

The Economic Recovery Continues, but State Finances Remain Weak

By Donald J. Boyd and Lucy Dadayan

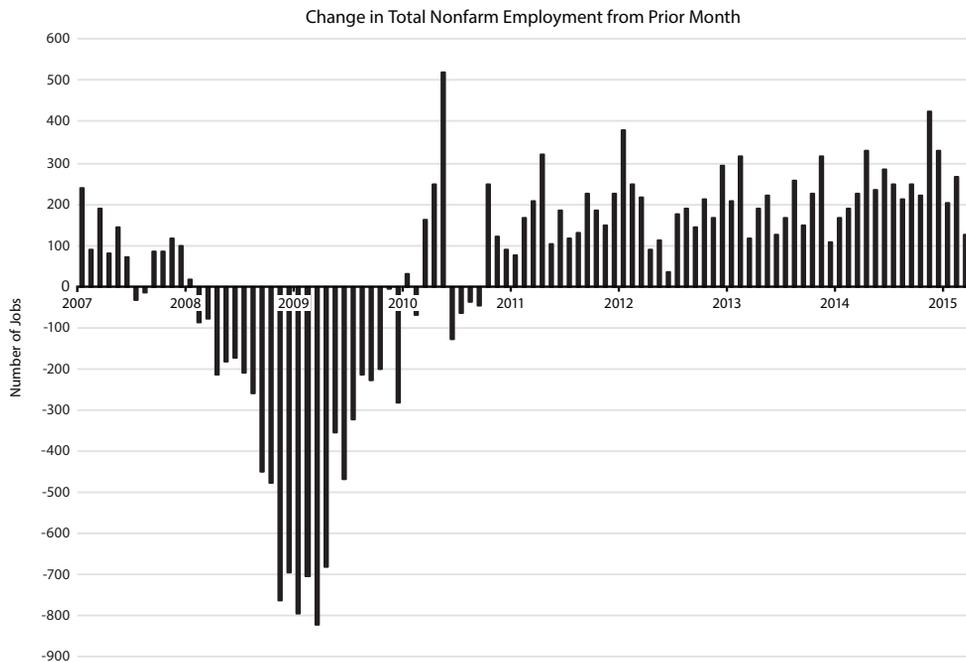
The slow economic recovery, a fall-off in capital gains and a reluctance to raise taxes have combined to depress state tax revenue compared to past recoveries. States have had to make room for Medicaid spending driven by recession-induced enrollment increases. The result has been years of cuts in infrastructure spending, government employment, education and other areas, which in turn appear to have created pent-up demand, pressure to restore some cuts and a reluctance to cut spending much further.

The national economic recovery has been underway for six years, yet some states have announced budget shortfalls recently and several are even contemplating tax increases. Why are state finances so weak in the midst of recovery and what does it mean for state policy choices?

This economic recovery has been slower than past recoveries.

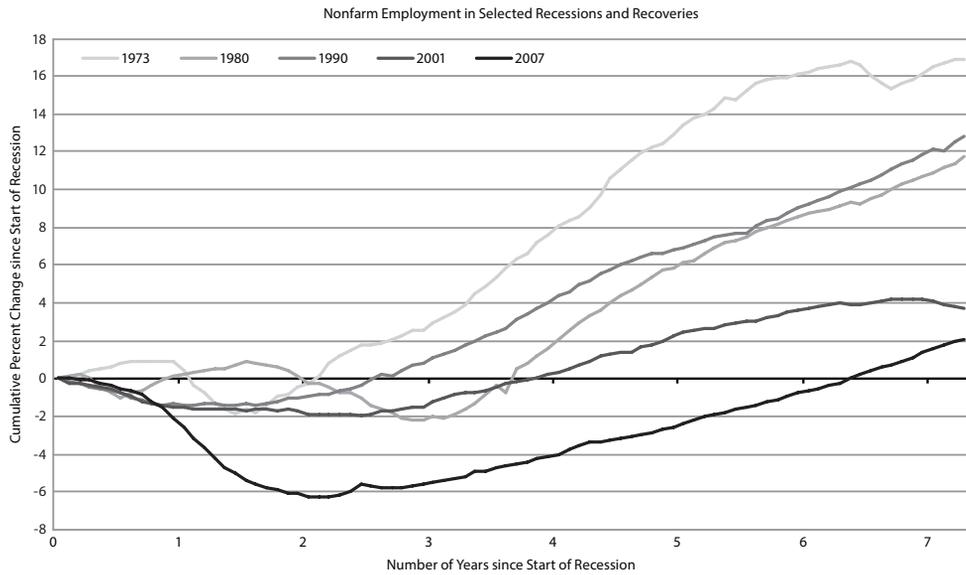
Employment is one of the most important economic indicators for state budget officials. It is a broad measure of the overall economy, and it plays a major role in determining wages subject to state

Figure A: Employment has been growing continuously since 2010



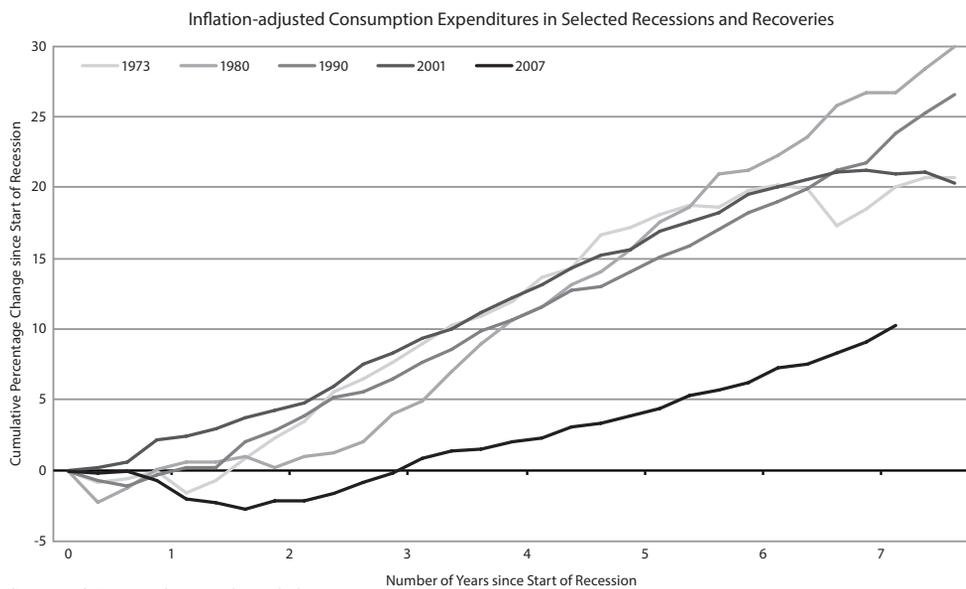
Source: U.S. Bureau of Labor Statistics (CES, seasonally adjusted).

Figure B: Employment Is below where it was in past recoveries



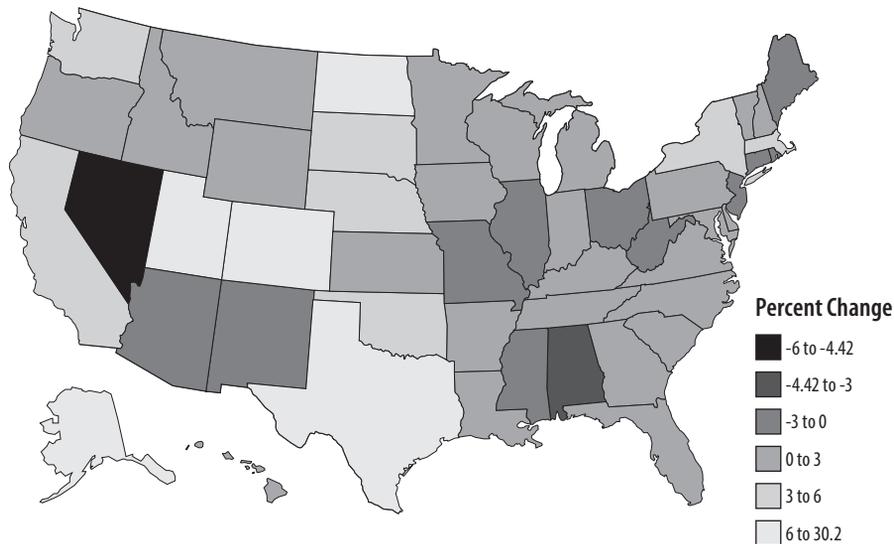
Source: U.S. Bureau of Labor Statistics (CES, seasonally adjusted).

Figure C: Inflation-adjusted consumer expenditures are far below expenditure levels in prior recoveries



Source: U.S. Bureau of Economic Analysis.

**Figure D: Employment in 12 states is below the start of the recession
(Percent change in employment since start of the recession)**



Source: Rockefeller Institute analysis of employment data from U.S. Bureau of Labor statistics.

income taxes and in supporting consumer purchases subject to state sales taxes. Employment has been recovering continuously since late 2010 with occasional slowing and acceleration.

While the extended employment recovery has been welcome news for states, it is slow by historical standards. Seven years after the start of the recession, employment is only 2 percent above its prior peak, compared to 3.7 percent at this point after the 2001 recession, and more than 12 percent for each of the three prior recessions.¹

Consumer expenditures are important to state sales taxes, but the consumption recovery has been slower than the employment recovery relative to past recessions. Seven years after the recession's start, inflation-adjusted consumption is only 10 percent above its prior peak, compared to more than 20 percent for each of four major previous recessions.

The national data mask growth in some states and decline in others. Employment ranges from 30 percent above the recession's start in North Dakota—which benefited from an oil boom since gone bust—to 4.4 percent below in Nevada, which

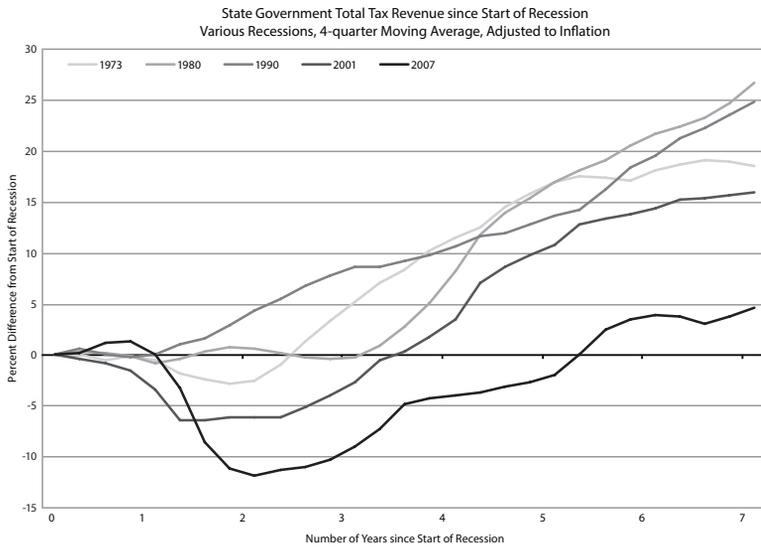
was devastated by the recession but is now recovering, although it hasn't reached its prior peak. Employment in 12 states remains below the pre-recession peak of seven years ago.

The tax revenue recovery is slower than previous tax recoveries.

The weak economic recovery has caused tax revenue to be weak by historical standards. Seven years after the start of the recession, inflation-adjusted state government tax revenue is only 5 percent above pre-recession revenue, whereas in four major preceding recoveries, inflation-adjusted state tax revenue by this point ranged from 15 to 25 percent above pre-recession revenue.²

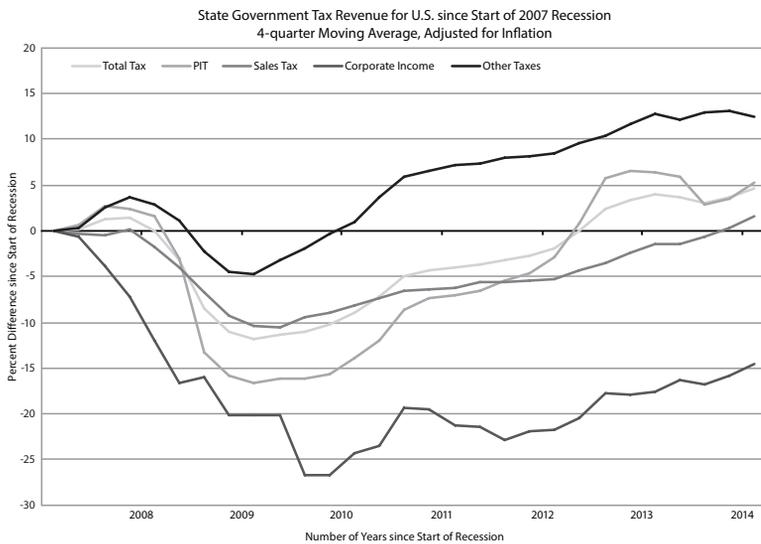
The corporate income tax, which plays a minor role in most states' revenue structures, is more than 15 percent below its 2007 level. The sales tax has been the weakest of the major taxes, reflecting the slow growth in consumption. The personal income tax, while stronger than the sales tax, has been held back by a huge decline in capital gains, which has recovered only partially. Other taxes have grown substantially, reflecting legislated increases

Figure E: Seven years after the recession started, tax revenue is only 5 percent above the prior peak and is far lower than in past recoveries

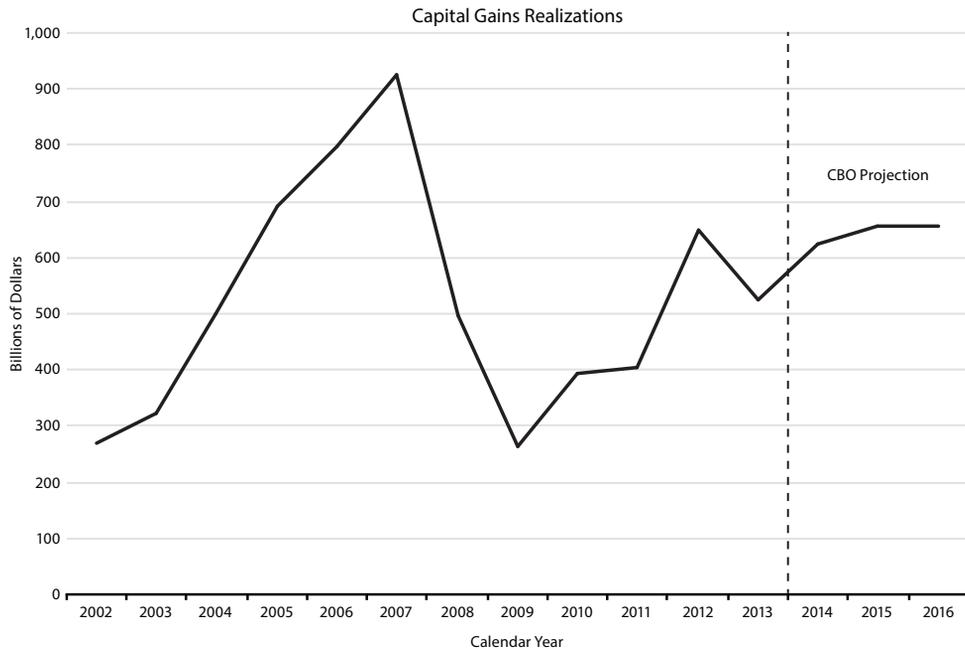


Source: Rockefeller Institute analysis of U.S. Census Bureau tax data.

Figure F: The sales tax is barely above pre-recession levels, the income tax is up only 4 percent, and the corporate income tax is 16 percent below its prior peak



Source: Rockefeller Institute analysis of U.S. Census Bureau tax data.

Figure G: Capital gains realizations are only two-thirds of their 2007 level

Source: Congressional Budget Office, *The Budget and Economic Outlook: 2015 to 2025*, January 2015 (45069-2015-01-BudgetDataProjections2.xlsx).

in taxes on cigarettes, motor fuel and other items. Figure F shows the path of revenue by tax type since the start of the recession.

State income taxes have been affected acutely by capital gains, which do not appear in traditional measures of the economy. Between 2007 and 2009, capital gains fell by 72 percent. They have since more than doubled, gyrating substantially in 2012 and 2013 as taxpayers moved money between tax years in response to expected and actual changes in federal tax rates.³ Despite increases in 2010 through 2014, capital gains remain about a third below its 2007 peak, contributing to the relatively low level of the personal income tax.

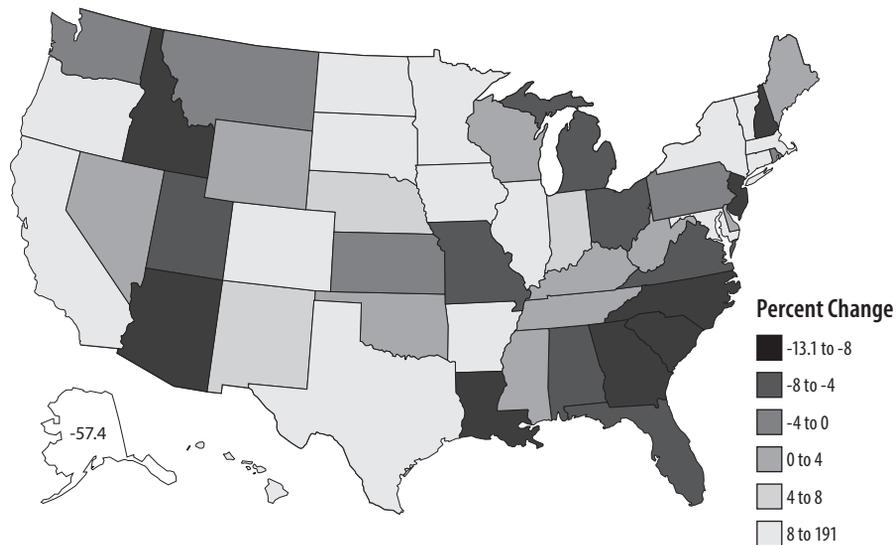
In 2012, approximately three-quarters of net capital gains were claimed by the one-quarter of 1 percent of tax filers who had adjusted gross income of \$1 million or more.⁴ Thus, virtually all capital gains are taxed at the highest rates unless a state has a tax-rate preference for gains; decisions by relatively few taxpayers can have a large impact on state tax revenue. This volatility has been a source

of frustration to many state revenue forecasters and a cause of budget forecasting errors.⁵

State fortunes have varied, reflecting differences in economies, tax structures and tax policy choices. Inflation-adjusted tax revenue is up by 2.1 percent in the median state in the seven years since the start of the recession, but it ranges from a near-tripling in North Dakota to a decline of 57 percent in Alaska. North Dakota revenue was driven upward by its oil boom, while declines in Alaskan oil production and cuts in petroleum taxes drove Alaska tax revenue down. Inflation-adjusted tax revenue remains lower than its level at the start of the recession in 21 states, with Southeastern states faring particularly poorly (Figure H). It is not easy for elected officials to bring budgets in line with revenue that is lower than it was seven years ago.

Little support for tax increases.

Although the Great Recession drove state tax revenue down more than any other recession since the Great Depression, it did not lead to the larg-

Figure H: Inflation-adjusted tax revenue in 21 states is below pre-recession levels

Source: Rockefeller Institute analysis of tax data from Census Bureau. Adjusted using GDP price index from Bureau of Economic Analysis.

est tax increases. Table A shows state government legislated tax changes for boom and bust periods of the past 25 years, adjusted for inflation.⁶ States raised taxes by \$33 billion in the five years of greatest response to this recession, 38 percent less than the \$54 billion raised in response to the 1990 recession.

The recent increases were greater than the \$24 billion raised after the much milder and briefer 2001 recession, but that doesn't tell the full story. Very few states raised taxes significantly in the recent recession, with the top three—California, Illinois and New York—accounting for 81 percent of the total, compared to 50 percent for the top three responses to the 1991 recession. The next 47 states raised taxes by \$12.1 billion in the 2001 response, versus only \$6.4 billion in the 2007 response. Thus, large tax increases actually were more common after the mild 2001 recession than after the deep 2007 recession. This declining reliance on large tax increases is shown in Figure I.

Elected officials and the electorate have become extremely reluctant to rely on tax increases to close budget gaps. Public opinion polls and recent state government behavior do suggest that Americans

are more likely to support taxes for transportation purposes.⁷

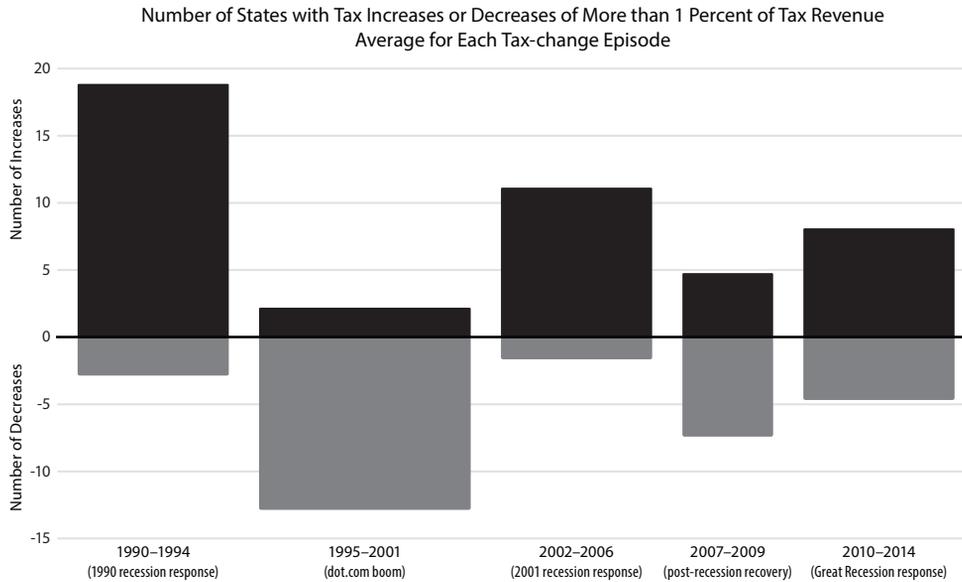
Spending pressures continue, but their character is changing.

A sea change in state and local government spending

The U.S. Bureau of Economic Analysis publishes estimates of aggregate state and local government spending on social benefits, approximately 80 percent of which is Medicaid; consumption, which includes spending for services such as teachers, police, firefighters and administrators; and investment, including construction spending on infrastructure, buildings and other investments. Investment data include gross investment expenditures and net investment after allowing for “capital consumption” to reflect the fact that assets generally are used up over time (e.g., roads and bridges deteriorate in quality). The bureau does not regularly break state and local government expenditure data into state government spending and local government spending.

Figure J shows inflation-adjusted social benefit, consumption and investment spending from 2000

Figure I: Large tax increases were far less common in response to the Great Recession than they were in response to the severe 1990 recession, or even the mild 2001 recession



Sources: Rockefeller Institute analysis of tax-change data from National Association of State Budget Officers (NASBO) and tax revenue data from U.S. Census Bureau.

Table A: States raised taxes higher in response to the 1991 recession than they did in response to the 2001 and 2007 recessions

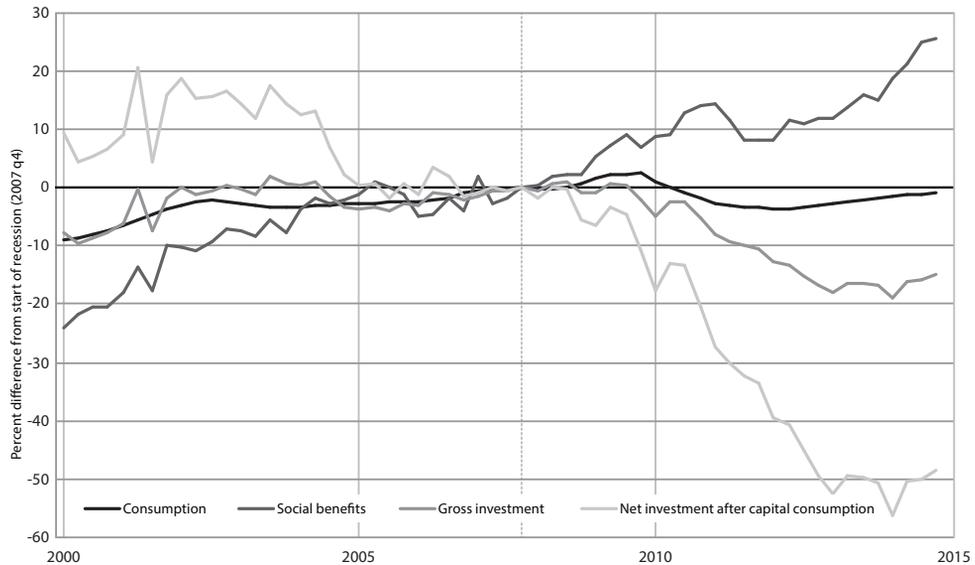
Legislated changes in state tax revenue, boom and bust episodes
Other taxes

State fiscal years	Personal income tax	General sales tax	Corporate income tax	Other taxes					Total taxes
				Total	Tobacco	Motor fuel	Alcohol	All other taxes	
1990-1994 (1990 recession response)	\$15,222	\$14,339	\$5,889	\$18,713	\$2,918	\$5,435	\$955	\$9,405	\$54,163
1995-2001 (dot.com boom)	-25,428	-2,620	-5,637	-11,927	1,597	768		-14,291	-45,613
2002-2006 (2001 recession response)	3,137	7,127	2,922	11,072	7,216	299	143	3,413	24,258
2007-2009 (post-recession recovery)	-4,060	1,312	1,869	-1,296	1,668	-30	14	-2,947	-2,176
2010-2014 (Great Recession response)	20,896	5,847	375	6,303	2,326	2,704	123	1,150	33,421

Sources: Rockefeller Institute analysis of data from the National Governors Association, *Fiscal Survey of the States* (various years) and from state websites.

Figure J: State and local spending on investment spending has declined sharply, consumption spending has leveled off, and social benefit spending is rising

State and Local Government Inflation-adjusted Expenditure on Consumption, Social Benefits, and Investment
Relative to Start of Recession (Marked by Dashed Vertical Line)



Source: Rockefeller Institute analysis of data from U.S. Bureau of Economic Analysis. Various tables, adjusted for inflation using category-specific prices indexes.

Table B: State and local government construction spending has declined since the recession's start

State and local government construction spending, adjusted for inflation Billions of 2014 dollars at annual rates, seasonally adjusted	Fourth quarter of:			
	2007	2014	\$ change	% change
Total state and local construction	\$306.8	\$256.5	-\$50.3	-16.4%
Transportation-related construction	110.5	114.3	\$3.7	3.4
Pavement and other highway and street construction, excluding bridges	56.9	53.7	-\$3.2	-5.6
Bridges	26.9	30.0	\$3.1	11.4
Mass transit	4.3	7.6	\$3.3	77.5
Other transportation (e.g., airport runways, and bus, rail and air passenger terminals)	22.5	23.1	\$0.6	2.5
Education	90.6	60.1	-\$30.5	-33.7
Primary and secondary education	63.2	34.4	-\$28.8	-45.5
Higher education and other education	27.4	25.7	-\$1.7	-6.3
Waste disposal and water supply	42.3	35.9	-\$6.4	-15.1
Sewage and waste disposal (including waste water)	26.5	23.1	-\$3.5	-13.1
Water supply	15.7	12.8	-\$2.9	-18.5
Power (e.g., power plants and facilities for gathering storage, transmission, and distribution of electricity, oil and gas)	13.2	10.3	-\$2.9	-21.9
Amusement and recreation (e.g., parks, camps, sports facilities, convention centers)	11.7	8.9	-\$2.8	-23.7
Health care (primarily hospitals)	8.1	6.2	-\$1.9	-23.9
Public safety	9.7	6.2	-\$3.6	-36.9
Police stations, sherrifs' offices and related construction	1.6	1.7	\$0.1	5.3
Fire stations, rescue squads, jails, prisons, other public safety	8.1	4.5	-\$3.7	-45.2
All other construction	20.6	14.7	-\$5.9	-28.7

Source: Rockefeller Institute analysis of data from the Census Bureau's Value of Construction Put in Place Survey (<http://www.census.gov/construction/c30/xls/s&lsatime.xls>). Data converted to quarterly and adjusted for inflation using the GDP price index from the U.S. Bureau of Economic Analysis.

Table C: States cut spending in most areas other than Medicaid and higher education

State government inflation-adjusted expenditures in billions of 2013 dollars	2003	2008	2013	\$ change		% change	
				2003–08	2008–13	2003–08	2008–13
General expenditures	\$1,432.4	\$1,622.4	\$1,683.2	\$190.0	\$60.8	13.3%	3.7%
Education	505.9	589.0	599.2	83.1	10.1	16.4	1.7
Elementary and secondary education	289.7	331.5	318.4	41.8	-13.1	14.4	-3.9
Higher education and other education	216.2	257.5	280.7	41.3	23.2	19.1	9.0
Health and public welfare services	496.0	567.4	649.9	71.4	82.5	14.4	14.5
Medical vendor payments (primarily Medicaid)	260.8	310.1	399.1	49.4	89.0	18.9	28.7
Health and hospitals (generally excluding Medicaid)	109.1	124.5	130.7	15.5	6.2	14.2	5.0
Children's services, social services, cash assistance, low-income energy assistance, homeless services and other public welfare	126.1	132.7	120.0	6.6	-12.7	5.2	-9.6
Other major functions	197.5	215.2	202.7	17.7	-12.5	9.0	-5.8
Highways	105.5	115.7	112.2	10.2	-3.6	9.7	-3.1
Police and corrections	61.9	68.3	63.5	6.4	-4.8	10.3	-7.0
Natural resources, plus parks and recreation	30.1	31.1	27.0	1.1	-4.1	3.6	-13.3
Administration, interest and all other	233.0	250.8	231.5	17.8	-19.4	7.6	-7.7
Finance, judiciary, legislatures and other administration	54.0	57.6	52.8	3.5	-4.8	6.5	-8.3
Interest on debt	38.5	48.2	46.1	9.7	-2.1	25.3	-4.3
All other general expenditures	140.5	145.0	132.6	4.5	-12.5	3.2	-8.6
Exhibit: Amounts distributed within categories above							
Higher education, medical vendor payments and health and hospitals	586.1	692.2	810.5	106.1	118.4	18.1	17.1
Expenditures other than for higher education, medical vendor payments and health and hospitals	846.4	930.3	872.6	83.9	-57.6	9.9	-6.2
Salaries and wages	225.7	247.3	259.6	21.6	12.3	9.6	5.0
Capital outlays	104.4	116.0	108.7	11.6	-7.3	11.1	-6.3
Pension contributions	24.1	39.3	45.9	15.2	6.7	63.1	16.9

Source: Rockefeller Institute analysis of data from the Census Bureau's Value of Construction Put in Place Survey (<http://www.census.gov/construction/c30/xls/s&lsatime.xls>). Data converted to quarterly and adjusted for inflation using the GDP price index from the U.S. Bureau of Economic Analysis.

through 2014, relative to the fourth quarter of 2007 when the recession began.⁸ Real gross investment fell by 15 percent since the start of the recession and net investment declined more than 45 percent. Social benefit spending has risen by about 25 percent, while consumption spending on many of the bread-and-butter services of government has declined slightly. This is a dramatic change from the previous five years.

Much of the recent decline in investment spending appears to reflect a decline in school building construction (see next section) rather than traditional infrastructure investment. Spending on transportation and water infrastructure, a large majority of infrastructure spending, has been relatively stable at about 2.5 percent of gross domestic product since the early 1980s.⁹ Nonetheless, the recent sharp shift in investment expenditures indicates a very substantial change in state and local government spending.

Sharp declines in construction spending, particularly for school buildings.

According to U.S. Census Bureau data, inflation-adjusted state and local government construction spending declined by \$48 billion at annual rates—15.6 percent—between the fourth quarters of 2007 and 2014. Spending declined, or increased only negligibly, in every category other than bridges and mass transit (Table B).

Spending on primary and secondary education buildings accounted for more than half of the decline. This may reflect changing demographics. Growth in the number of primary and secondary education pupils slowed from 0.8 percent annually in 1996–2006 to 0.1 percent annually in 2006–13. High school enrollment also has declined for five consecutive years. The National Center for Education Statistics projects that the number of pupils will rise 0.6 percent annually from 2015 through 2023.¹⁰

Declines in most spending other than Medicaid.

State governments cut spending in most functional areas. Table C shows inflation-adjusted state government expenditures in 2008 before the federal stimulus package took effect, five years later in 2013 (latest available year), and five years earlier. The third from right column shows the dollar change in spending between 2008 and 2013, reflecting policy choices states made in response to the recession. The “Exhibit” block at the bottom shows selected groupings of expenditures included above.

Total general expenditures rose \$190 billion—13.3 percent—between 2003 and 2008, and then slowed as states responded to the recession, rising \$60.8 billion—3.7 percent—between 2008 and 2013.

Spending on higher education, medical vendor payments—similar in concept to Medicaid—and health and hospitals rose by \$118.4 billion, or 17.1 percent, between 2008 and 2013; all other spending declined by \$57.6 billion, or 6.2 percent. Pension contributions, while small relative to state budgets in aggregate, accounted for substantial spending growth in both periods.¹¹

Spending on higher education includes spending from state support and from tuition and fees. Even though state governments cut their direct support in response to the recession, public higher education institutions raised tuition and fee revenue to help meet increased demand.^{12,13}

Medicaid expenditures were driven upward primarily by recession-related increases in enrollment.¹⁴ Medicaid is largely an entitlement and as a practical matter, states needed to fund the spending at the expense of cuts elsewhere or higher taxes. States had substantial assistance early in the recession from the federal stimulus package.

States cut inflation-adjusted spending in almost every other significant area, despite growth in student enrollment and populations served by government programs.

States cut employment as they reduced spending. According to data from the U.S. Bureau of Labor Statistics, in the past five and a half years, states have cut non-education employment by 5.8 percent, compared with an increase in past recoveries of 18.7 percent for the typical, or median, recovery.¹⁵

More-detailed Census Bureau data show that between 2009 and 2013, states increased employment in higher education and health, but cut employment in other areas by 6.5 percent. Almost every major area was cut. The largest cuts were

to corrections at 10.4 percent, which may reflect changes in workload. The state prisoner population peaked in 2009, then fell 3.4 percent by 2013, reflecting changes in policies for sentencing, parole and probation, among other things.¹⁶

Special circumstances in many states.

A surprising number of states face special circumstances, most of which are contributing to fiscal stress. Some states face several of the stresses described below.

Connecticut, Kansas and New Jersey are struggling with the aftermath of well-publicized income tax revenue shortfalls at the end of the 2014 fiscal year that threw their 2015 budgets out of balance. Efforts to balance these budgets relied disproportionately on non-recurring revenue, in turn creating difficulties for their 2016 budgets.

Kansas cut taxes sharply in 2012 and 2013. In addition to the April 2014 income tax shortfall, it has had several rounds of subsequent significant revenue shortfalls. It faces difficult choices about the extent to which it should cut spending or modify elements of the tax cuts.

Illinois, Kentucky, New Jersey and Pennsylvania are struggling to accommodate increasing pension contributions that are required due to investment shortfalls and years of contribution underpayments.¹⁷

Falling oil prices are a threat to the finances of several oil producing states, either directly through their impact on severance taxes, or through their impact on the broader state economy. Alaska, Louisiana, New Mexico and Oklahoma are addressing revenue shortfalls or slowing revenue growth related to the drop in the price of oil. While North Dakota and Texas are also oil-rich states, the falling oil prices have had less impact on these states. Texas has a wider and more diverse economy and is not solely reliant on the energy sector. And in North Dakota, the general fund is well insulated from the fluctuations of oil price and production. By law, only \$300 million of oil tax revenue is allowed to flow through to the general fund. The rest of the oil and gas tax collections are distributed to oil producing counties and tribes, as well as to several constitutional and statutory funds.

Looking ahead

State finances are tied closely to the economy. Major economic forecasters expect that the national economy will continue to improve throughout 2015 and 2016; inflation will be low, but gradually

Table D: The Congressional Budget Office projects continued economic improvement in a low-inflation environment, with gradually rising interest rates

Economic forecast for selected variables (Congressional Budget Office, January 2015)

	Calendar years			
	2014	2015	2016	2017
Growth rates (percentage change)				
Real GDP (inflation-adjusted)	2.3%	2.9%	3.0%	2.7%
Employment	1.8	1.9	1.3	1.0
Consumer prices (CPI-U)	1.7	1.1	2.2	2.3
Personal income	3.9	4.3	4.8	4.9
Wages	4.3	4.3	4.7	4.7
Non-wage personal income	3.2	4.0	4.1	5.0
Capital gains (not included in personal income)	18.5	5.2	0.2	2.1
Rates (percent)				
Unemployment rate	6.2	5.6	5.4	5.3
3-month Treasury bill	0.0	0.2	1.2	2.6
10-year Treasury note	2.6	2.8	3.4	3.9

Sources: Congressional Budget Office, *The Budget and Economic Outlook: 2015 to 2025*, January 2015, www.cbo.gov/publication/49892. (Files: 45066-2015-01-EconomicDataProjections2.xlsx and 45069-2015-01-BudgetDataProjections2.xlsx)

rising, and interest rates will rise slightly.¹⁸ The Congressional Budget Office's January 2015 forecast is in line with this consensus (see Table D).¹⁹

This forecast suggests relatively slow growth in tax revenue.

Income taxes generally grow faster than the economy. As incomes rise due to inflation and productivity increases, more income is taxed at higher rates. Capital gains and other financial market income can alter income tax growth substantially, but CBO forecasts that capital gains will grow only slightly faster than income in 2015, and more slowly in later years.²⁰

Retirement income—including federally taxable portions of pensions, Social Security income and IRA distributions—is another potential source of faster growth. It has been driven upward by an aging population and, in the case of IRA distributions, growth in financial assets. Between 2007 and 2012 wages grew by 7 percent, but these income sources grew by 35 percent.²¹ However, most states exempt some of this federally taxable income in an apparent effort to lure seemingly footloose senior citizens, despite the absence of evidence that state income tax breaks affect elderly migration.^{22, 23} Illinois, arguably the most fiscally stressed state, exempts all retirement income from tax, including IRA distributions.²⁴

General sales taxes have been growing more slowly than the economy for more than 40 years.²⁵

This is a result of the difficulty in taxing services and of collecting tax on Internet sales, among other things. Slow sales tax growth is likely to continue.

Selective sales taxes and licenses—such as taxes on cigarettes, motor fuel and alcohol—usually are based on the quantity of the good sold (for example, 15 cents per gallon of gas or \$3 per pack of cigarettes), rather than on the sales price. Two of the largest selective sales taxes, motor fuel taxes and cigarette taxes, have long-term downward trends. Fuel economy improvements have led to declines in gasoline consumption, while cigarette consumption has declined in response to government efforts to reduce smoking. In aggregate, these taxes generally decline except when increased legislatively.

Income, general sales, and selective sales and license taxes account for nearly 90 percent of state taxes. The current economic environment suggests that slow growth is likely for these taxes.

Conclusion

The slow economic recovery, a fall-off in capital gains and a reluctance to raise taxes have combined to depress state tax revenue compared to past recoveries. States also have had to make room for Medicaid spending driven by recession-induced enrollment increases. The result has been years of cuts in infrastructure spending, government employment, education and other areas, which in turn appear to have created pent-up demand,

pressure to restore some cuts, and reluctance to cut spending much further.

These pressures have been exacerbated by special circumstances in many states—circumstances that mostly increase fiscal stress. Several states need to increase pension contributions significantly to pay now for services delivered in the past, driven by years of shirking and by investment income shortfalls. A few states are struggling to live within the confines of large tax cuts. Other states face pressures to find revenue to fund transportation. Many oil producing states are finding their economies out of phase with the national recovery, facing new revenue shortfalls while most other states' revenue has stabilized.

The net result of these forces has been budget shortfalls in several states and fiscal stress in many.

Looking forward, mainstream economic forecasts for 2015 for the U.S. as a whole call for low inflation, with nominal income growth in the 4 to 5 percent range. Absent booming financial markets or other special factors, income and sales tax revenue growth for the U.S. is unlikely to fall far outside the 4 to 5 percent range—on the high side in the case of income taxes and on the low side in the case of sales taxes. This is not likely to be enough to restore spending cuts, fund infrastructure expansion, pay for Medicaid growth and cover the costs of past promises. States face difficult choices in the midst of growth.

Notes

¹The recovery from the 2001 recession was historically weak but, employment did get more than 4 percent above its prior peak. Seven years after the start of that recession, employment was again heading downward, reflecting the onset of the Great Recession. The graph does not show the 1981 recession separately; rather, it is included in the period after the 1980 recession.

²We use the four-quarter moving average of tax revenue, adjusted for inflation with the gross domestic product price index from the U.S. Bureau of Economic Analysis. As with our analysis of economic recoveries, we treat the 1981 recession as part of the 1980 recession.

³We have written about these gyrations and the incentives that caused them in several state revenue reports during the relevant time period, available at http://www.rockinst.org/government_finance/.

⁴Authors' calculations from Table 2. Individual Income and Tax Data, by State and Size of Adjusted Gross Income, Tax Year 2012, Statistics of Income, Internal Revenue Service, 12in54cm.xlsx, http://www.irs.gov/file_source/pub/irs-soi/12in54cm.zip and http://www.irs.gov/file_source/pub/irs-soi/12in54cm.csv.

⁵"States' Revenue Estimating: Cracks in the Crystal Ball" (Pew Center on the States and Rockefeller Institute of Government, March 2011). Donald J. Boyd and Lucy Dadayan, *State Tax Revenue Forecasting Accuracy* (The Nelson A. Rockefeller Institute of Government, September 2014), http://216.7.28.163/pdf/government_finance/state_revenue_report/2014-09-30-Revenue_Forecasting_Accuracy.pdf. Managing Volatile Tax Collections in State Revenue Forecasts (The Pew Charitable Trusts and the Nelson A. Rockefeller Institute of Government, March 2015), http://www.pewtrusts.org/~media/Assets/2015/03/State_RevenueForecastingReportARTFINALv4web.pdf?la=en.

⁶The table is based on data reported in the *Fiscal Survey of the States*, compiled annually by the National Association of State Budget Officers and the National Governors Association, supplemented with information from state sources for selected large actions taken outside of the survey periods. We have divided years into episodes of response to boom and bust based upon clear patterns in the data. We adjusted for inflation using the gross domestic product price index from the U.S. Bureau of Economic Analysis.

⁷Asha W. Agrawal and Hilary Nixon, "What Do Americans Think about Federal Transportation Tax Options? Results from Year Five of a National Survey," Mineta Transportation Institute, no. Report 12–36 (June 2014), http://works.bepress.com/cgi/viewcontent.cgi?article=1005&context=hilary_nixon.

⁸The data are adjusted for inflation using price indexes specific to each category. Price indexes were chosen based on conversations with staff of the BEA.

⁹Much of the decline in real state and local government infrastructure spending in the late 2000s and early 2010s was not a decline in "effort" by state and local governments, but rather reflected increases in the prices of goods and services needed to build and maintain infrastructure. (See *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* (Congressional Budget Office, March 2015).) According to CBO, real transportation and water infrastructure capital spending fell 23 percent from 2003 to 2014 when adjusted for inflation using input price indexes. However, when adjusted using the GDP price index, real infrastructure spending actually rose by 11 percent (authors' calculations). Put differently, state and local governments were trying harder, but getting less for their money due to input price increases.

¹⁰Authors' analysis of data in Table 203.10 of the 2013 Digest of Education Statistics, National Center for Education Statistics.

¹¹Pension contributions vary greatly around the country. In general they are a larger share of local government budgets than state budgets, and in some states they are increasingly important.

¹²Spending on higher education includes spending from tuition and fees as well as from direct support.

¹³Michael Mitchell, Vincent Palacios, and Michael Leachman, "States Are Still Funding Higher Education below Pre-Recession Levels," Center on Budget and Policy Priorities, 2014, <http://www.cbpp.org/files/5-1-14sfj.pdf>.

¹⁴Rachel Garfield et al., *Trends in Medicaid Spending Leading up to ACA Implementation* (Kaiser Commission on Medicaid and the Uninsured, February 2015), <http://files.kff.org/attachment/issue-brief-trends-in-medicaid-spending-leading-up-to-aca-implementation>.

¹⁵Authors' analysis of Current Employment Statistics from the U.S. Bureau of Labor Statistics.

¹⁶For prisoner statistics, see E. Ann Carson, *Prisoners in 2013* (U.S. Bureau of Justice Statistics, September 2014).

¹⁷For pension contribution underpayments see Chris Mier, *Twelfth Annual Public Pension Funding Review* (Loop Capital Markets, September 2014).

¹⁸See <http://projects.wsj.com/econforecast/> and <http://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/> for surveys of major forecasters, and see <http://online.wsj.com/public/resources/documents/wsjecon0315.xls> for the latest forecasts available at this writing.

¹⁹We use the CBO forecast because it is a well-regarded high-quality forecast developed from an internally consistent model, and because CBO publishes details that are useful for analysis of tax revenue. It is not necessarily likely to be more or less accurate than other forecasts. *The Wall Street Journal* and the Philadelphia Federal Reserve Bank surveys report averages of major forecasts, and thus their reported numbers are not produced by a single internally consistent model. This makes them less useful for revenue analysis than the CBO forecast.

²⁰For useful discussions of these issues see D.J. Boyd and L. Dadayan, "Revenue Declines Less Severe, But States' Fiscal Crisis Is Far From Over," *State Revenue Report* (The Nelson A. Rockefeller Institute of Government, April 2010); David L. Sjoquist, Andrew V. Stephenson, and Sally Wallace, "The Impact of Tax Revenue from Capital Gains Realizations on State Income Tax Revenue and Budget Conditions," *Public Budgeting and Finance*, Winter 2011; and Norton Francis and Sarah Gault, *Federal Tax Policy Uncertainty and State Revenue Estimates*, State and Local Finance Initiative (Urban Institute, March 2015), <http://www.urban.org/UploadedPDF/2000125-federal-tax-policy-uncertainty-and-state-tax-revenue-estimates.pdf>.

²¹Authors' calculations from Table 2. Individual Income and Tax Data, by State and Size of Adjusted Gross Income, Statistics of Income, Internal Revenue Service, various years, and http://www.irs.gov/file_source/pub/irs-soi/12in54cmcsv.csv.

²²Karen Smith Conway and Jonathan C. Rork, "No Country for Old Men (or Women)—Do State Tax Policies Drive Away the Elderly?," *National Tax Journal* 65, no. 2 (2012): 313–56.

²³Karen Smith Conway and Jonathan C. Rork, "State Income Tax Preferences for the Elderly," *Andrew Young School of Policy Studies Research Paper Series*, no. 07–20 (2007), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=989660. Ron Snell, *State Personal Income Taxes on Pensions and Retirement Income: Tax Year 2010* (National Conference of State Legislatures, February 2011), <http://www.ncsl.org/documents/fiscal/taxonpensions2011.pdf>.

Note that exemptions for IRA distributions appear to be less common than exemptions for pension or Social Security income.

²⁴Jeffrey R. Brown, *Including Retirement Income in the Illinois Income Tax Base*, Illinois Budget Policy Toolbox (University of Illinois Institute of Government and Public Affairs, February 27, 2014).

²⁵John L. Mikesell, "The Disappearing Retail Sales Tax," *State Tax Notes*, March 5, 2012.

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