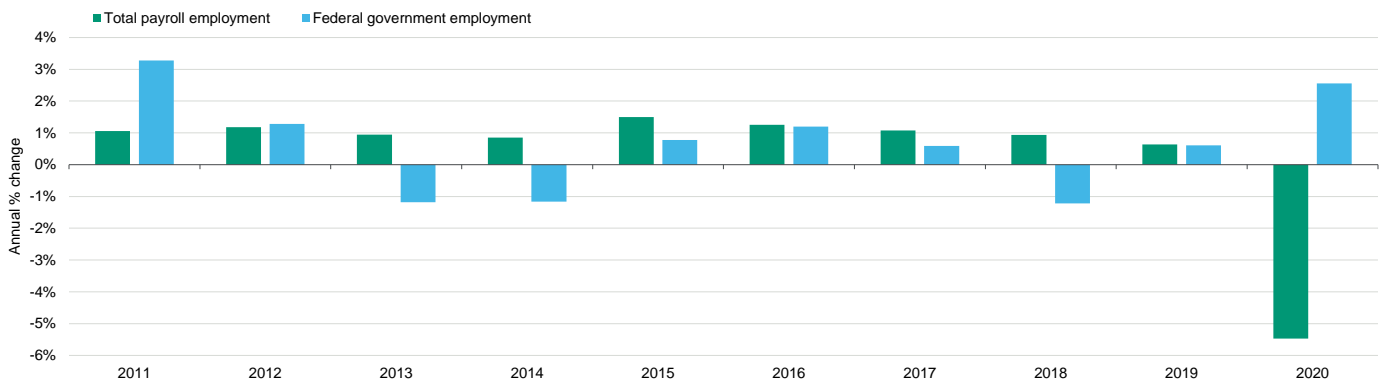Source: US Bureau of Labor Statistics; Moody's Investors Service

The state's economic performance during the pandemic is consistent with its historically lower economic volatility. This stems from the large federal presence in the state's economy and a highly skilled workforce that has also supported a large business and professional services sector.

While historically a source of stability, the large federal presence in Maryland has in the past decade been a mixed blessing (see Exhibit). Federal jobs account for more than 5% of Maryland employment, compared with about 2% nationally. However, federal sequestration early in the last decade followed by federal employment attrition – particularly in non-defense functions -- toward the end of the decade led to declines followed by relative stagnation in the state's federal employment trends. In 2020, a decennial census year, federal job growth picked up, as did Maryland's. After the census employment spike, federal employment nationwide has fallen back closer to its pre-census level, while Maryland's federal employment is trending higher than previously. The state's federal employment grew more than 2% in the first half of 2021 compared to the same period in 2020.

Exhibit 4
Maryland's federal employment trend picks up in 2020 after weak decade
Annual % change in payroll employment

Source: US Bureau of Labor Statistics

About 40% of the population age 25 and older have at least a bachelor's degree, compared with about 32% nationwide. However, the state's population growth trend has been slowing more than the nation's, as the net migration component of population change has turned negative (see Exhibit). Time will tell if a shift to remote work post-pandemic will benefit the state because of its suburban concentration or if it will increase outmigration.

Exhibit 5
More domestic outmigration and less international inmigration contribute to slower population growth
Migration in thousands
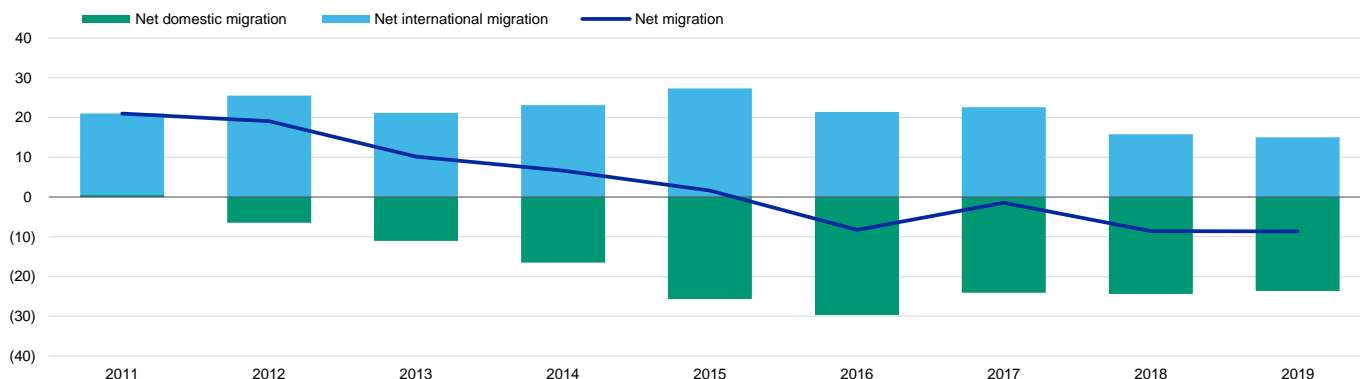
Source: US Census Bureau

The state's Board of Revenue Estimates economic outlook as of March reflects the initial boost and waning impact of federal stimulus packages that were enacted in 2020 and 2021. The BRE projects personal income growth of 4.7% in 2021 followed by little income growth in 2022. Income growth, supported by wage and salary growth, resumes at a 4.4% pace in 2023 and 2024. Employment growth tapers from 4% in 2021 to 0.8% by 2024.

Finances and Liquidity

The budgetary flexibility afforded to Maryland by its Board of Public Works (BPW), which is empowered to make mid-year budget adjustments, has been on display throughout the coronavirus pandemic. In late fiscal 2020, the BPW cut $120.8 million from fiscal 2020 spending in response to the pandemic. The savings helped bolster general fund ending balances by more than $500 million to create a balance of more than $700 million, applied to close gaps in fiscal years 2021 and 2022. In early fiscal 2021, the BPW approved spending reductions of an additional $413 million, primarily focused on general fund spending. As the year progressed, better-than-expected revenue performance and unexpected significant federal stimulus contributed to an estimated year-end general fund balance, including the rainy day fund, of $2 billion, or 10.5% of estimated general fund revenue. In fiscal 2022, the state projects a somewhat smaller ending balance of $1.8 billion, including rainy day reserves.

The state has applied some of its resources toward pandemic relief to its residents. A "Recovery Now" fund, developed before the passage of the federal American Rescue Plan Act, provided assistance to businesses and individuals to offset some impacts of the pandemic. The program was partly funded from the state's rainy day fund, which is expected to be replenished with federal funds. The fiscal 2022 budget includes a $1 billion program to provide further stimulus to businesses and relief to residents through such measures as repealing the income tax on unemployment insurance benefits and providing economic impact payments to individuals.

Through June 2021, Maryland's general fund revenue collections were nearly 10% greater than at the same point in 2020, spurred by personal and corporate income tax revenue, and the number is likely to climb higher through the end of summer accrual period. Revenue projections were revised upward more than once during fiscal 2021. For fiscal 2022, the March BRE projections for fiscal 2022 call for robust growth of more than 7%. The forecast incorporates the impact of a new tax on digital sales for such items as streaming movies and music. An additional new tax on digital advertising has an effective date of January 1, 2022 but is currently being challenged in court.

On an audited GAAP basis, the state's available balances (unassigned balances plus the rainy day fund balance) have been low compared to peers since the last recession. Available balances dipped into negative territory in fiscal 2020 because coronavirus-related federal reimbursements lagged the state's outlays. Unassigned balances fell to -$1.4 billion from a small deficit of -$19 million at the end of fiscal 2019. This drop was partially but not entirely offset by the state's rainy day fund. During the previous decade the state built its GAAP-basis available balances to nearly $2.3 billion in 2007, a buffer of more than 15% of revenue.

Exhibit 6
The timing of federal coronavirus reimbursements resulted in a large negative unassigned balance in fiscal 2020
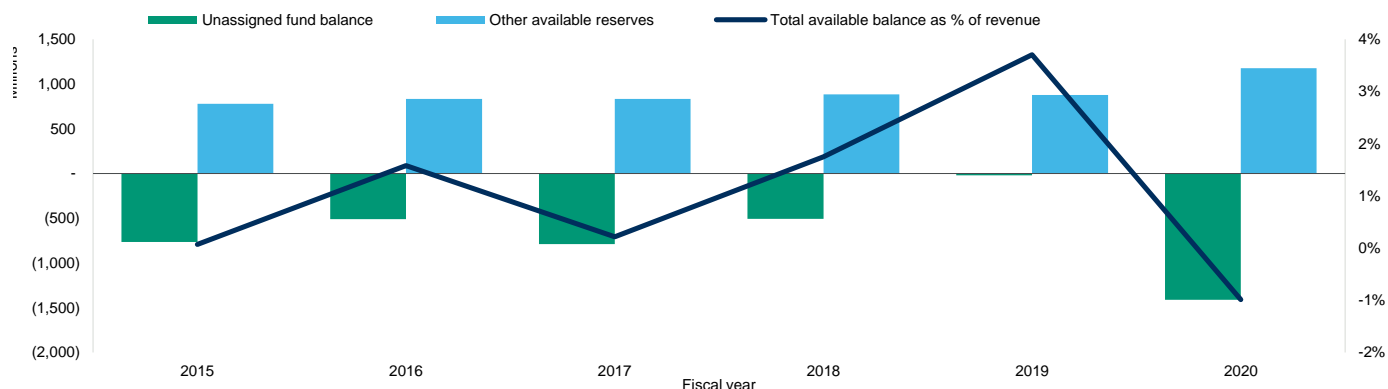
Source: Maryland audited financial statements; Moody's Investors Service

In 2017, the state enacted House Bill 503, which is designed to reduce the impact of volatility on state budgeting, including conservative treatment of revenue 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 support reserves and reduce leverage.

Liquidity
Maryland's liquidity is strong, bolstered by unfettered access to the state's short-term investment pool of governmental and component unit funds. Local government cash is held in a separate pool. As of June 30, 2021, the market value of the state pool was more than $12 billion. The state's very strong cash liquidity helps to mitigate its below-average GAAP basis fund balances.

Debt and Pensions
Maryland's debt levels compared with 50-state medians are high. Moody's 2020 state debt medians ranks Maryland 13th highest for debt as a percent of personal income and ninth 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 revenue.

Legal security
The state's general obligation bonds are backed by the state's pledge of its full faith and credit.

Debt structure
The state's net tax-supported debt is about $14.6 billion (see Exhibit). The state's debt, as of December 2020, consists primarily of general obligation bonds (69%) and consolidated transportation revenue bonds (27%). Included in the lease/appropriation debt is state liability for its public-private partnership for construction of the Purple Line, a transit project. After significant delays and claims against the state by one of the contractors which have now been settled, the state expects to move ahead with a new contractor and financing package later this year. Maryland has about $31.9 million of outstanding variable rate debt that was issued by the Maryland Stadium Authority for baseball stadium improvements.

Exhibit 7
Maryland's net tax-supported debt is dominated by GO and highway bonds
Debt outstanding as of December 2020, thousands of dollars

Security	NTSD debt outstanding
GO	9,713,200
Lease/Approp	840,401
Highway	3,808,200
Other tax-backed	232,075

Source: Maryland financial reports; Moody's Investors Service

Maryland's constitution requires a rapid 15-year amortization of tax-supported debt. This policy increases debt service as a percentage of revenue, but also quickly replenishes the state's debt capacity and helps restrain growth in the outstanding balance. The state ranked ninth in debt service as a percent of own-source governmental funds revenue adjusted for net transfers in our 2020 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 Sumitomo Mitsui Banking Corporation (Counterparty Risk Assessment A1(cr)/P-1(cr)) that expires in 2022. The state also has about $64.4 million in privately placed loans under the Qualified Zone Academy Bond program as of June 30, 2020.

Debt-related derivatives
There is a swap with notional value of $31.78 million in conjunction with the Maryland Stadium Authority's variable rate debt. The mark-to-market value of the swap was about -$5.6 million as of January 31, 2021.

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, which will be partly offset by a banner year for returns in fiscal 2021. The financial condition of Maryland's retirement system represents the state's most significant credit challenge.

The state's reported net pension liability for fiscal 2019 is $20.6 billion, including the Maryland State Retirement and Pension System (MSRPS), the Maryland Transit Administration Pension Plan. When adjusted using a common market-based interest rate, its pension liabilities stood at $53.5 billion. This placed the state's adjusted net pension liability (ANPL) 10th highest among the states at 12.5% of GDP, more than twice the median of 4.8%. Our adjustments to reported state pension data 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) programs and has shifted the responsibility for paying the normal cost of teacher pension to local governments. However, despite supplemental pension contributions intended to accelerate amortization of the state's liabilities, state contributions do not quite meet the level necessary to "tread water," that is, prevent the state's pension liabilities from growing by covering interest on the beginning of year net pension liability and annual service cost. Meeting the tread water threshold would cost the state less than 1% of its own-source revenue. The supplemental payment has been pared back from time to time to redirect the funds to balance the budget, with fiscal 2021 offering no exception.

The state's pension liabilities and resulting state contributions are exposed to asset volatility risk. For fiscal 2019, the state ranked second 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 attributable 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 adjusted net OPEB (retiree health insurance) liability, including liabilities of the Maryland Transit Administration, was $15 billion or 3.5% of GDP as of June 30, 2019. The 50-state median was 1%. The state generally makes contributions to its retiree health

system on a pay-go basis. While the state established a trust fund to accumulate assets to offset accrued OPEB liabilities, it does not regularly contribute to it. As of June 30, 2019, the fund held $351 million in assets. The state implemented OPEB reforms in 2011 that increased eligibility requirements to contain long-term growth in OPEB liabilities. A portion of that reform having to do with prescription drug benefits is under court injunction pending the outcome of litigation, and the General Assembly has created programs to limit certain retiree prescription costs. The legislation is estimated by the state's budget office to increase the state's net OPEB liability by at least $2.36 billion over 30 years.

Maryland ranks 11th highest in combined debt, pension and OPEB liabilities compared to state GDP, with these obligations posing the state's most notable credit challenge. The obligations measured nearly 20% of state GDP in fiscal 2019 and combined required 16% of the state's own-source revenue to service. Somewhat mitigating this burden is the lesser burden on lower levels of government due to the state assumption of some of those obligations. The state's pension liabilities, for example, are roughly at the 50-state median when taking into account combined state and local obligations. As a result, there is less competition for tax base between the state and its localities.

ESG considerations

Maryland (State of)'s ESG Credit Impact Score is neutral-to-low CIS-2.

Exhibit 8
ESG Credit Impact Score

CIS-2

Neutral-to-Low

NEGATIVE IMPACT   POSITIVE IMPACT

For an issuer scored CIS-2 (Neutral-to-Low), its ESG attributes are overall considered as having a neutral-to-low impact on the current rating; i.e., the overall influence of these attributes on the rating is non-material.
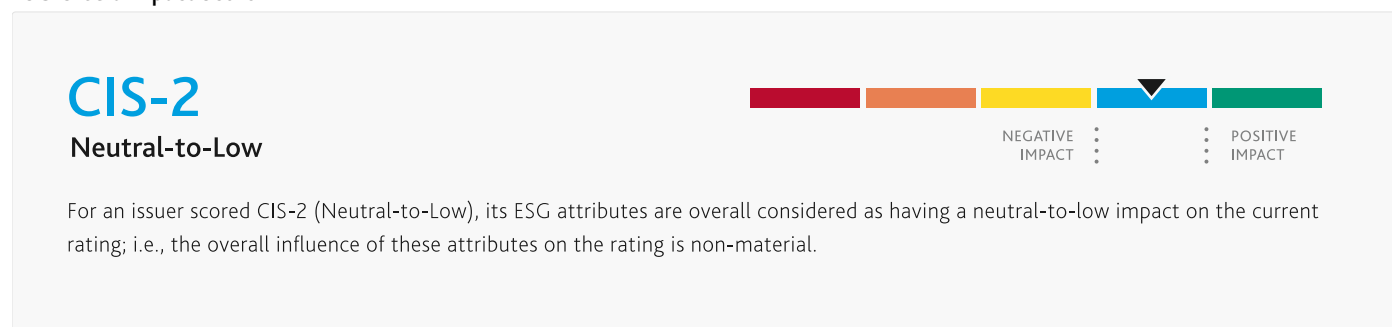
Source: Moody's Investors Service

Maryland's ESG Credit Impact Score is neutral-to-low (**CIS-2**) reflecting its neutral-to-low exposure to environmental risks and social risks and a positive governance profile.

Exhibit 9
ESG Issuer Profile Scores

ENVIRONMENTAL	SOCIAL	GOVERNANCE
E-2	**S-2**	**G-1**
Neutral-to-Low	Neutral-to-Low	Positive

Source: Moody's Investors Service

Environmental

Maryland's E issuer profile score is neutral-to-low (**E-2**). Maryland's climate exposure reflects 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 coastal erosion and coastal storms that can adversely affect property values.

However, the state has reported that coastal properties remain more valuable, on average, than non-coastal properties. According to data from Moody's affiliate Four Twenty Seven, Maryland counties' average projected rate of change in five climate risk factors, when weighted by county GDP, is above average in the nation. Most of Maryland's counties have higher exposure to cyclone risk, and nearly half the counties are higher risk for water stress. However, data from the Bureau of Labor Statistics indicate that only 5% of Maryland's employment and wages are earned in hurricane storm surge flood zones. With its high wealth and strong economy, Maryland has economic capacity to withstand the effects of environmental event risk and to generate resources to invest in additional mitigation strategies. The state is considering initiatives to reduce carbon emissions and increase resiliency to climate events. It has established a Climate Change Commission that is overseeing plans to reduce carbon emissions 40% by 2030 and is also developing requirements for major state projects to assess proposed projects' emissions and sustainability given projections for rising sea levels. In addition, the legislature is considering increasing the state's target for renewable energy sources.

Social

Maryland's S issuer profile score is neutral-to-low (**S-2**). Maryland benefits from a highly educated workforce. This contributes to the state's attractiveness to businesses looking to relocate or expand, which helps boost the state's economy and drives tax revenue. About 40% of the population age 25 and older have at least a bachelor's degree, compared with about 32% nationwide. However, the state's population growth trend has been slowing more than the nation's, as the net migration component of population change has turned negative.

Governance

Maryland's G issuer profile score is positive (**G-1**). 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 midyear budget challenges. The state also has no tax and spending limitations or supermajority requirements limiting its flexibility.

Rating methodology and scorecard factors

Exhibit 10
US states and territories rating methodology scorecard
Maryland (State of)

Rating Factors	Measure	Score
Factor 1: Economy (25%)		
a) Per Capita Income Relative to US Average [1]	114.3%	Aaa
b) Nominal Gross Domestic Product ($ billions) [1]	$422.7	Aaa
Factor 2: Finances (30%)		
a) Structural Balance	Aa	Aa
b) Fixed Costs / State Own-Source Revenue [2]	16.4%	A
c) Liquidity and Fund Balance	Aaa	Aaa
Factor 3: Governance (20%)		
a) Governance / Constitutional Framework	Aaa	Aaa
Factor 4: Debt and Pensions (25%)		
a) (Moody's ANPL + Net Tax-Supported Debt) / State GDP [2] [3]	15.8%	Aa
Factors 5 - 10: Notching Factors [4]		
Adjustments Up: None	0	
Adjustments Down: None	0	
Rating:		
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 and pension 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 5-10 are specifically defined in the US States and Territories Rating Methodology
Source: US Bureau of Economic Analysis; Maryland audited financial statements; Moody's Investors Service

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