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SECTOR IN-DEPTH
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State government – US

Revenue recovery from coronavirus hit will lag GDP revival, prolonging budget woes

The brake on economic activity in response to the coronavirus outbreak will require states to make dramatic budget adjustments because even in a "V"-shaped recovery a revival in their revenue will lag the broader economic rebound. The crisis is wreaking havoc on state budget forecasts and will cause fiscal 2021 tax revenue to fall short of 2019 collections by nearly 15%. The shortfalls will be even larger compared with revenue projections made before the pandemic. It will take years for state revenue to return to 2019 levels without tax increases, while recovery to a level where no coronavirus crisis occurred is unlikely over a five-year horizon. Individual states will fare differently depending on their tax structures, dependence on volatile revenue sources, and severity of the regional coronavirus outbreak. Federal actions to cushion states and stimulate the economy, as well as a mix of reserves, spending cuts and cost shifts to downstream entities, will help most states navigate this unprecedented period without a material weakening in credit quality.

» **Revenue declines will require significant budget adjustments.** The economic impacts of the coronavirus pandemic will decrease state tax revenue by $160 billion from fiscal 2019 to fiscal 2021. Compared with a trend of no downturn and moderate growth, fiscal 2021 tax revenue would be more than $200 billion less than governments would otherwise collect.

» **Revenue is unlikely to return to fiscal 2019 levels by fiscal 2024 without tax increases.** Even with an assumed revenue upturn beginning for most states in fiscal 2022, our base scenario does not result in a recovery to fiscal 2019 levels by fiscal 2024. Achieving revenue consistent with a moderate growth path is even more out of reach.

» **The effects on states will vary based on their economic and revenue structures.** States with low economic volatility and those comfortable adjusting taxes are likely to suffer less severe impacts than those with undiversified economies or high dependence on the most volatile taxes such as personal income, capital gains and sales taxes. Even with a record $115 billion in aggregate reserves as of fiscal 2019, few states would be able to cover projected tax revenue losses solely with available cash.

» **Spending cuts, cost shifting and federal actions will help mitigate the impact of revenue declines.** States' powers to control spending, to reduce funding to downstream entities such as local governments, to borrow money and to raise taxes will help mitigate the net damage to states' fiscal positions. Federal actions to cushion states and stimulate the economy will also soften the blow.

Exhibit 1
Three scenarios for state tax revenue trends

Base	Great Recession	Growth
Based on Moody's Macroboard estimate of impact of the coronavirus on unemployment and on the assumption that a 1 percentage point increase in unemployment results in a 3.7% decrease in state tax revenue	Recovery from the coronavirus crisis mimics the first years of recovery from the Great Recession	Assuming coronavirus never emerged, state revenue grows at a steady 2.6% pace annually

Source: Moody's Investors Service; Brookings Institution

Revenue declines will require significant budget adjustments

The nation's worst economic shock since the 2007-2009 downturn, or the Great Recession, will derail state budget planning. State tax revenue will likely decline by about $160 billion from fiscal 2019 to fiscal 2021. (Most state fiscal years end June 30.)

Compared with state budgeting expectations before the emergence of the pandemic, the projected cumulative two-year tax revenue decline is much larger at more than $200 billion. For comparison, fiscal 2019 enacted general fund spending was $913 billion and that year's own-source governmental revenue, a broader measure of state budgets, topped $1.2 trillion. [1] This shortfall reflects the recurring impacts of a 14% fall in tax revenue from $1.08 trillion in fiscal 2019 to about $920 billion in fiscal 2021 (see Exhibit 2).

Exhibit 2
Changes in unemployment will drive changes in state tax revenue

Fiscal year	Base scenario (assumptions derived from Moody's Macro Board)				Great Recession recovery scenario		Growth scenario	
	Unemployment rate	Change in unemployment rate	% change in state tax revenue*	State tax revenue ($billion)	% change in state tax revenue	State tax revenue ($billion)	% change in state tax revenue	State tax revenue ($billion)
FY 2019	3.8%			1,076,781		1,076,781		1,076,781
FY 2020	6.8%	3.0%	-11.2%	956,262	-11.2%	956,262	2.6%	1,104,777
FY 2021	7.7%	0.9%	-3.5%	923,239	-3.5%	923,239	2.6%	1,133,502
FY 2022	5.8%	-1.9%	7.0%	987,561	8.9%	1,004,994	2.6%	1,162,973
FY 2023	5.0%	-0.9%	3.3%	1,019,983	3.8%	1,043,069	2.6%	1,193,210
FY 2024	4.5%	-0.4%	1.5%	1,035,619	7.6%	1,122,244	2.6%	1,224,233

*assumes tax revenue sensitivity of -3.7% to a 1 percentage point change in average annual unemployment. Fiscal 2019 figures are actual results. The actual allocation of impacts between fiscal 2020 and fiscal 2021 will likely differ from estimates because the crisis emerged late in fiscal 2020.
Sources: Moody's Investors Service, Brookings Institution, US Census Bureau

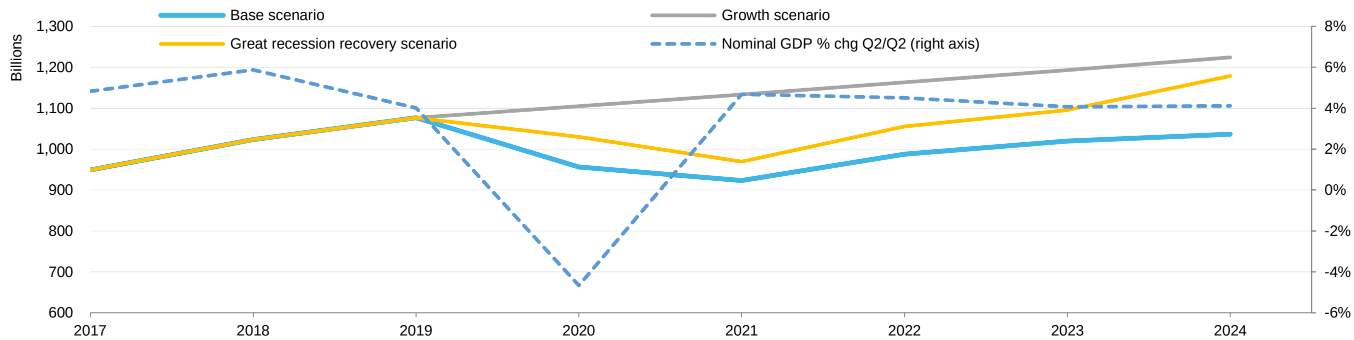
The projections are based on Moody's Macroeconomic Board economic forecasts and Brookings Institution research estimating the sensitivity of state tax revenues to changes in unemployment rates, assuming no change in tax rates. We applied that estimated sensitivity to the Macroeconomic Board's estimates of the pandemic's economic impacts to derive a base case. For comparison, alternate forecasts assume that tax revenue recovers as it did in the years following the Great Recession or that annual taxes grow 2.6%, which is below historical average levels.[2]

Revenue is unlikely to return to its fiscal 2019 level for several years in the absence of tax increases

In the base scenario, tax revenue will not recover to fiscal 2019 levels by fiscal 2024. Recovery to revenue levels consistent with a moderate growth path is even more out of reach.

The average growth rate during recovery In the base scenario tapers off as the unemployment rate normalizes. By fiscal 2024, revenue is about $40 billion less than in fiscal 2019. Tax collections would be $190 billion less than the growth scenario (see Exhibit 3).

Exhibit 3
Revenue growth will lag the broader economic recovery



Sources: Moody's Investors Service, US Census Bureau, US BEA

An alternate recovery scenario modeled on state tax revenue growth after the Great Recession shows a more rapid initial bounce in revenue, leading to a recovery to 2019 levels by fiscal 2024. Unlike the base scenario, which assumes an average relationship between changes in unemployment and state tax revenue, the trend from the last recovery reflects a more typical dynamic in which initial recovery is faster than the long-run average. It also captures the impact of state tax increases in boosting revenue growth. However, a revenue recovery modeled on the Great Recession pattern does not catch up with revenue levels in the growth scenario over our five-year forecast horizon.

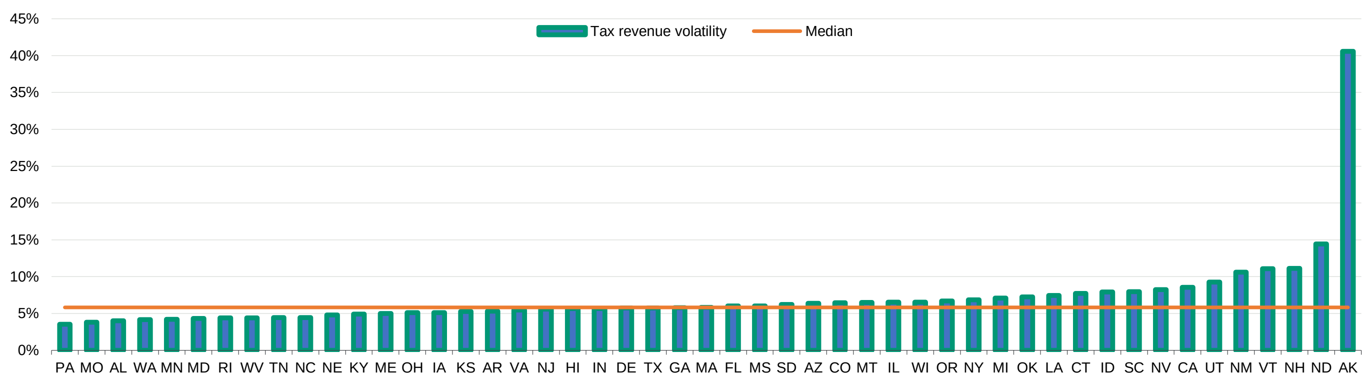
State-by-state effects will vary based on economic and revenue structure

States with low economic and revenue volatility are likely to suffer less severe impacts than those with narrow economies or high dependence on the most volatile taxes such as personal income, capital gains and sales taxes.

The potential revenue declines in the current crisis outstrip historical precedent. More than a dozen states could cover one year of revenue decline solely with reserves, but just four states could cover a two-year cumulative tax revenue shortfall, which in the base scenario totals $275 billion for the 50 states. Total available reserves at the end of fiscal 2019 were $115 billion, including $72 billion in so-called rainy day funds across the 50 states.

These coverage calculations assume that each state's tax collections suffer proportionately, though this is unrealistic because states have different economic and revenue structures. The average volatility of annual state tax revenue collections varies from a low of 3.5% for Pennsylvania to a high outlier of 40% for oil-dependent Alaska (see Exhibit 4).

Exhibit 4
Tax revenue volatility reflects economic and revenue structure as well as willingness to raise taxes
Standard deviation of tax collection growth rates, 1995-2019

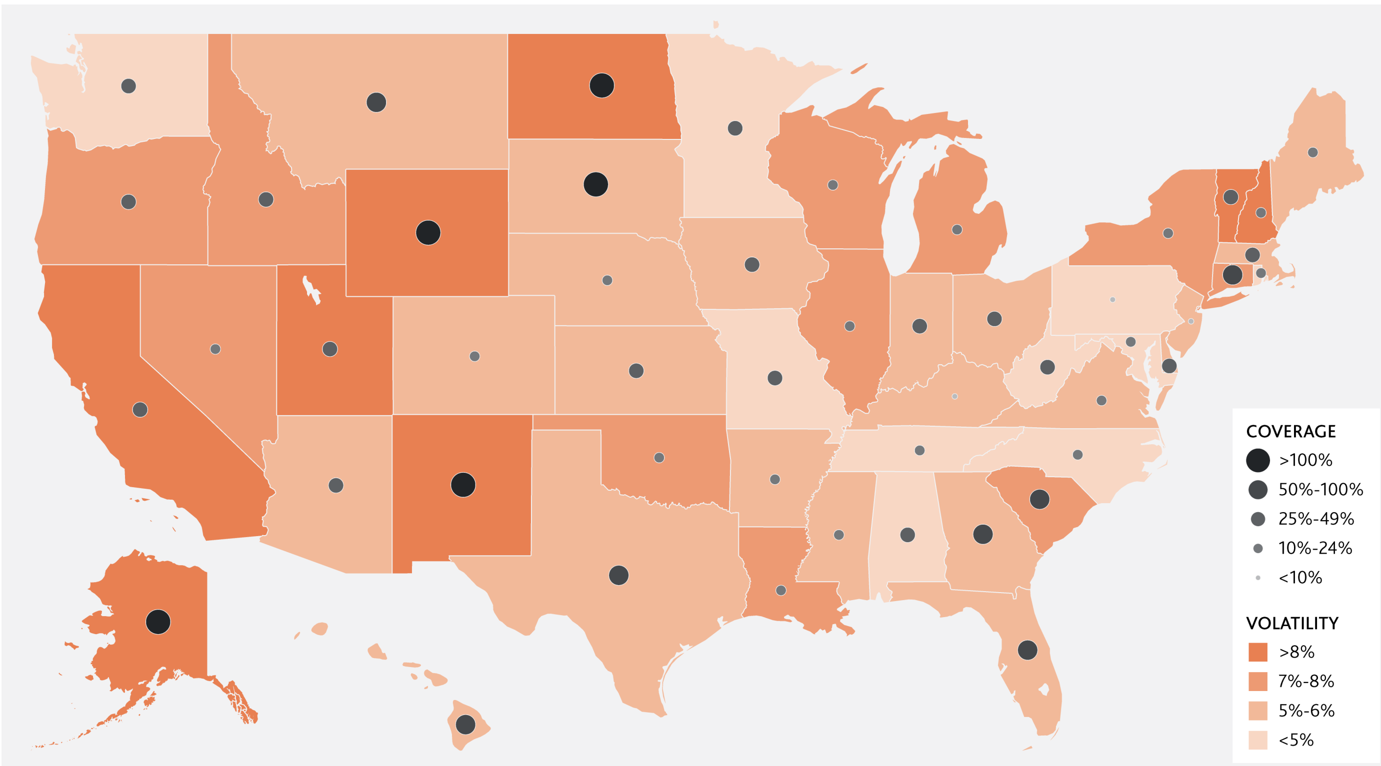


Sources: Moody's Investors Service, US Census Bureau

States with high volatility tend to insulate themselves against revenue fluctuations with higher reserves, but that is not always the case. For example, states such as Illinois, Michigan, New Hampshire and New York have historically moderate to high volatility but would not be able to cover even 25% of the two-year revenue gap projected in the base scenario, although coverage of a one-year gap would be better (see Exhibit 5). In addition, some states with inherently volatile revenue streams such as heavy reliance on the income tax may respond to revenue downturns by raising taxes, which is reflected in lower measured volatility and has characterized states such as California, Connecticut, New Jersey and New York.

Exhibit 5

A handful of states with high revenue volatility can cover 2020-21 coronavirus cumulative revenue loss with reserves



Some states, such as Illinois, may have additional balances to draw upon that are not typically included in our measure of cash reserves.
Source: Moody's Investors Service

Before the coronavirus crisis, states were generally well situated to weather a moderate recession: recession preparedness of 22 states was strong, 26 states were moderately prepared and only two were weakly prepared, based on a combination of revenue volatility, reserves, financial flexibility and pension risk.

Federal actions, together with spending cuts and cost shifting, will help soften impact of revenue declines

Federal actions to cushion states and stimulate the economy will mitigate net fiscal damage resulting from revenue declines. State powers to control spending, offload expenses to downstream entities such as local governments and public universities, borrow money and raise taxes will also help soften the blow.

The federal stimulus measures passed so far are positive for states but are meant mainly to support increased health and emergency spending rather than to offset state revenue losses. The temporary increase in the Medicaid sharing ratio, or FMAP, will provide up to $10 billion per fiscal quarter, though much of this will support increased spending as caseloads rise. Other components of the stimulus measures will give states needed cash infusions to compensate for direct coronavirus-related expenditures, such as the $150 billion Coronavirus Relief Fund, of which at least 55% will go to states, and the $45 billion Disaster Relief Fund. Mass transit is getting $25 billion, which will help compensate for lost sales taxes and farebox revenue.

Indirect aid for states, including expanded unemployment benefits, direct cash transfers and funds for small businesses will also help mitigate the loss of tax revenue by maintaining personal income and consumption. Still, levels of direct fiscal aid for states enacted so far lag what was put in place in the last two recessions. To avoid budget cuts that themselves are counter-stimulative, a greater level of direct assistance will be necessary.

States have been willing in the past to make significant cuts to balance their budgets. In the aftermath of the 2008 financial crisis, states reduced general fund spending on a nominal basis by 3.8% in fiscal 2009 and 5.7% in fiscal 2010, according to the National Association of State Budget Officers. These reductions would have been much larger had there not been offsetting revenue increases and other actions taken by states. A similar two-year general fund spending reduction in the current downturn would result in a state general fund spending cut of about $90 billion.

In the last downturn, cuts included significant reductions in K-12 and higher education, demonstrating states' ability to shift burdens to downstream entities. Some of these reductions were planned in the budget adoption process, but 39 states made midyear budget cuts totaling more than $18 billion in fiscal 2010, following a year in which 41 states had made midyear budget cuts. State general fund spending on K-12 fell in 2009 compared with 2008 in 16 states, and in 2010 fell in 37 states. States also reduced reserve balances to about $32 billion in fiscal 2010 from a high of $69 billion in fiscal 2006. When other funds, federal funds and bond proceeds are added in, state spending on K-12 fell in only 17 states in 2010, showing the importance of federal aid to those downstream entities. The Center for Budget and Policy Priorities estimated that amount of federal assistance in the American Recovery and Reinvestment Act to help states maintain current activities covered about 30% to 40% of shortfalls in fiscal years 2009-2011.

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Endnotes

1 National Association of State Budget Officers Fiscal Survey of the States, 2019

2 Matthew Fielder, Jason Furman and Wilson Powell III, *Increasing federal support for state Medicaid and CHIP programs in response to economic downturns*, Brookings Institution, 2019

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