MOODY'S INVESTORS SERVICE

CREDIT OPINION

30 January 2019

Rate this Research

Contacts

Baye Larsen +1.212.553.0818
VP-Sr Credit Officer
baye.larsen@moodys.com

Joshua Grundleger +1.212.553.1791
Analyst
joshua.grundleger@moodys.com

Kenneth Kurtz +1.415.274.1737
Senior Vice President
kenneth.kurtz@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Oregon (State of)

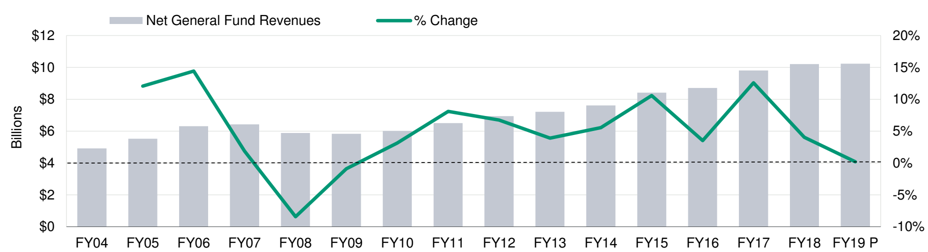
Update to credit analysis

Summary

The state of Oregon's (Aa1 stable) credit profile is characterized by strong economic growth that is supporting positive financial performance, balanced by the high exposure to personal income tax volatility and the constitutional 2% kicker on income taxes that prevents the state from fully capturing the revenue boost during periods of economic strength. Oregon's revenue risks are somewhat offset by the state's strong liquidity and satisfactory fund balances that have improved steadily since the recession, combined with sophisticated revenue forecasting and sound budget management. While the state's debt medians are above average, total long-term liabilities are moderate given its below-average adjusted net pension liability and minimal other post employment benefits (OPEB).

Exhibit 1

Strong economic growth drives strong post-recession revenue growth



FY19 forecast reflects very conservative Corporate Income Tax results after a large surge in FY18. In addition, the forecast assumes 1% Personal Income Taxes growth to adjust for taxpayer response to Federal tax reform. PIT actual growth was 11.4% actual through September 2018, but slowed in the second quarter.

Source: OR Economic and Revenue Forecasts; Moody's Investors Service

Credit strengths

- » Above average economic growth that is supporting steady revenue growth
- » Sound financial controls underscored by sophisticated quarterly revenue forecasting and executive authority to reduce spending
- » Strong liquidity and rainy day fund balances that are expected to grow
- » Below-average fixed costs and relatively well-funded retirement system that offsets somewhat above-average bonded debt ratios

Credit challenges

- » Unusually high reliance on economically sensitive personal income taxes can create budgetary strain in times of economic downturn
- » Governance constraints including the constitutional 2% "kicker", an initiative process, and a supermajority requirement to increase taxes
- » Rapid growth in pension liabilities and contributions will increase budget pressure, although remain near the median

Rating outlook

Oregon's stable outlook reflects the sound governance that improves fiscal stability, and strong economic growth that will support planned increases in reserves. Oregon's unusually high dependence on personal income taxes poses downside forecast risk, particularly in light of recent stock market volatility, however continued growth in reserves and sustained revenue growth will mitigate that risk.

Factors that could lead to an upgrade

- » Maintenance of structural budget balance, including making sufficient pension contributions to help the pension liability "tread water"
- » Growth and maintenance of strong General Fund reserve levels sufficient to offset revenue volatility during economic downturns and/or diversification of revenues
- » Sustained healthy job growth

Factors that could lead to a downgrade

- » Deterioration in the state's financial performance and reductions in reserve levels
- » A return to using non-recurring solutions to balance the budget
- » Slowing of economic recovery leading to employment erosion and revenue weakness
- » A larger-than-expected increase in the adjusted net pension liability (ANPL) that leads to significantly above-average long-term liabilities

Key indicators

Exhibit 2

Oregon (State of)	2013	2014	2015	2016	2017	50-State Median (2017)
Operating Fund Revenues (000s)	$7,684,761	$7,959,721	$9,037,956	$9,661,627	$10,223,464	$11,064,791
Available Balances as % of Operating Fund Revenues	7.5%	7.2%	11.9%	13.9%	17.9%	4.6%
Nominal GDP (billions)	$179.4	$189.3	$203.2	$215.3	$227.2	$224.4
Nominal GDP Growth	2.8%	5.6%	7.3%	6.0%	5.5%	3.9%
Total Non-Farm Employment Growth	2.1%	2.8%	3.4%	3.0%	2.2%	1.0%
Fixed Costs as % of Own-Source Revenue	NA	9.6%	7.1%	7.0%	8.5%	NA
Adjusted Net Pension Liabilities (000s)	$9,931,170	$6,657,991	$4,782,189	$7,150,395	$11,954,071	$12,033,341
Net Tax-Supported Debt (000s)	$7,544,999	$7,598,819	$7,683,117	$7,540,513	$8,354,427	$4,450,975
(Adjusted Net Pension Liability + Net Tax-Supported Debt) / GDP	9.7%	7.5%	6.1%	6.8%	8.9%	8.3%

FY2018 Available Balances are 19.9% of Operating Fund Revenues
Source: US BEA; US BLS; Oregon Comprehensive Annual Financial Reports; Moody's Investors Service

Profile

The state of Oregon has a population of 4.1 million people located on the northwest coast of the US, bordered by Washington (Aa1 stable), California (Aa3 stable), and Idaho (Aa1 Issuer Rating) with 1,410 miles of shoreline, according to NOAA. The state is the 27th largest by population and has a large, diverse economy reflected in its GDP of $229 billion (ranks 25th among states).

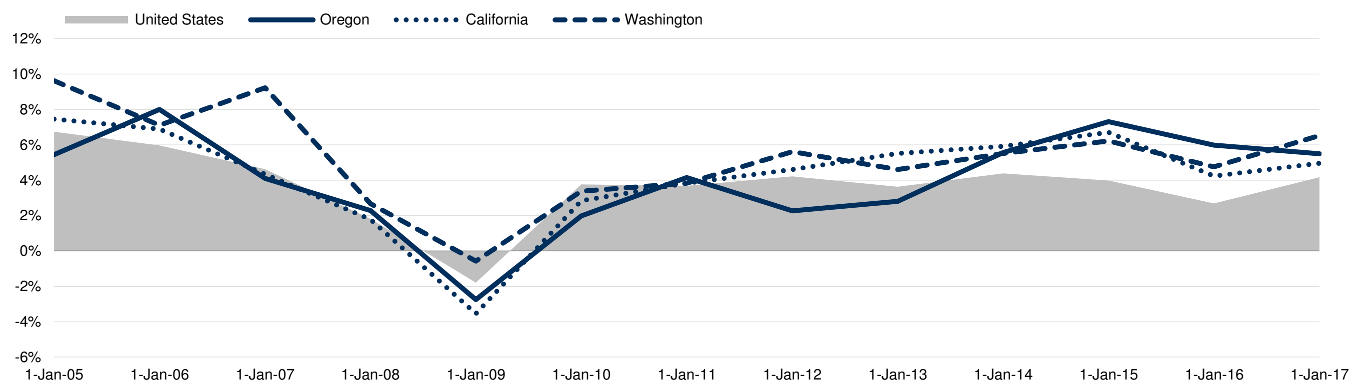
Detailed credit considerations

Economy

While Oregon's economic expansion will likely moderate in the next 1 to 2 years, growth will remain above the US average. Total nonfarm job growth has been above the US rate since early 2013, and the number of total jobs is nearly 13% above the pre-recession peak. YOY job growth was 2.5% through November, compared to 1.7% for the US, driven by leisure and hospitality, education and health services, and construction. Job gains have been propelled by rapid growth in the Oregon's urban areas, especially the Portland and Salem MSAs which have contributed the majority of the state's new jobs in the past five years. Oregon's unemployment rate is low at 3.9% in November compared to 3.7% YOY for the US.

Exhibit 3

OR's GDP growth has been one of the highest in US since 2014

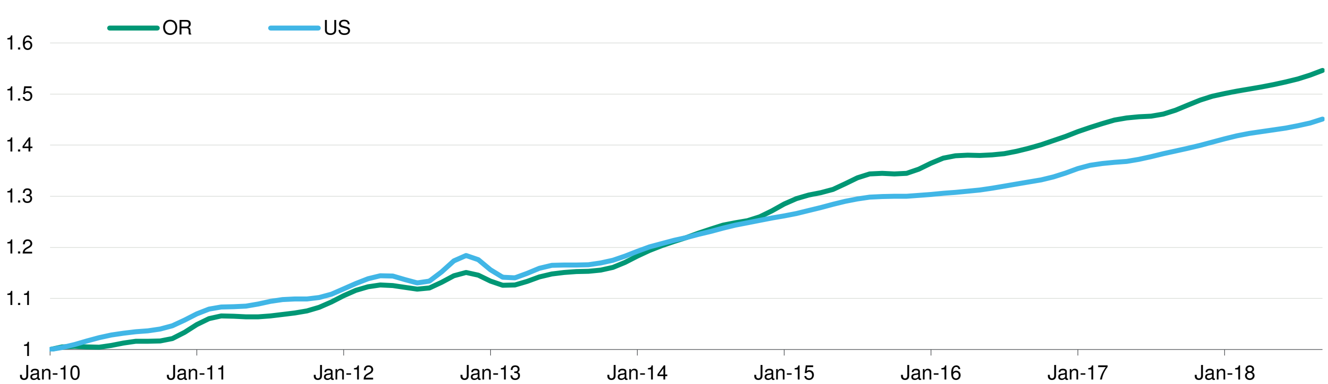


Source: US Bureau of Economic Analysis

Oregon's economic growth has been bolstered by strong in-migration that contributed 80% of the state's rapid population growth over the past five years. The state's population grew 1.06% in 2018, compared to 0.6% for the US. In addition, personal income growth has been well-above the US rate since mid-2013, reflecting the strong job growth in high wage tech industries. As a result, per capita personal income has increased relative to the US to 93% in 2017 from 88% in 2012. However, PCPI as a percent of US remains below its historic peak of 97% in 1996.

Exhibit 4

Growth in high-wage industries creates above-average personal income growth
Personal income indexed to 2010



Source: US Bureau of Economic Analysis

The state also benefits from export trades, driven by its high concentration of semiconductor manufacturing and logging industry. Although China is a key trade partner for the state, the economic risk associated with higher tariffs is minimal; the state's trade in goods that may be subject to higher tariffs is equivalent to a small 0.7% of state GDP. According to Moody's Analytics, Oregon's economic growth will continue to benefit from the high-wage technology sector expansion and related housing and construction surge. Labor force pressures and declining housing affordability will be constraints on growth.

Environmental Considerations

Oregon has moderate exposure to climate risks given its long coastline and significant exposure to natural disasters, particularly earthquakes. Favorably, only 12.2% of the state's 2016 GDP is along the coastline, well below the 50-state coastal county median of 38.6%. Accordingly, total storm damage in Oregon since 1980 is below-average at 2.3% of the state's GDP, compared to 3.6% for the US for the same time-period. A change in temperature could have a more significant impact by increasing the frequency of wildfires and/or disrupting agriculture, although the sector – including forestry, fishing and hunting – constitutes just 1.7% of state GDP.

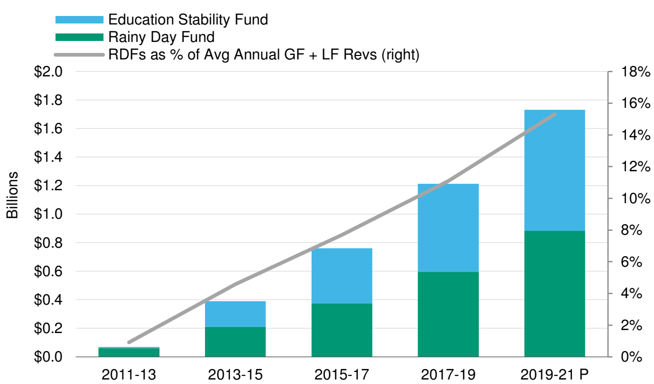
Located on a large fault line, Oregon has high seismic risk. A major earthquake could cause significant physical damage both inland, and along the coastline in the event of a tsunami. While this risk is not heightened by climate change, it's likelihood increases with time, and could result in significant financial and economic loss.

Finances and liquidity

Oregon's financial position will remain solid due to a strong fund balance and liquidity position and sound budget management. The state's financial flexibility is enhanced by balanced budgets and strong revenue growth, however steadily growing costs – especially pension contributions and Medicaid – together with a highly concentrated revenue structure, increase the risk of budget surprises.

Exhibit 5

Rapid reserve replenishment partially stabilizes...

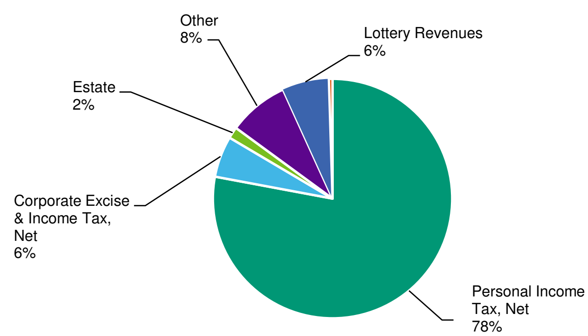


GF + LF are general fund and lottery fund revenues.
Source: Oregon Economic and Revenue Forecasts

Exhibit 6

....high concentration in relatively volatile personal and corporate income taxes

Distribution of estimated 2017-19 general fund and lottery fund revenues



Source: Oregon Economic and Revenue Forecasts

The proposed 2019-2021 biennial General Fund budget is structurally balanced and increases 12% ($2.4 billion) over the prior biennium's estimated expenditures to $22.3 billion. Budget growth is primarily driven by an 8% increase in education spending, 16% growth in human services, including Medicaid, and growth in pension contributions.

Budgeted revenue growth is muted at 5% over the prior biennium, due to the large income tax refund owed to taxpayers in the first year of the biennium as part of the state's "kicker" (more below). Excluding the tax refund, base revenue growth is projected to be 8.5%, still conservative compared to 10% and 16% growth in the past two biennia, respectively. Recent stock market volatility and lingering uncertainty regarding corporate taxpayer behavior in response to Federal tax reform add some risk to the revenue forecast, however the state's required quarterly revenue estimates ensure relatively quick response to any budget surprises. In addition, the state reduced some Corporate Income Tax unpredictability related to the repatriation of foreign earnings by allocating that portion of CIT to a new School District Unfunded Liability side account to help K-12 districts fund their pension liabilities.

The proposed budget also extends Medicaid-related assessments and introduces a new assessment on certain employers and a cigarette tax increase to generate a combined $657 million. If these revenue revisions do not receive the necessary legislative approval, other measures will be needed to balance the budget.

In addition to the regular budget, the Governor has also proposed a plan to increase funding for K-12 and higher education by $1.9 billion, which would require new revenues to be identified and approved by the legislature.

To date, Oregon's rapid Medicaid growth has been balanced with cost controls, additional Medicaid assessments, and strong general fund revenue growth. However, if economic growth slows, the state's budget will be more pressured than peers due to high enrollment rates and planned reductions in the Federal match. Although the state's share of Medicaid costs is slightly below-average as a percentage of own-source revenues, the growth rate of these costs have been well above-average since 2010 (see Exhibit x). In addition, the state may see relatively higher cost growth in the next economic cycle if enrollment rates return to their prior peak and/or the Federal match declines. With its large ACA enrollment and high reliance on Federal funding, Oregon has above-average exposure to planned reductions in the Federal match for ACA-related coverage, as well as any future Federal Medicaid policy changes. In the proposed budget, the state is picking up an additional $442 million of Medicaid costs from the declining Federal share, approximately half of which is related to ACA-related coverage.

Exhibit 7

Oregon's large Medicaid enrollment intensifies cost growth and exposure to declines in Federal funding

	OR	US Median
Avg annual Medicaid cost growth, 2010-2017 (State share only)	12.5%	8.2%
Medicaid costs as a % of own-source revenues (State share only)	15.0%	17.0%
Medicaid enrollment as a % of the population, Oct 2018	23.0%	22.0%
Peak Medicaid enrollment as a % of the population, April 2015	28.0%	22.0%
ACA-related enrollment as a % of total enrollment	40.0%	17.0%
Federal Share of Medicaid Costs	75.0%	62.0%

Source: Kaiser Family Foundation, National Association of State Budget Officers, Moody's Investors Service

The state's December 2018 economic and revenue forecast raised the net general fund and lottery revenue estimate by a slight 0.35% to incorporate positive year-to-date performance. Fiscal 2018 and 2019 biennial revenues are projected to grow 10% over the prior biennium and be 5.3% above budget. Due to the state's "kicker" law (more below), this surplus will go back to taxpayers in fiscal 2020 in the form of an income tax credit. A projected $230 million corporate tax "kicker" is constitutionally dedicated to the State School Fund to provide funding for K-12 education.

LIQUIDITY

Oregon's strong liquidity will continue to support financial flexibility and balance revenue concentration. On a GAAP basis, the state's fiscal 2018 available reserves (unassigned fund balance plus Rainy Day Fund and Education Stability Fund) increased to $2.3 billion (19.9% of operating revenues) due to continued strong revenue performance. However, $724 million of this fund balance will be returned to taxpayers (the "kicker") in fiscal 2020. The budgetary basis general fund balance is forecast to decline to $221 million from $1.3 billion by the end of the next biennium, to fund the kicker ($724 million) and transfers to the state's Rainy Day Fund ($238 million).

The state's plans to continue increasing rainy day funds are especially important given Oregon's concentration in personal income taxes. For the fourth consecutive biennium, the 2019-21 proposed budget includes deposits to the RDF and the education stability fund (ESF), which are projected to increase to $1.7 billion by the end of fiscal 2021 (15% of general fund and lottery revenues) from $1.2 billion (11% of revenues) at the end of fiscal 2019. This is a significant improvement over the recent fiscal 2011 low of 0.2% of revenues.

The RDF receives biennial deposits from the general fund ending balance, with amounts limited to the lesser of the actual general fund ending balance for the preceding biennium or 1% of general fund appropriations for the preceding biennium, incremental growth in corporate taxes, and interest earnings of the fund. The ESF is also supported by 18% of net lottery revenues, which are projected to provide $233 million of deposits in the current biennium.

Given the improved RDF and fund balance position, Oregon did not issue a tax anticipation note in fiscal 2019 for the first time since the 2001-03 biennium. In the event of a cash shortfall in the general fund, two sources may be used for internal borrowings: restricted accounts within the general fund (intra-fund sources); and available balances in other funds of the state treasury (inter-fund sources). Available intra-fund resources, primarily comprised of the state's rainy day fund, are estimated at $1.3 billion as of December 31, 2018. The state is not required to pay interest on intra-fund borrowings, nor must it repay such loans by the end of the biennium in which the loan was made. As of December 31, 2018 the ending balance of inter-fund borrowable funds was $17.9 billion. Inter-fund cash balances are primarily comprised of the Oregon short-term fund (OSTF), which include state agency deposits (56% of available funds) as well as local government deposits (44% of available funds), which the state would only borrow from as a last resort.

Debt and pensions

Oregon's long-term liability position is sound, with combined net tax supported debt and adjusted net pension liability equivalent to 8.9% of state GDP, compared to a median 8.3%. As of December 31, 2017, Oregon's net tax-supported debt ($8.4 billion) was 4.5% of personal income and $2,017 per capita. These are above Moody's 50-state medians of 2.3% and $987, respectively. A $2 billion pension bond issuance in fiscal year 2004 significantly improved Oregon's pension funding levels, which increased to over 100% funding in 2007 but also substantially increased its debt burden. The pension bonds are backed by the full faith and credit of the state; they are not secured by any assets of the pension system.

Exhibit 8

Oregon Debt Summary

	12/31/2017	6/30/2018
General Obligation bonds	4,465,717	4,430,927
Certificates of Participation	266,315	240,800
Highway User Tax bonds	2,437,255	2,437,255
Lottery Revenue bonds	1,185,140	1,111,265
Total Net Tax Supported Debt	**8,354,427**	**8,220,247**

General obligation debt excludes debt that is also secured by another non-governmental revenue and is self-supporting.
Source: OR Comprehensive Annual Financial Reports; Moody's Investors Service

DEBT STRUCTURE

The state has approximately $48.4 million of variable rate general obligation debt issued on behalf of the Department of Veterans' Affairs (DVA). The variable rate bonds are uninsured and there are currently no bank bonds. The variable rate bonds have liquidity enhancement provided by a standby bond purchase agreement with U.S. Bank National Association (the “U.S. Bank”).

The state also has approximately $2.3 billion in highway user tax revenue bonds issued through the Oregon State Department of Transportation (rated Aa1, senior lien and Aa2, subordinate lien, stable). Approximately $365 million (14%) of outstanding highway user tax debt is floating rate notes, issued as subordinate lien private bank loans in May 2017.

DEBT-RELATED DERIVATIVES

The state, through DVA, has a $25.1 million swap agreement with the Royal Bank of Canada associated with the GO Veterans Welfare Bonds, 2015 Series P that had a mark to market of $404,000 on June 30, 2018. The DVA receives a swap payment based on 1-month LIBOR, a measure that will be phased out in 2021. The DVA has the right to terminate the swap on any payment date after December 1, 2020. The state would be required to post collateral if their credit rating fell below Baa1 or equivalent, which would be very manageable given the small size of the mark relative to the state’s budget. For more detail, refer to our recent report here.

PENSIONS AND OPEB

Oregon’s pension obligations will continue to grow given cost deferrals from “rate collaring,” investment underperformance against targets, and changing actuarial assumptions. Based on Oregon's fiscal 2017 pension data, our adjusted measure of the Oregon Public Employees' Retirement System (OPERS) pension burden has more than doubled in the past two years to $11.95 billion (82% of state-source governmental revenues) from $4.8 billion (38%) but remained below the 50-state median of 107%.

The steep increase was driven by steady reductions in interest earning assumptions, to 7.2% from 7.75%, and “collared” employer contributions that do not fully cover the annual amortization of pension liability.

Due to the liability increase, the state's actuary projects that the state's share of pension contributions will increase by $385 million in the 2019-2021 biennium. The General Fund would be responsible for approximately one-third of this, or $128 million. The contribution increase will be larger than recent biennia due to a decline in the system's funded status, which triggers a widening of the state's contribution rate collar. These contribution collars smooth the budget impact of asset and liability changes, similar to other states' use of a smoothed actuarial valuation of assets. In contrast, Oregon PERS measures pension assets by market value.

Oregon's other post-employment benefit (OPEB) obligations are very low, supporting below-average fixed costs. Pursuant to GASB 75, the state has a $9.7 million asset in one OPEB plan and a net liability of $34.9 million in another plan. The combined fiscal 2018 pay-go contribution was $21.6 million. The state has no contribution requirements towards the $108.5 million implied subsidy it provides to OPEB managed by the Public Employees Benefit Board (PEBB).

The state's fixed costs (debt service, pension, and OPEB contributions) in fiscal 2017 were below average at 6.7% of own-source governmental revenues, but will grow over the next biennium as pension contributions get closer to the ADC and pension liabilities continue to grow (as discussed above). Fiscal 2017 fixed costs would have been higher at 8.5% of revenue if the state was making a pension contribution sufficient for the unfunded liability tread water.

Governance

Oregon's governance and constitutional framework are strong, and the state has sound financial best practices that provide budget stability despite several governance constraints. The state has several features that encourage timely budget adjustments and provide sound financial controls, including: consensus revenue forecasting for the budget; sophisticated quarterly economic and revenue forecasts; a requirement to quickly balance projected revenue shortfalls; a quarterly allotment process for spending; and a published debt affordability analysis. In addition, Oregon statutorily-requires deposits into its rainy day funds which promote quick replenishment after economic downturns. However, Oregon also has several governance features that moderately limit their financial flexibility, including a supermajority requirement to raise taxes, the “2% kicker”, a lack of published expenditure forecasts, and a voter initiative process that has past placed constraints on financial operations in the past.

In particular, the “2% kicker” (now embedded in the State Constitution) makes it more difficult for the state to apply any of the dividend from economic growth towards building budgetary cushions. The kicker requires that whenever biennial income tax collections are more than 2% above budget, all income taxes in excess of the budget must be returned to taxpayers as a tax credit in the following budget cycle.

The state has taken action to mitigate the effects of the kicker. During the 2007 legislative session, Oregon established a rainy day fund (RDF) that was initially funded at $319 million from a one-time suspension of the corporate kicker law which is similar to the personal income tax kicker. The RDF is capped at 7.5% of General Fund revenues for a biennium and a three-fifths vote of each house of the Legislative Assembly is required to appropriate RDF moneys in the event of certain triggers. In November 2012 voters approved Measure 85, which permanently allocates the 2% corporate kicker to education funding, providing for additional operating support.

Rating methodology and scorecard factors

The US States and Territories Rating Methodology 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.

Exhibit 9

US states and territories rating methodology scorecard

State of Oregon

Rating Factors	Measure	Score
Factor 1: Economy (25%)		
a) Per Capita Income Relative to US Average [1]	93.2%	Aa
b) Nominal Gross Domestic Product ($ billions) [1]	$227.2	Aaa
Factor 2: Finances (30%)		
a) Structural Balance	Aa	Aa
b) Fixed Costs / State Own-Source Revenue [2]	8.5%	Aa
c) Liquidity and Fund Balance	Aa	Aa
Factor 3: Governance (20%)		
a) Governance / Constitutional Framework	Aa	Aa
Factor 4: Debt and Pensions (25%)		
a) (Moody's ANPL + Net Tax-Supported Debt) / State GDP [2] [3]	8.9%	Aaa
Factors 5 - 10: Notching Factors [4]		
Adjustments Up: Growth Trend	0.5	
Adjustments Down: Economic or Revenue Concentration or Volatility	-0.5	
Rating:		
a) Scorecard-Indicated Outcome		Aa1
b) Actual Rating Assigned		Aa1

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

[2] Fixed costs and debt and pensions 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, State CAFRs, Moody's Investors Service

REPORT NUMBER 1158468

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

MOODY'S
INVESTORS SERVICE