

No. 10-48
August 2010

WORKING PAPER

STATE SPENDING RESTRAINT: An Analysis of the Path Not Taken

By Matthew Mitchell

MERCATUS CENTER
George Mason University

The ideas presented in this research are the author's and do not represent official positions of the Mercatus Center at George Mason University.

State Spending Restraint: An Analysis of the Path Not Taken

By Matthew Mitchell, Research Fellow, Mercatus Center at George Mason University¹

State and local government spending has grown at a remarkable clip over the last half-century. Since the close of World War II, aggregate state and local spending grew 34 percent faster than the private sector and 37 percent faster than federal government spending. In recent years, the difference in growth rates has widened. From 2000 to 2009, state and local government spending grew nearly twice as fast as the private sector (while over the same period, the federal government grew even faster). Spending growth has not been uniform across spending categories, and Medicaid spending is by far the fastest-growing component of state expenditures. In this paper, I review some of these trends and then estimate what would have happened under an alternate scenario in which spending growth had been restrained. I look at the ten states with the largest FY2009 budget gaps and the ten states with the largest FY2010 budget gaps. Because six states make both lists, I analyze fourteen states in total. For each, I estimate what its FY2009 spending level would have been had its budget grown at the pace of population growth and inflation, beginning in two periods: 1987 and 1995. In twelve of the fourteen states, the entire FY2009 budget gap would have been avoided had the state kept spending at real 1995 per capita levels. In thirteen of the fourteen states, the budget gap would have been avoided had the state kept spending at real 1987 per capita levels. I conclude by reviewing some state-level institutional reforms that may be able to restrain the growth of state governments. But given the prominent role that Medicaid plays in state spending growth and given the fact that the program is financed jointly by the states and the federal government, reform may need to be addressed at the federal level as well.

Section I. State and Local Government Growth in Perspective

State and local government spending has grown at a remarkable pace over the last 60 years.

Figures 1 through 3 show (over various periods) the average annual growth rates in gross domestic product (GDP), private GDP, federal spending, and aggregate state and local spending.² Each of these figures is in real terms; that is, each is adjusted for inflation. Figure 1 indicates the average annual

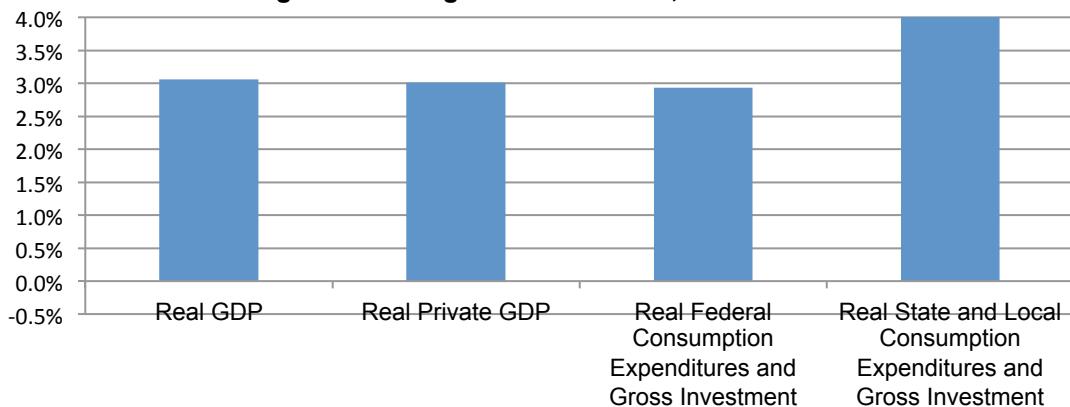
¹ Alex Johns and Mohamad Elbarasse provided excellent research assistance. I thank Tyler Cowen, Richard Williams, Eileen Norcross, Tate Watkins, Jennifer Zambone, and Claire Morgan for helpful comments. I bear full responsibility for any errors that remain.

² All of these figures are derived from the National Income and Product Accounts. These are the components of government purchases that are included in the government's calculation of GDP and it is the most consistent way to obtain an apples-to-apples comparison between government spending and other components of GDP. Private GDP is calculated by summing the non-governmental components of GDP: personal consumption expenditures, gross private domestic investment, and net exports of goods and services.

growth rates of these figures in the post-World War II era. For a medium-term perspective, Figure 2 shows the average annual growth rates since 1987 (which is a basis of my analysis below because it is the first year for which consistent detailed data are available on state spending). Lastly, Figure 3 shows the recent trend by focusing on the years since 2000. These figures illustrate a number of points that are worth noting.

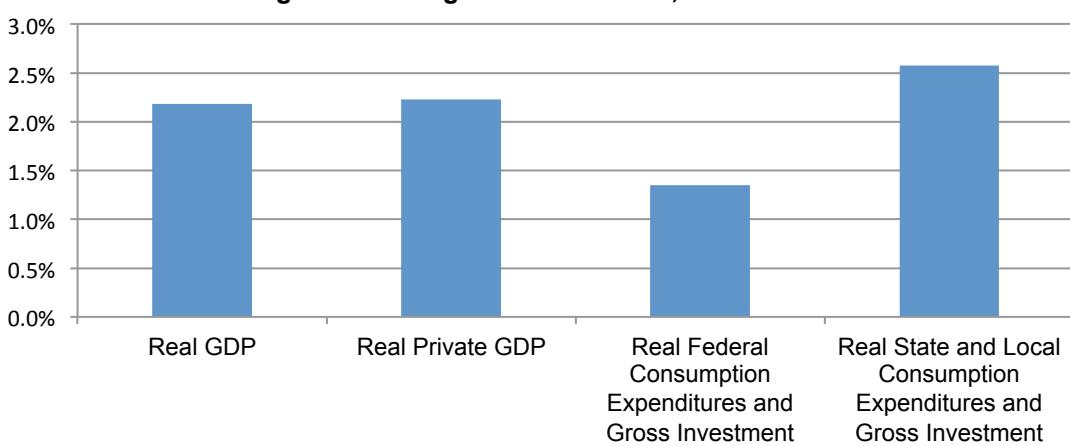
For one thing, irrespective of the period, real state and local spending growth has consistently outpaced growth in both real GDP and real private GDP. Because state and local governments depend on the private sector for their tax revenue, this path is not sustainable; state and local government spending cannot continually outpace the wealth-creating sector of the economy. Second, note that the gap between state and local spending growth and private sector growth has widened in the last decade. From 1950 to 2009, real state and local spending grew at an average annual growth rate of 4 percent, compared with 3 percent in the private sector (a 33 percent difference). But from 2000 to 2009, state and local spending grew at an average annual growth rate of 2.6 percent, compared with 1.4 percent in the private sector (a nearly 90 percent difference). Lastly, note that for most of the period, state and local government spending growth outpaced federal government spending growth. More recently, however, federal spending growth has accelerated, out-pacing state and local spending growth.

Figure 1. Average Annual Growth, 1950-2009



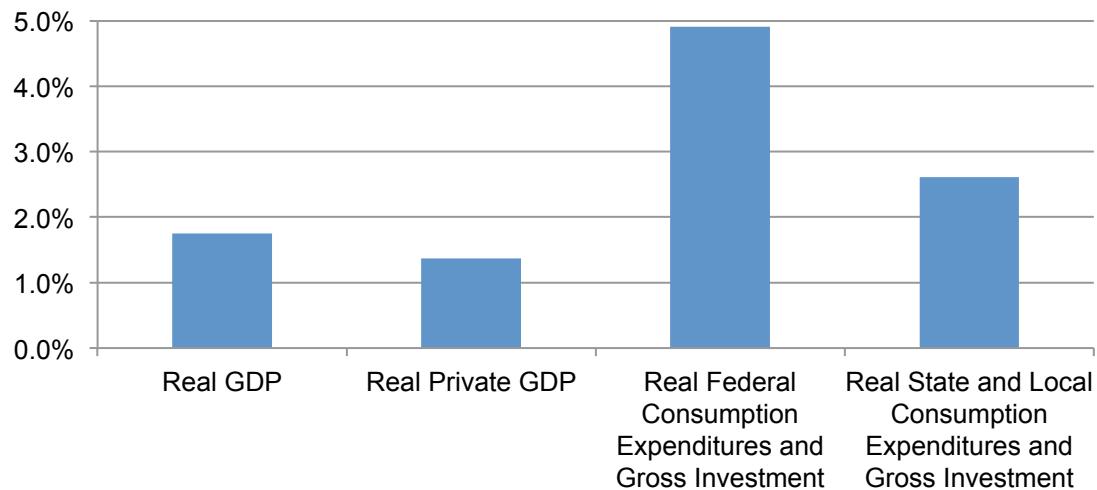
Source: Bureau of Economic Analysis, National Income and Product Accounts
Produced by: Mercatus Center at George Mason University

Figure 2. Average Annual Growth, 1987-2009



Source: Bureau of Economic Analysis, National Income and Product Accounts
Produced by: Mercatus Center at George Mason University

Figure 3. Average Annual Growth, 2000-2009



*Source: Bureau of Economic Analysis, National Income and Product Accounts
Produced by: Mercatus Center at George Mason University*

Growth in state government spending has not been uniform across categories. The National Association of State Budget Officers identifies seven broad categories of state spending: elementary and secondary education, higher education, transportation, Medicaid, cash assistance programs, corrections, and all other programs. The final category includes:

[T]he Children's Health Insurance Program (CHIP), institutional community care for the mentally ill and developmentally disabled, public health programs, employer contributions to pensions and health benefits, economic development, environmental projects, state police, parks and recreation, housing, and general aid to local governments.³

Figures 4 and 5, respectively, show aggregate state spending in 1987 and 2009 in the 7 categories.⁴ Most of the components of state spending were relatively constant as a share of total spending across these two periods. Medicaid's share of aggregate state spending, however, more than doubled from 10 percent in 1987 to 21 percent in 2009.

³ National Association of State Budget Officers, 2009, p. 72.

⁴ These figures include total state spending from the following sources: state general funds, federal funds allocated to states, bonds, and other state funding sources. 1987 is the earliest year for which consistent information is available by category.

Figure 4. Components of Aggregate State Spending, 1987

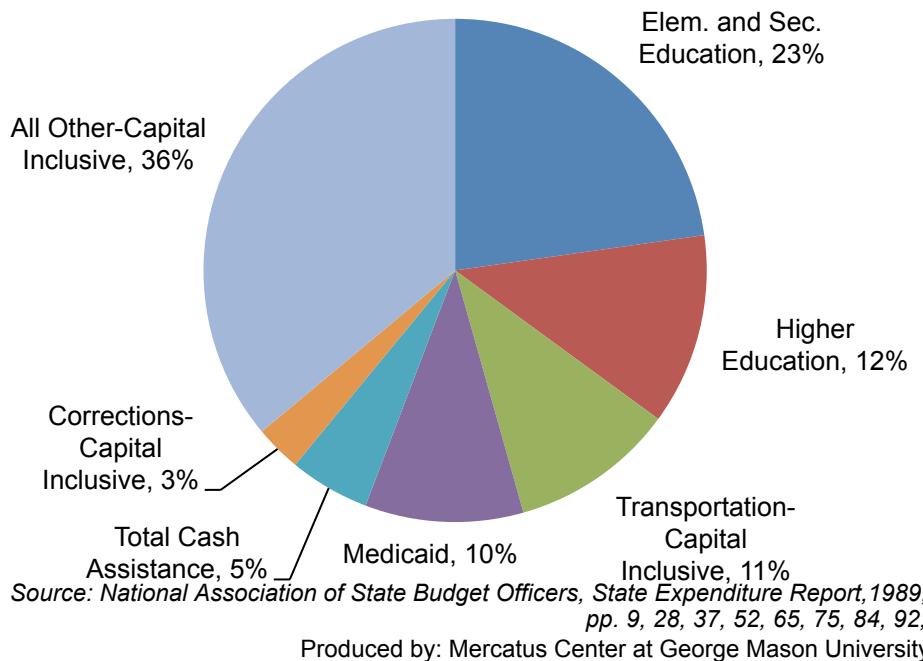
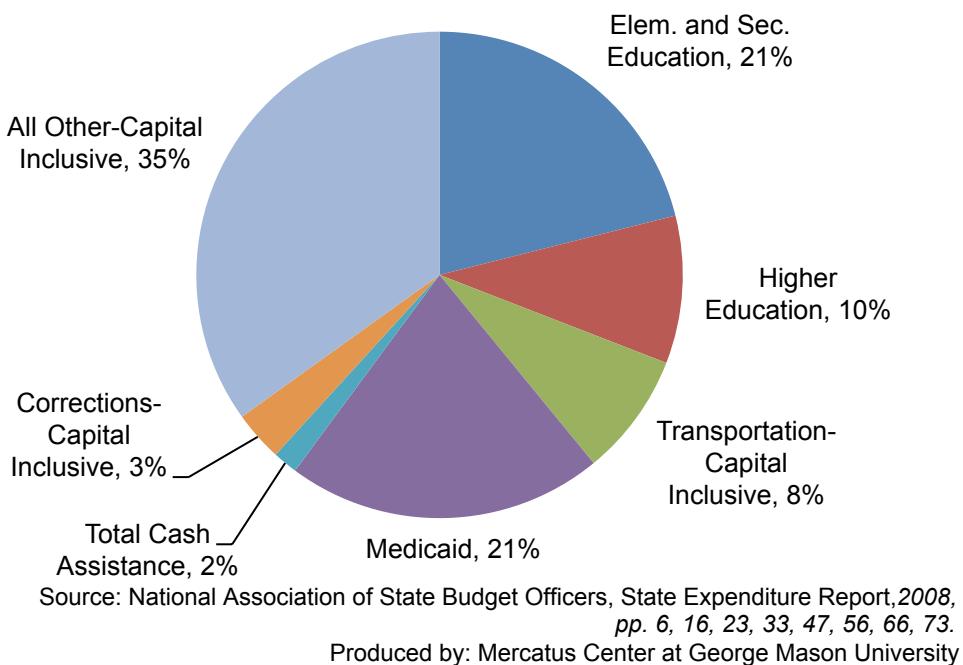
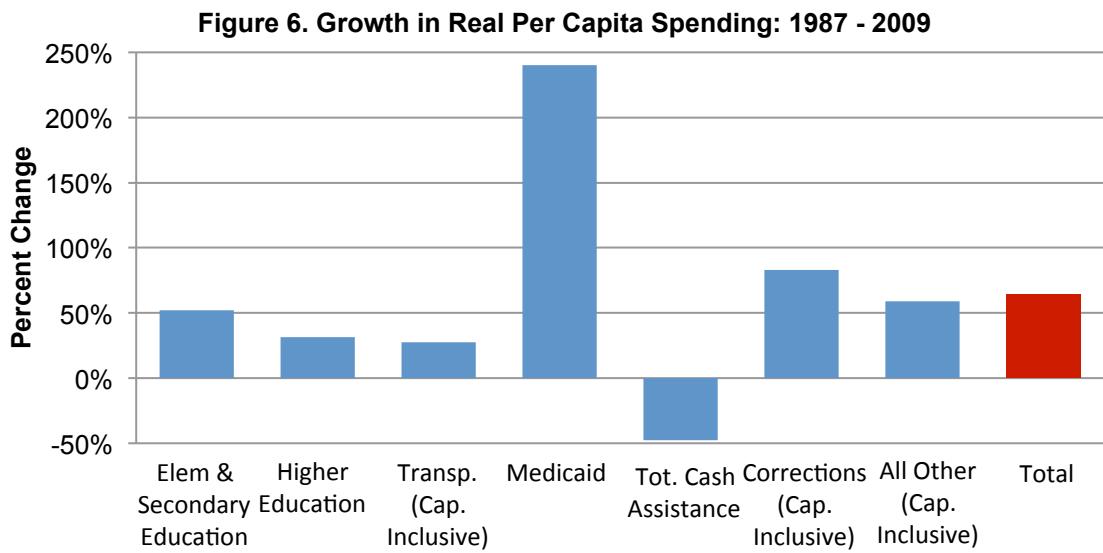


Figure 5. Components of Aggregate State Spending, 2009



How much has spending in each of these categories grown over time? Both inflation and population growth make some spending increases inevitable. To account for this, it is helpful to compare inflation-adjusted per capita spending across the two periods. Figure 6 plots the percentage change in real (i.e., inflation adjusted) per capita spending in each of the major categories from 1987 to 2009. Note, first, that total per capita spending increased 64 percent from 1987 to 2009. In other words, even after controlling for inflation and population growth, state governments spent 64 percent more per person in 2009 than they did in 1987.

Note, also, that Medicaid spending is, by far, the fastest-growing component of state spending. Collectively, states' real per capita spending on the program grew 240 percent from 1987 to 2009. Lastly, note that real per capita spending on total cash assistance declined over this period. This may be attributed to welfare reform in the 1990s or, perhaps, to policymakers' preference to spend marginal dollars on Medicaid instead of traditional welfare.



Sources: National Association of State Budget Officers, *State Expenditure Report, 1989*, pp. 9, 28, 37, 52, 65, 75, 84, 92; National Association of State Budget Officers, *State Expenditure Report, 2008*, pp. 6, 16, 23, 33, 47, 56, 66, 73; Bureau of Labor Statistics, *Consumer Price Index*; and U.S. Census Bureau, *Population Estimates*. Produced by: Mercatus Center at George Mason University

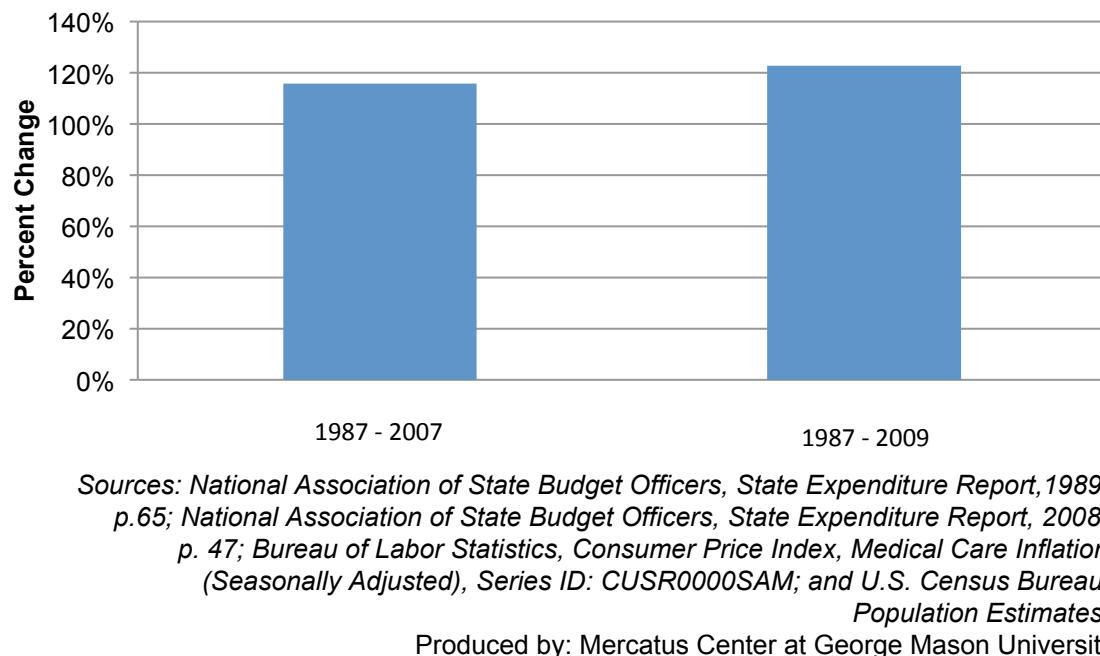
For many years, the price of medical services has grown faster than the price of other goods. For this reason, many have argued that governments are spending more on Medicaid not because they are choosing to cover more people or because they are choosing to expand services, but because the price of these services has gone up. To investigate this claim, we should adjust Medicaid spending for medical care inflation, not for general price inflation. Figure 7 does just that.

The right-hand column in Figure 7 uses medical inflation to plot the growth in real, per capita Medicaid spending from 1987 through 2009. The data suggest that there is, indeed, some truth to the claim that Medicaid spending has grown because healthcare prices have increased: when adjusting for health care price increases instead of general price increases, the growth in Medicaid spending is less-dramatic. Nevertheless, it is clear that spending on the program has grown significantly, even when the adjustment is made for medical care price increases. From 1987 to 2009, real per capita spending on Medicaid increased 123 percent.

Some of this rise in Medicaid spending is due to the recession, which has made more people eligible for the program. (According to the National Conference of State Legislatures, eighteen states had exceeded their Medicaid budgets half-way through the fiscal year.)⁵ To account for the impact of the recession, Figure 7 also indicates the growth in real per capita spending from 1987 through 2007: spending grew by 116 percent. Thus, even before the recession hit, states had dramatically increased real, per capita Medicaid spending.

⁵ National Conference of State Legislatures, 2009.

Figure 7. Growth in Real Per Capita Medicaid Spending, Controlling for Medical Care Inflation: 1987 - 2007 and 1987 - 2009



If the dramatic rise in Medicaid spending cannot be attributed to either general population growth or to medical care price inflation, what does explain it? Holahan and Yemane (2009) examined Medicaid spending growth, particularly in the years since 2000 and concluded:

Although Medicaid spending has grown faster than the rate of increase in national health spending, much of this is explained by increased enrollment.⁶

They report that from 2000 to 2007, Medicaid enrollment grew at an average annual rate of 4.2 percent.⁷ By comparison, the average annual increase in the general population over that time period was less than 1 percent. In their survey of recent Medicaid changes, Caughlin and Zuckerman (2008) found that, since 2001, 24 states expanded eligibility for Medicaid coverage (a few, such as Tennessee, cut eligibility). In some states but by no means all cases, the expansion was quite dramatic. According to Caughlin and Zuckerman:

⁶ P. 1453.

⁷ Pp. 1456-1457.

New York's 2001 amendment to its Partnership Plan, for example, broadened the share of parents and childless adults who were eligible for the public coverage from about 13 percent to 35 percent of the state's population.⁸

These expansions have not been targeted toward the least-advantaged. In fact, Caughlin and Zuckerman report that, "higher-income parents and childless adults have been the two major expansion groups."⁹

In summary:

- Irrespective of the period under consideration, state and local spending has consistently grown faster than both the private sector and the economy as a whole.
- For much of the time, state and local spending also grew faster than federal spending, though that pattern reversed in the last decade or so.
- Medicaid spending is, by far, the largest driver of state spending growth. The joint federal-state program grew by 116 percent from 1987 to 2007, even after controlling for population growth and for medical care inflation.
- The driving factor in Medicaid growth is rapid enrollment growth. This has been driven, at least in part, by eligibility expansions that have not been targeted toward the least-advantaged.

In the next section, I illustrate spending growth in fourteen states by way of a counterfactual: I examine the spending growth these states would have experienced had they held spending to the inflation-adjusted per capita levels that prevailed in two years: 1987 and 1995.

⁸ P. 223. See, also, Long, Graves and Zuckerman (2007).

⁹ P. 223.

Section II. State and Local Spending Restraint: A Counterfactual Analysis

Motivation for Research

There are three reasons for undertaking the following counterfactual exercise. For one thing, it offers an intuitive frame of reference for state spending growth. If state spending had grown no faster than the rate of inflation and population growth, then it would have held constant in real per capita terms. The counterfactual exercise illustrates the degree to which states have increased spending in real per capita terms since then.

Secondly, the exercise illustrates an important principle of spending limitation: budget shocks can entail less pain if a state has limited its government spending growth over the long run. Many states allowed their spending to grow rapidly, outpacing the economy's ability to produce wealth, and then had to make painful budget cuts and revenue increases when the recession hit. (In recent research, I found that states whose spending levels grew faster in the decades preceding the recession tended to experience larger budget gaps once the recession hit.¹⁰) The counterfactual illustrates an alternative: restrained and steady spending growth that keeps pace with inflation and population growth (and holds constant in real per capita terms).

Finally, this exercise shows what spending would have looked like if the states had adopted *and adhered to* one of the more restrictive forms of tax and expenditure limitation. Tax and expenditure limitations (TEL) are common throughout the states, but those that limit spending to inflation plus population growth are the most restrictive variety and are relatively rare. (Only Alaska, Utah, and

¹⁰ Mitchell, 2010.

Washington State currently have such limits, and in the case of Alaska and Utah, large portions of spending are exempt.¹¹⁾

Constructing the Counterfactual

Those states whose FY2009 budget gaps were the largest as a percentage of their general fund were: Arizona, California, Rhode Island, Florida, Nevada, New Jersey, Massachusetts, South Carolina, Connecticut, and Idaho. Early estimates suggest that those states whose FY2010 budget gaps were the largest as a share of their general fund were: California, Arizona, Nevada, Illinois, New Jersey, New York, Rhode Island, Kansas, Alaska, Oregon and Florida. Given the unusual revenue patterns of Alaska, I omit it from the analysis.¹² Note that six states make both lists: California, Arizona, Nevada, New Jersey, Rhode Island, and Florida.

It will be some time before we have a full picture of the FY2010 state budgets. For this reason, this analysis is based on FY2009 spending. The earliest year for which consistent data are available is 1987. For a more-recent frame of reference, I also perform a counterfactual analysis using 1995 as the base year.

There are a number of reasons to believe that state spending in 1987 and 1995 was not arbitrarily low, making these dates useful frames of reference. For one thing, these were not recessionary periods, so state revenue bases should not have been smaller than normal. In addition, unemployment during these periods was slightly higher than normal, meaning that state welfare expenditures were not arbitrarily low (the national unemployment rate averaged 6.9 percent from 1984 to 1987 and 6.5 percent from 1992 to 1995; the post World War II average is 5.7 percent).

¹¹ Colorado has an inflation plus population growth limit, but it has been suspended until 2011. See Waisanen (2010) for details.

¹² Alaska's unusually heavy reliance on energy severance taxes means that it exhibits extremely atypical spending patterns. It is standard practice in cross-state analyses to omit the state for this reason. See Crain, 2003, note 1, p 150.

For each state and for each of the two base years, I calculate two sets of figures: a state spending limit and an estimate of spending if such a limit were in place. The spending limit shows state spending if growth had been held to inflation plus population growth, starting in the base year. This calculation can be thought of as the maximum amount a state would be permitted to spend under such a limit. It is denoted in each of the figures below by the dashed blue line labeled “spending limit.”

To calculate the spending limit, I begin with the actual spending in each state in the base year (1987 or 1995). I use total state spending which includes money from state general funds, federal funds, bonds, and other state funds. In each of the years following the base year, the limit grows at the average annual growth rate of inflation plus the state’s population growth.¹³ Lastly, I convert all figures into 2008 dollars.

As an estimate of what a state would actually spend if such a limit were in force, however, this is unrealistic; it presumes that states will always spend up to their limit. But it is not unheard of for a state to spend less than what it would be limited to under a spending growth limit. Note, for example, that in Figure 13 below, Nevada spent less than its 1995-based limit for six years from 1995 to 2001. Moreover, state spending often falls from year to year (typically because revenue has fallen, but occasionally because of deliberate political decisions to cut spending). Presumably, under a limit, spending would still fall during those periods.

A more realistic estimate of state spending in the presence of a limit would allow for the possibility that states might not always spend up to the limit. This seems likely in years during which actual spending was less than prescribed by the limit, or when actual spending fell from one year to the next. To adjust for the possibility of such exogenous spending decreases, I calculate an additional figure which I call “estimated spending under the limit.” This is denoted by the solid blue line in each of the

¹³ State-specific population figures were unavailable for 2009, so I estimated the annual population increase in that year using the average annual increase in the preceding 10 years. The formal model appears in the appendix.

figures below. This figure assumes that if actual spending was less than that prescribed by the limit, then the state would spend the lower amount (see, for example, Nevada's estimated spending from 1995 to 2002 in Figure 13 below). Furthermore, it assumes that when actual spending falls, estimated spending under the limit would have also fallen by the same percent (see, for example, Figure 8 in which California's actual spending fell in 1992 and again in 2004; I assume that spending under the limit would also have fallen in those two periods). Once actual spending resumes and grows for two consecutive years, I assume that spending under the limit will adjust back up: rising to the level of the limit or to the actual spending level, whichever is less.¹⁴ Lastly, I use a CPI deflator to express these estimates in 2008 dollars.

Counterfactual Spending Estimates

In 1987, the fourteen states in this analysis spent, on average, \$3,353 per citizen (measured in 2008 dollars). At the time, state governments appeared to function reasonably well. The economy was growing at an impressive clip. Unemployment and poverty levels were near their post World War II averages. Importantly, there were no widespread protests that government had grown too small or that state spending needed to be dramatically increased. Yet, in the ensuing decades, state government spending rose dramatically. By 2009, these fourteen states were spending \$5,253 per citizen—a real per capita increase of 57 percent.¹⁵

In FY2009 and FY2010, as the recession pushed revenues lower and welfare spending higher, states encountered yawning budget gaps. Among the fourteen states in this analysis, the FY2009 gaps totaled \$77 billion and averaged 19 percent of the state general fund.¹⁶

¹⁴ The formal model is presented in the technical appendix.

¹⁵ Due to lack of data, Nevada's figure, as used to calculate this average, is from 2008.

¹⁶ McNichol and Johnson, 2010.

In examining the counterfactual spending path, I find that in twelve of the fourteen states, the entire FY2009 budget gap would have been avoided had the state kept inflation-adjusted spending at its 1995 per capita level. In thirteen of the fourteen states, the 2009 gap would have been avoided had the state kept inflation-adjusted spending at its 1987 per capita level. These figures are reported in table 1 below while real and alternative spending paths are depicted in the figures that follow.

Table 1. Budget Gaps and Alternative Spending Scenarios

	FY2010 Budget Gap	FY2009 Budget Gap	FY2009 Budget Gap	FY2009 Actual Expenditures	FY2009 Estimated Expenditures Holding to Real 1987 Per Capita Levels	FY2009 Estimated Expenditures Holding to Real 1995 Per Capita Levels
	(% of General Fund and rank)	(% of General Fund and rank)	(thousands of 2008\$)	(thousands of 2008\$)	(thousands of 2008\$)	(thousands of 2008\$)
California	65% (1)	37% (2)	\$37,100,000	\$210,336,354	\$133,185,460	\$142,646,054
Arizona	58% (2)	37% (1)	\$3,700,000	\$27,260,826	\$15,476,713	\$21,026,254
Nevada†	48% (3)	20% (5)	\$1,600,000	\$7,742,000	\$6,328,030	\$7,057,452
Illinois	41% (4)	15% (11)	\$4,300,000	\$48,720,040	\$36,439,787	\$40,479,789
New Jersey	38% (5)	19% (6)	\$6,100,000	\$49,602,216	\$28,544,641	\$34,721,312
New York	38% (6)	13% (16)	\$7,400,000	\$122,427,996	\$74,786,140	\$99,732,567
Rhode Island	33% (7)	27% (3)	\$872,000	\$7,640,483	\$3,310,603	\$5,173,616
Kansas	33% (8)	3% (42)	\$186,000	\$13,469,285	\$7,918,655	\$11,065,469
Oregon	29% (10)	7% (39)	\$442,000	\$24,654,582	\$15,989,047	\$16,902,520
Florida	29% (11)	22% (4)	\$5,700,000	\$65,978,852	\$46,090,418	\$63,540,047
Idaho	22% (28)	15% (10)	\$452,000	\$6,827,795	\$4,217,097	\$5,107,983
Massachusetts	18% (36)	19% (7)	\$5,200,000	\$45,843,907	\$30,671,346	\$28,593,847
Connecticut	27% (17)	16% (9)	\$2,700,000	\$25,186,304	\$14,341,509	\$19,914,449
South Carolina	20% (33)	16% (8)	\$1,100,000	\$20,687,815	\$13,473,252	\$16,955,596

Sources:

Author's calculations; McNichols and Johnson, 2010; and National Association of State Budget Officers, 2009.

Notes:

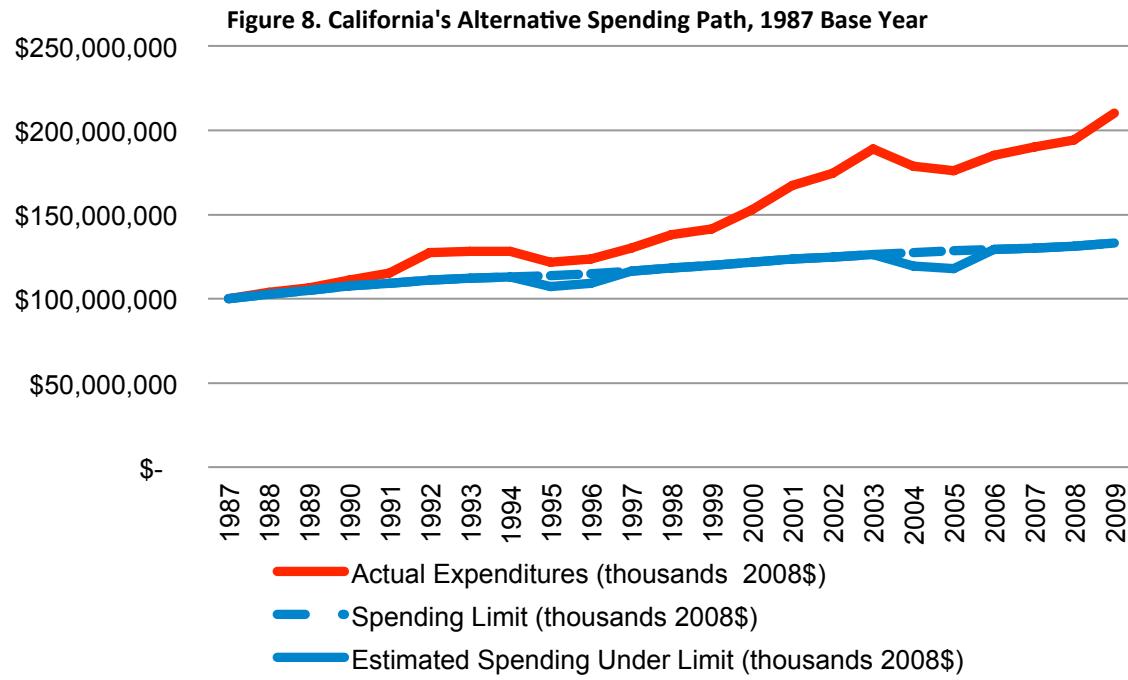
Bolded figures indicate those states whose budget gaps were among the ten largest in both FY2010 and FY2009 (Alaska excluded).

† Due to data limitations, Nevada's estimated spending is for FY2008.

1. California

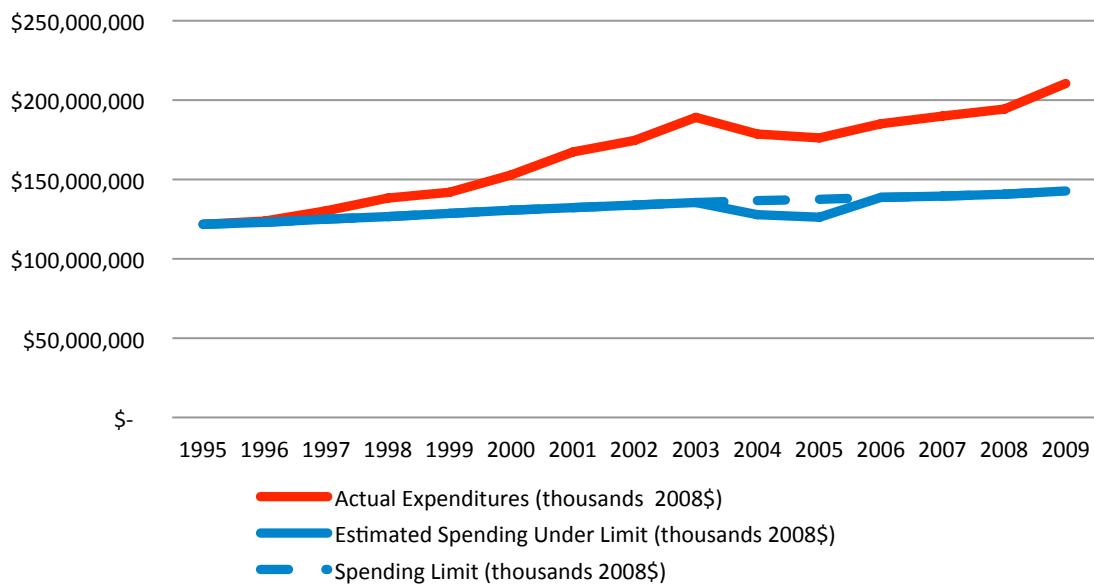
The red line in Figure 8 traces the actual path of California's budget from 1987 to 2009. Below that, the dashed blue line depicts a spending limit based on annual inflation and population growth. Finally, the solid blue line is an estimate of spending under such a limit; it makes allowance for the

possibility that California's budget might have had to adjust downward at certain times (for example, in 1995 when actual spending fell). Note that for much of the period, the solid blue line—estimated spending—coincides with the dashed blue line—the spending limit.



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.
Produced by: Mercatus Center at George Mason University

Figure 9. California's Alternative Spending Path, 1995 Base Year



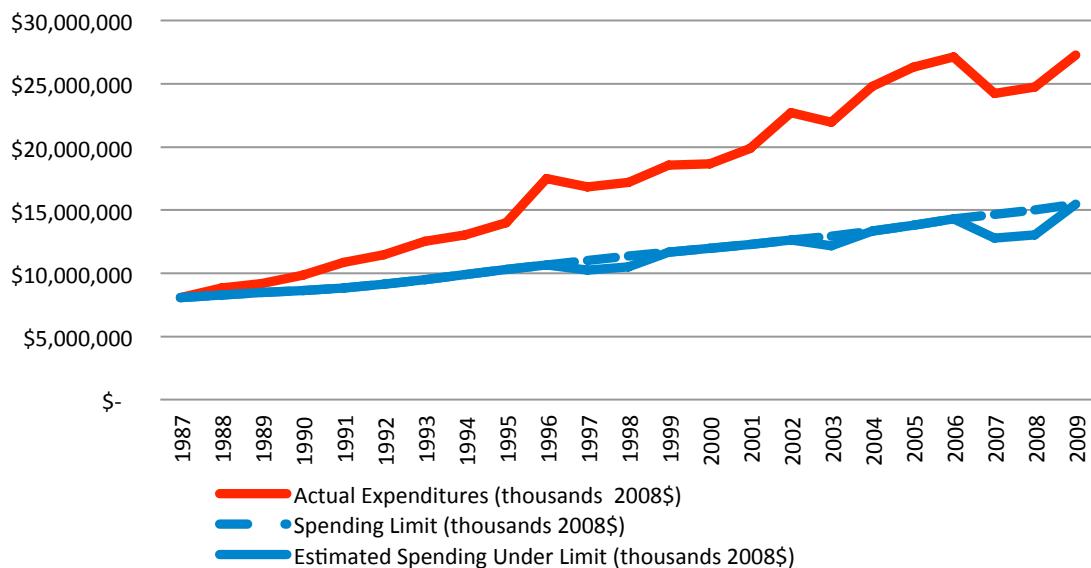
Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*. Produced by: Mercatus Center at George Mason University

In 2009, California's actual total expenditures amounted to \$210 billion (in 2008\$). If California had limited spending growth to inflation plus population since 1987, however, I estimate that its 2009 budget would have been \$133 billion, saving state taxpayers a total of \$77 billion. In other words, assuming revenue had followed its actual course, the state's entire \$54.6 billion budget gap in FY2009 would not have materialized.

In fact, spending restraint needn't have begun in 1987 for California to have avoided its FY2009 budget gap. If, starting in 1995, the state had limited spending growth to inflation plus population growth, the state would still have avoided its FY2009 budget gap. This alternative path is depicted in Figure 9. Under this scenario, I estimate that California's 2009 spending would have been \$143 billion, saving taxpayers \$68 billion and avoiding the entire FY2009 budget gap.

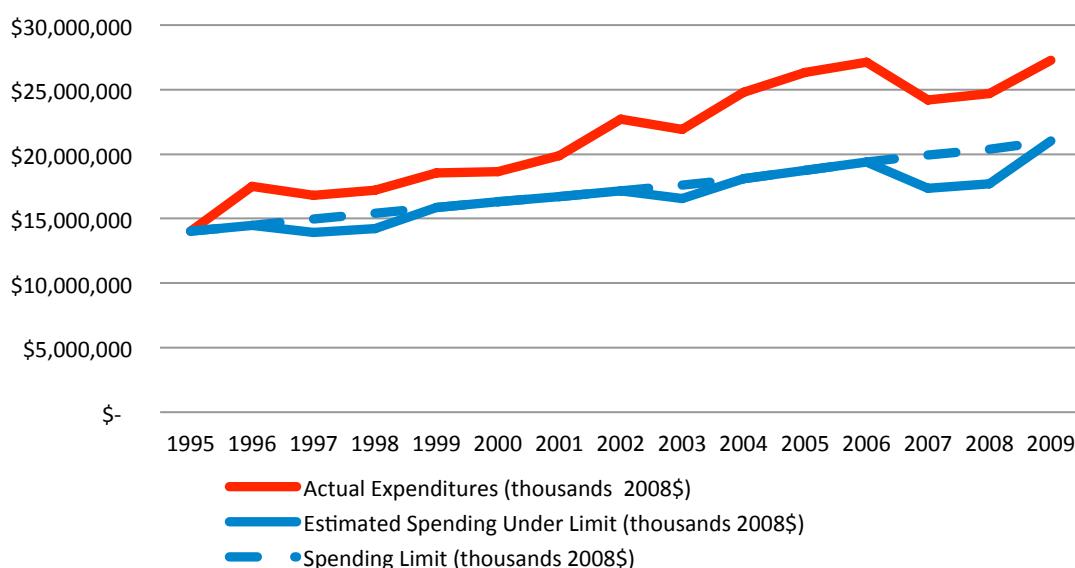
2. Arizona

Figure 10. Arizona's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.
Produced by: Mercatus Center at George Mason University

Figure 11. Arizona's Alternative Spending Path, 1995 Base Year

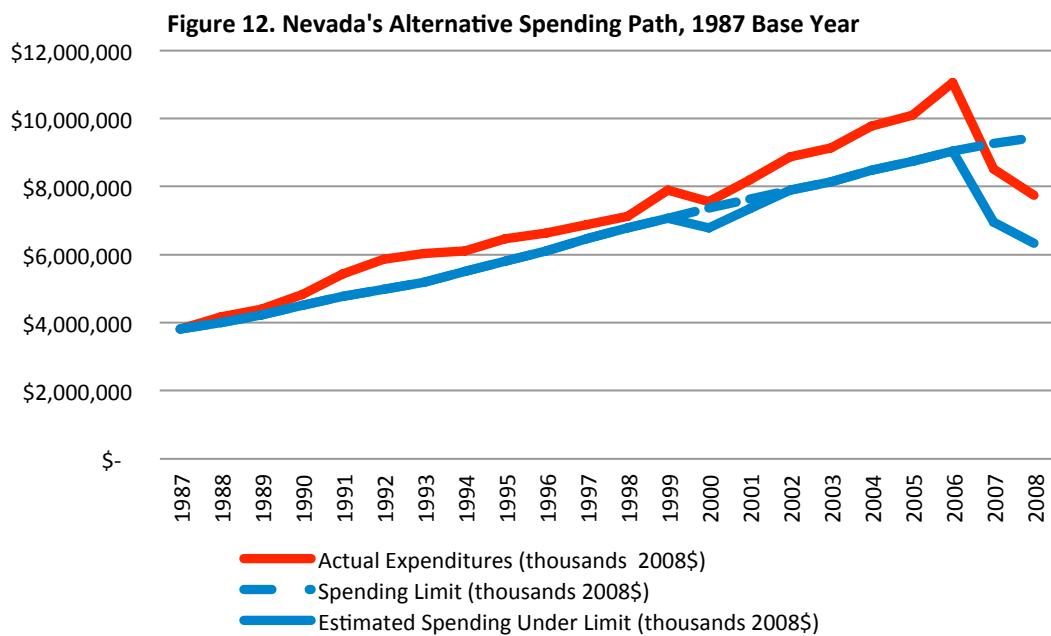


Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.
Produced by: Mercatus Center at George Mason University

Like its neighbor to the west, Arizona could have also avoided its budget gap altogether if it, too, had maintained its real 1987 per capita spending levels. This is illustrated in Figure 10 above. In 2009, Arizona's total expenditures were \$27 billion. If the state had maintained 1987 per capita spending levels, however, I estimate that its 2009 budget would have been \$15 billion. The difference, some \$6.7 billion, would have been more than enough to avoid Arizona's \$3.7 billion budget gap.

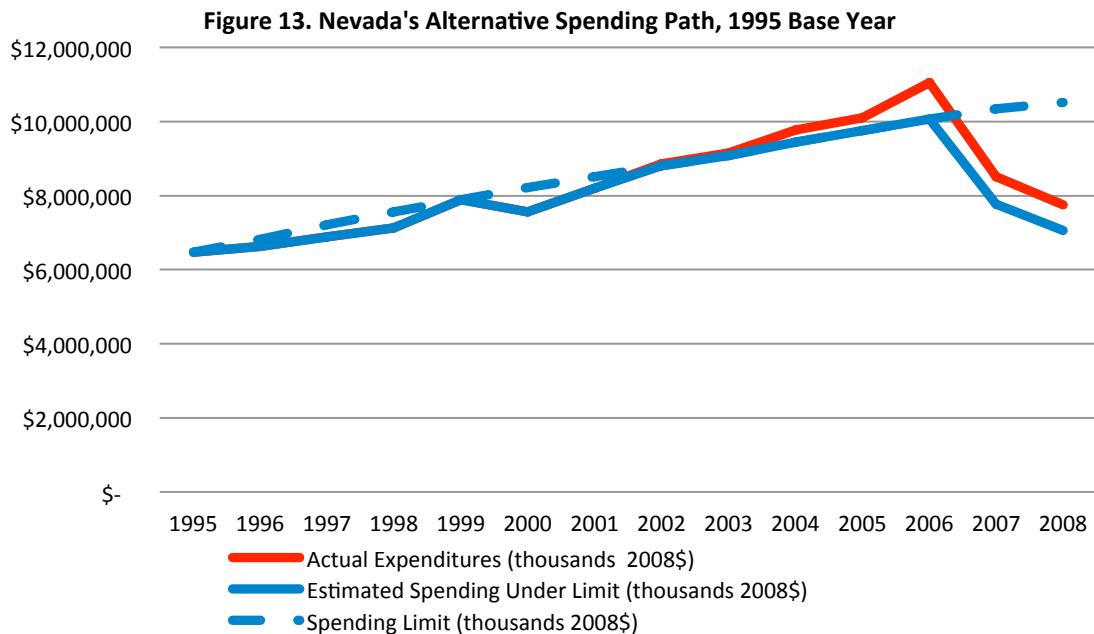
Similarly, if spending restraint had begun in 1995, and if revenue had followed its actual course, Arizona would still have avoided its FY2009 budget gap. This alternative path is depicted in Figure 11. I estimate that if, starting in 1995, Arizona had limited spending growth to the rate of growth in its population plus inflation, 2009 expenditures would have been \$21 billion, saving taxpayers \$6.2 billion and avoiding the \$3.7 billion budget gap in FY2009.

3. Nevada



Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*.

Produced by: Mercatus Center at George Mason University



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010. Produced by: Mercatus Center at George Mason University

Nevada's alternative spending path is instructive for another reason.¹⁷ Of all the state governments in the Union, Nevada grew the second-slowest in terms of per capita spending between 1987 and 2007 (only Iowa grew slower). As Figure 12 indicates, until 2000, the state's actual expenditures were little more than those prescribed by the 1987 base year limit and as Figure 13 indicates, the state's actual expenditures were *below* the 1995 base year limit from 1995 to 2001. This demonstrates that spending restraint is possible. Moreover, it is not inconsistent with economic prosperity: between 1987 and 2007, Nevada's nominal per capita income grew 615 percent—the largest increase of any state in the union. The state's per capita income levels are now among the highest in the nation.¹⁸ Unfortunately, even for the relatively spendthrift Nevada, the forces contributing to government growth were too powerful. Starting in 2001, actual expenditures began to exceed their

¹⁷ Nevada's 2009 spending level was unavailable, so the analysis is based on the period up to 2008.

¹⁸ Census Bureau.

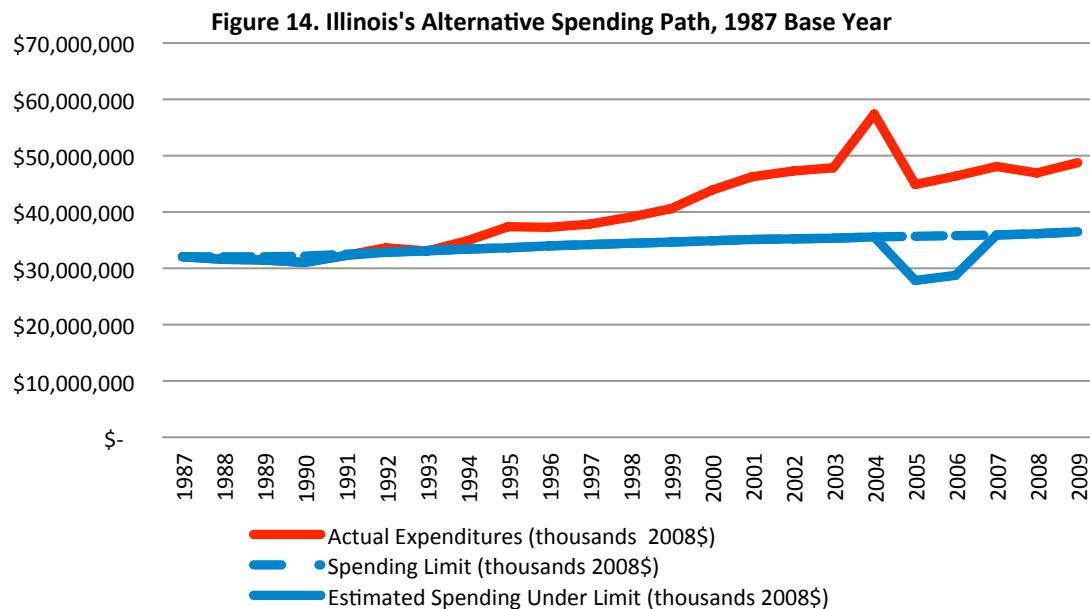
inflation-adjusted 1987 per capita levels. This, and a bursting housing bubble that hit the Silver State particularly hard, helped sow the seeds of a \$1.6 billion budget gap in FY2009.

Because, compared with other states, Nevada state spending has grown relatively slowly for the last two decades, it has less to gain from spending restraint. If, since 1987, Nevada state spending had grown at the same pace as inflation and population growth, I estimate that its 2008 budget would have been \$6.3 billion, just \$1.4 billion less than its actual \$7.7 billion budget.¹⁹ Still, assuming revenue would have grown at its actual course, this austerity would have permitted the state to cover 88 percent of its \$1.6 billion FY2009 budget gap.

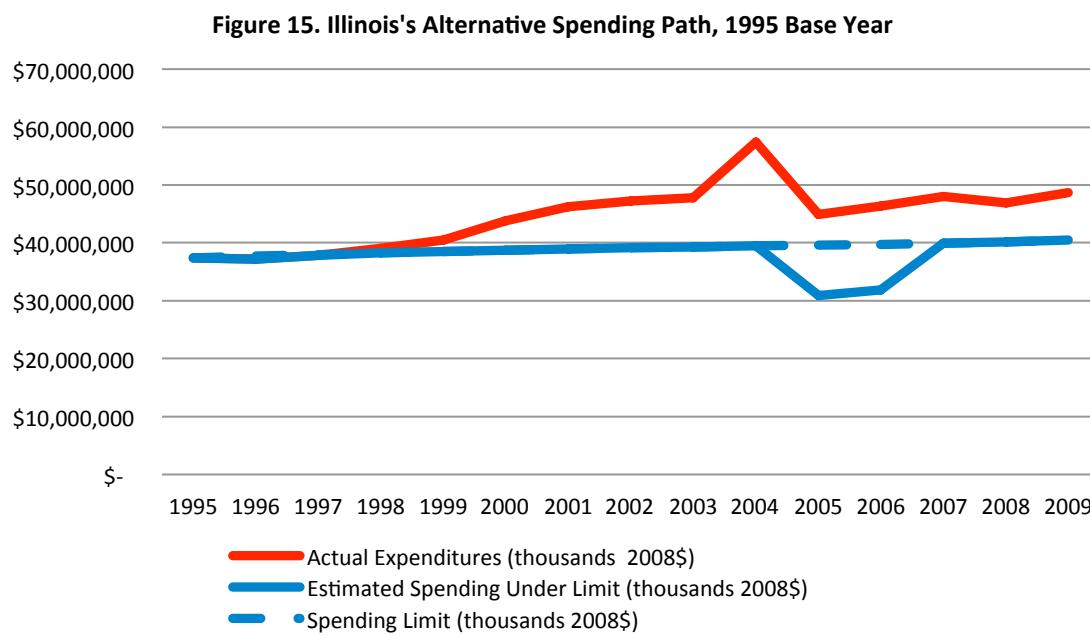
Similarly, if in 1995, Nevada had begun limiting spending growth to inflation plus population growth, the state's FY2009 budget gap would have been significantly smaller. I estimate that under such a scenario, the state's 2008 budget would have been about \$7 billion. This would have saved Nevadans nearly \$700 million, enough to have resulted in a budget gap that was 43 percent smaller.

¹⁹ Due to limitations in the NASBO data, Nevada's 2009 spending levels are unavailable at this point.

4. Illinois



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.
Produced by: Mercatus Center at George Mason University



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.
Produced by: Mercatus Center at George Mason University

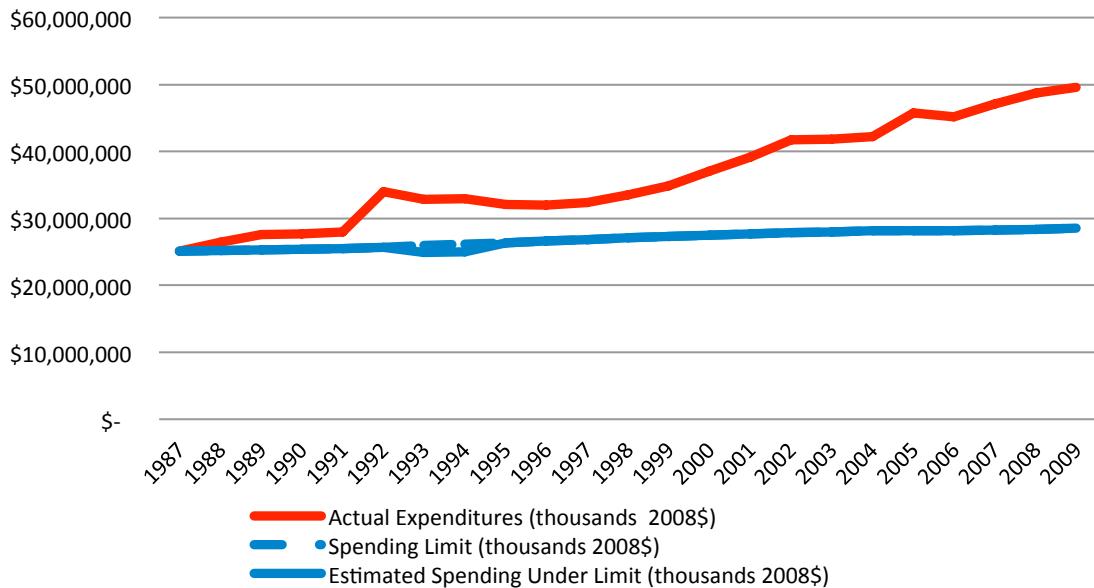
Figure 14 depicts Illinois's actual and counterfactual spending paths, based on a 1987 base year.

For a time, the state kept spending growth on pace with inflation and population growth. However, beginning in 1992, the state began exceeding its 1987 inflation-adjusted per capita spending level. Actual expenditures peaked in 2004 at \$57 billion (in 2008\$). By 2009, expenditures had fallen to nearly \$49 billion. Alternatively, I estimate that if the state had restrained spending to real 1987 per capita levels, its 2009 budget would have been \$36 billion. This means that if revenue had held its course, the entire 2009 budget gap could have been eliminated.

Similarly, budget restraint beginning in 1995 would have been enough to have avoided the FY2009 budget gap. This is illustrated in Figure 15. If spending restraint had begun in 1995, I estimate that Illinois's 2009 expenditures would have been \$40 billion. The difference is easily enough to have avoided the state's FY2009 budget gap.

5. New Jersey

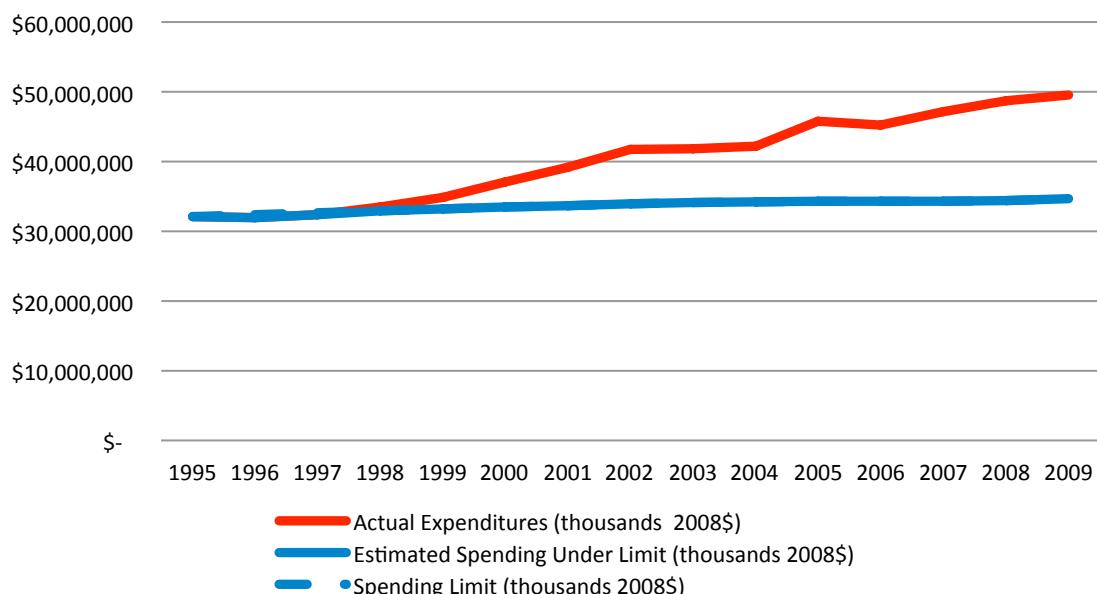
Figure 16. New Jersey's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*.

Produced by: Mercatus Center at George Mason University

Figure 17. New Jersey's Alternative Spending Path, 1995 Base Year



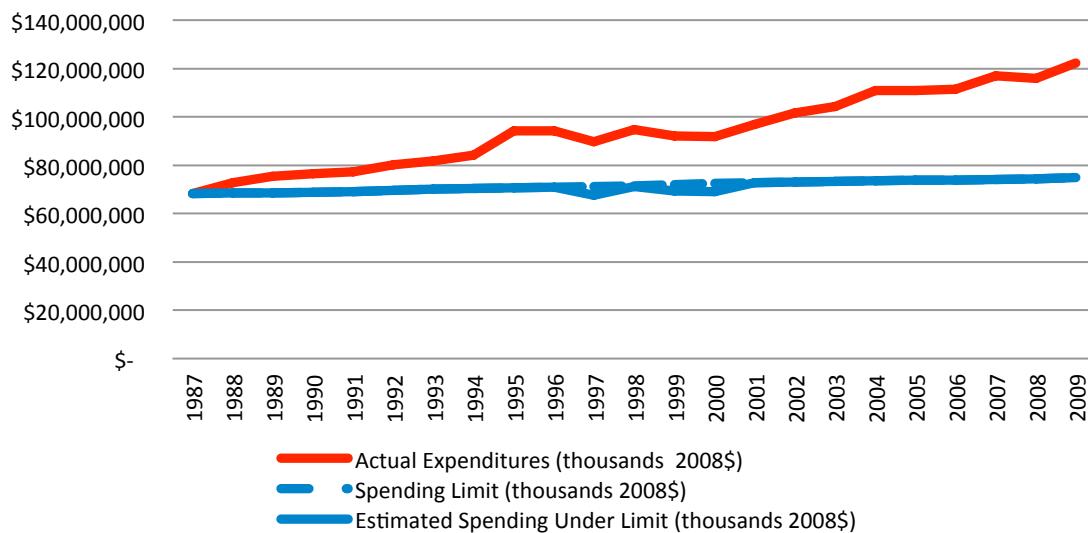
Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*. Produced by: Mercatus Center at George Mason University

New Jersey's alternative spending path is depicted in Figures 16 and 17. In 2009, the state's actual budget was \$49 billion. If the state had allowed spending to grow no faster than inflation and population growth since 1987, however, I estimate that its 2009 budget would have been about \$29 billion, saving the taxpayers some \$21 billion and allowing the state to avoid its 2009 budget gap altogether.

Similarly, if New Jersey had held spending growth to the rate of inflation plus population growth beginning in 1995, I estimate that its 2009 budget would have been \$35 billion, still more than enough to have avoided its budget gap, assuming revenue had followed its same course.

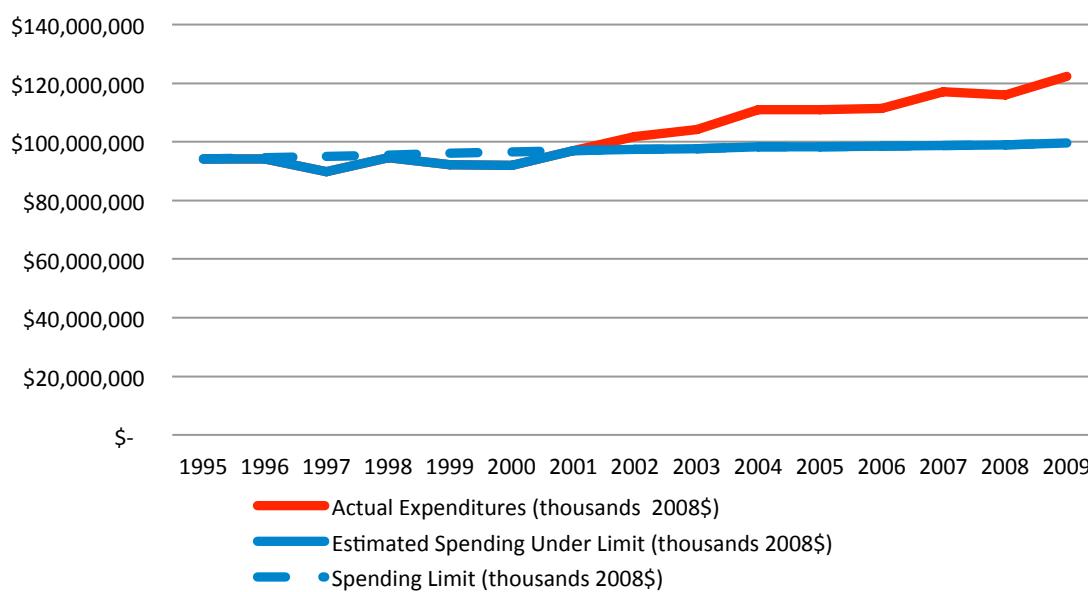
6. New York

Figure 18. New York's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.
Produced by: Mercatus Center at George Mason University

Figure 19. New York's Alternative Spending Path, 1995 Base Year

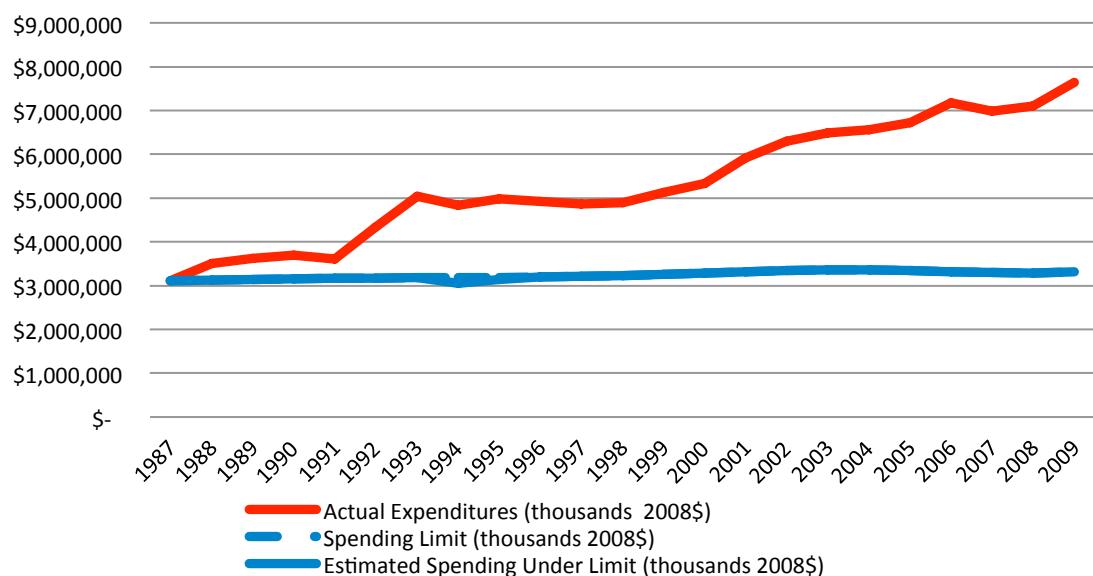


Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.
Produced by: Mercatus Center at George Mason University

Figures 18 and 19 plot the course of New York's spending as well as alternative, restrained, spending paths. New York's 2009 budget peaked at \$122 billion. If the state had maintained its 1987 per capita spending level, however, the budget would have been \$75 billion, saving the taxpayers \$48 billion. This would have been more than enough to close the state's \$7.4 billion budget gap. Similarly, if the state had begun limiting spending growth in 1995, its 2009 budget would have been \$100 billion. This, too, would have been sufficient to avoid its FY2009 budget gap.

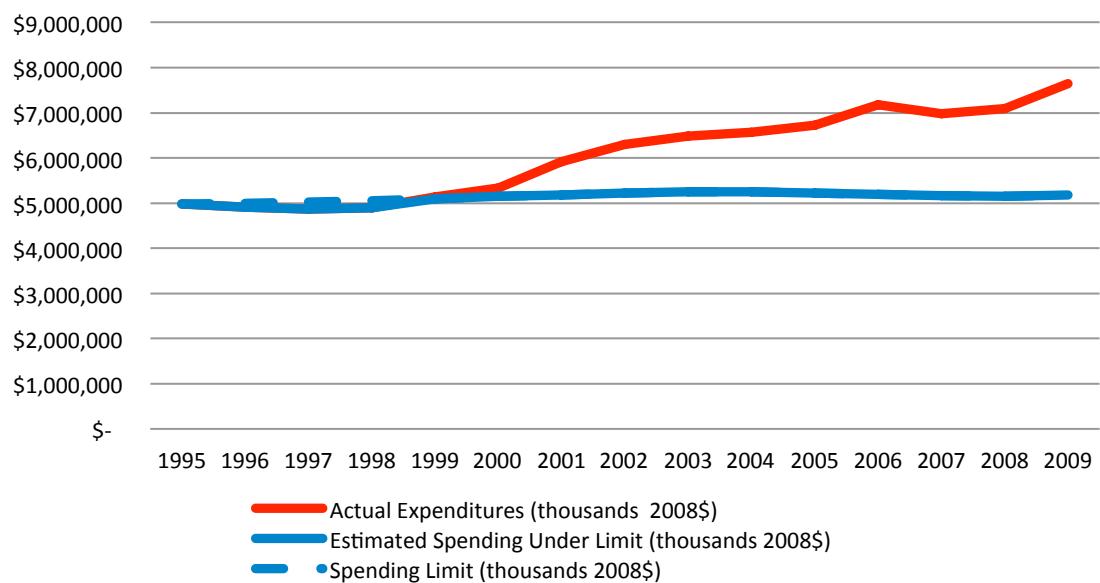
7. Rhode Island

Figure 20. Rhode Island's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*.
Produced by: Mercatus Center at George Mason University

Figure 21. Rhode Island's Alternative Spending Path, 1995 Base Year

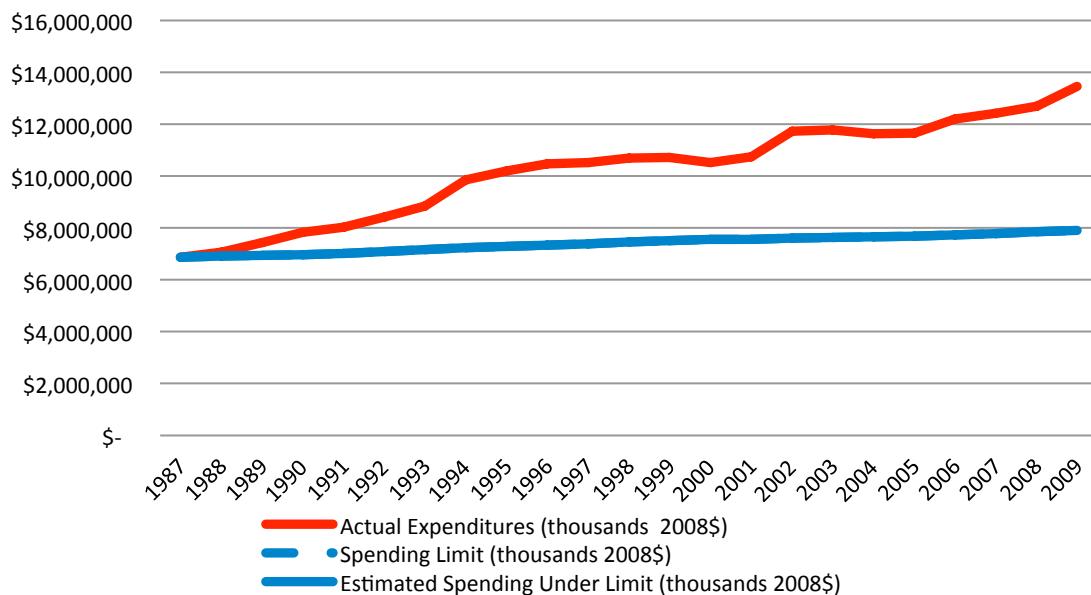


Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*. Produced by: Mercatus Center at George Mason University

Figures 20 and 21 trace the alternative path for Rhode Island. There, too, the entire budget gap could have been eliminated had the state maintained 1987 inflation-adjusted per capita spending levels. Rhode Island's 2009 expenditures were \$7.6 billion. If held to real 1987 per capita levels, however, the budget would have been less than half this amount: \$3.3 billion. This would have been more than enough to close the state's \$872 million gap. But as with other states, spending restraint needn't have begun in 1987 for the state to have avoided its budget gap. If held to real 1995 per capita spending levels, I estimate that the state would have spent \$5.1 billion in 2009. Assuming revenue would have followed its same course, the difference is still enough to have avoided the state's entire gap.

8. Kansas

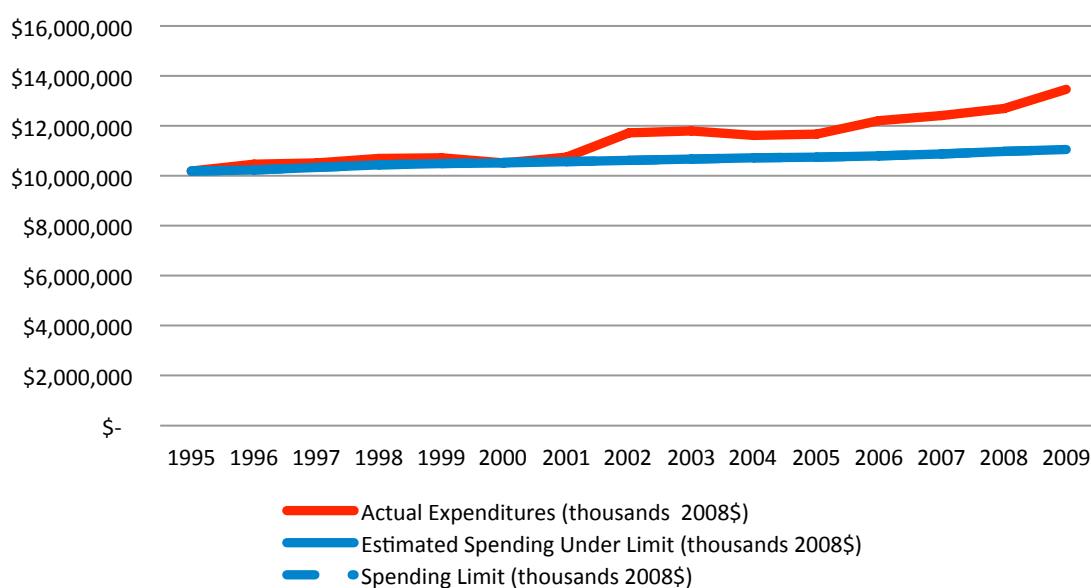
Figure 22. Kansas's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.

Produced by: Mercatus Center at George Mason University

Figure 23. Kansas's Alternative Spending Path, 1995 Base Year



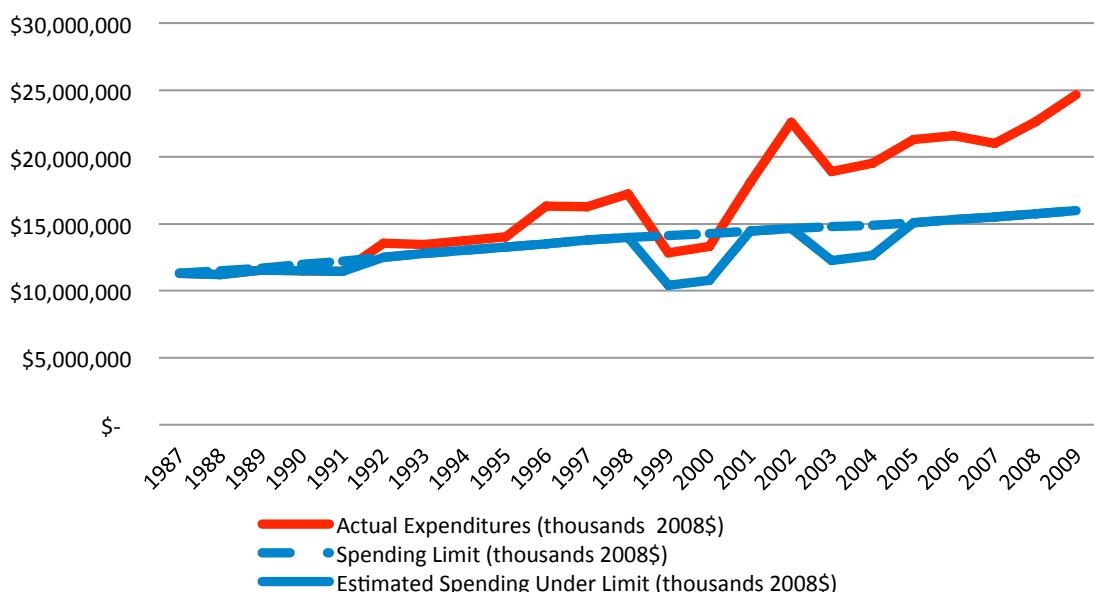
Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.

Produced by: Mercatus Center at George Mason University

The story in Kansas is much the same. It is illustrated in Figures 22 and 23. There, total expenditures reached \$13 billion in 2009. But if spending had grown no faster than inflation and population since 1987, the state's budget would have been \$7.9 billion, more than enough to close the \$186 million budget gap. Spending restraint beginning in 1995 would also have closed the gap. If the state had begun restraining spending growth in 1995, its 2009 budget would have been \$11 billion. Note that in Kansas, actual expenditures never decreased and never fell below the maximum level prescribed by the spending limit (using either base year). Thus, estimated spending under the limit is equal to the limit in every year of the calculation.

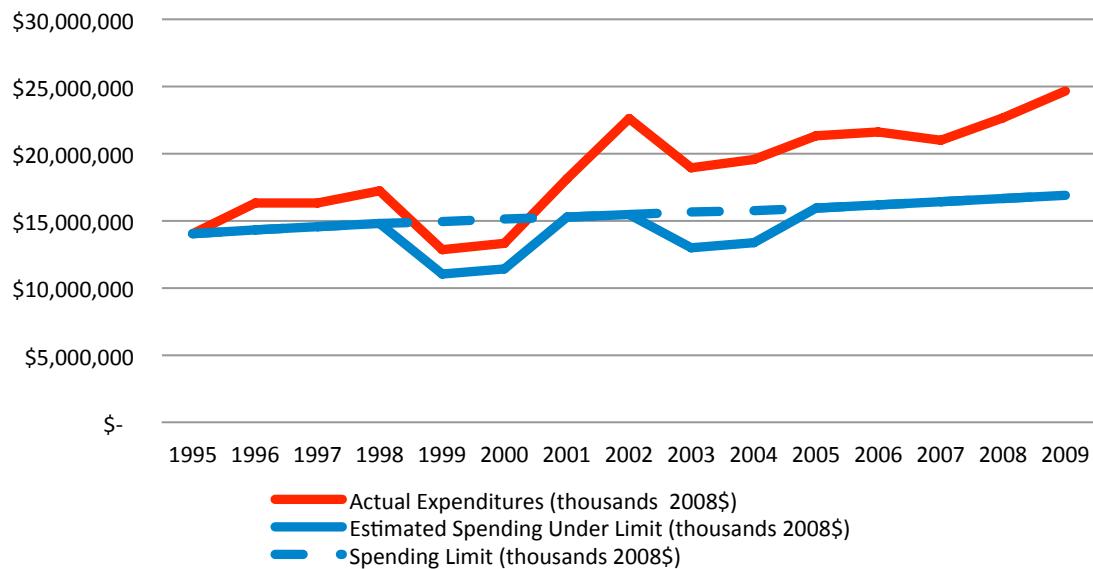
9. Oregon

Figure 24. Oregon's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*. Produced by: Mercatus Center at George Mason University

Figure 25. Oregon's Alternative Spending Path, 1995 Base Year

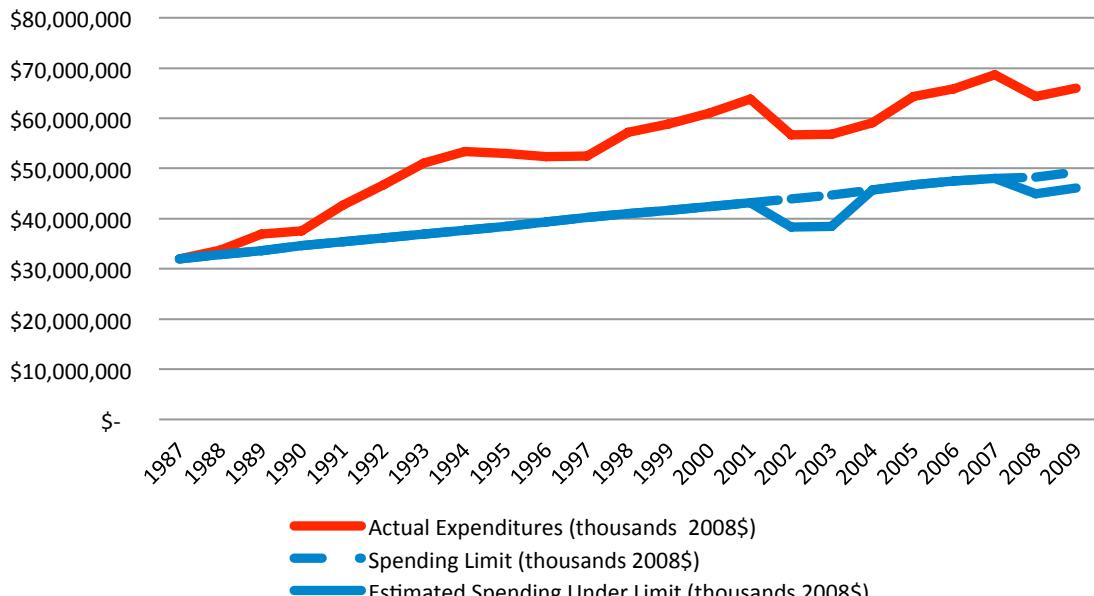


Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*. Produced by: Mercatus Center at George Mason University

As with Nevada, Oregon's spending path shows that spending restraint is possible. Observe Figure 24. For two periods—from 1987 to 1991, and again from 1999 to 2000, the state's actual expenditures were less than the inflation and population-adjusted 1987 levels. However, as the economy improved following the recession in the early 2000s, state per capita spending began to climb again. By 2009, the state was spending nearly \$25 billion annually, more than \$8.6 billion in excess of the \$16 billion the state would have spent had it maintained real 1987 per capita levels. Still, the difference is enough to have avoided the state's 2009 budget gap. Likewise, if spending restraint had begun in 1995, I estimate that the state's 2009 budget would have been \$17 billion, the difference being more than enough to close its FY2009 budget gap. This alternative path is illustrated in Figure 25.

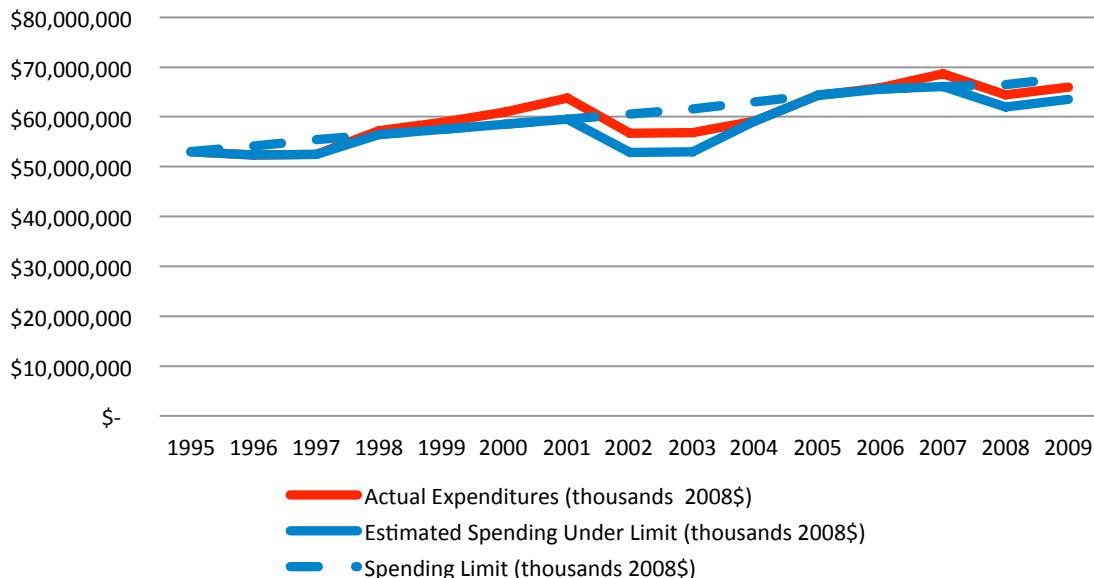
10. Florida

Figure 26. Florida's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.
Produced by: Mercatus Center at George Mason University

Figure 27. Florida's Alternative Spending Path, 1995 Base Year

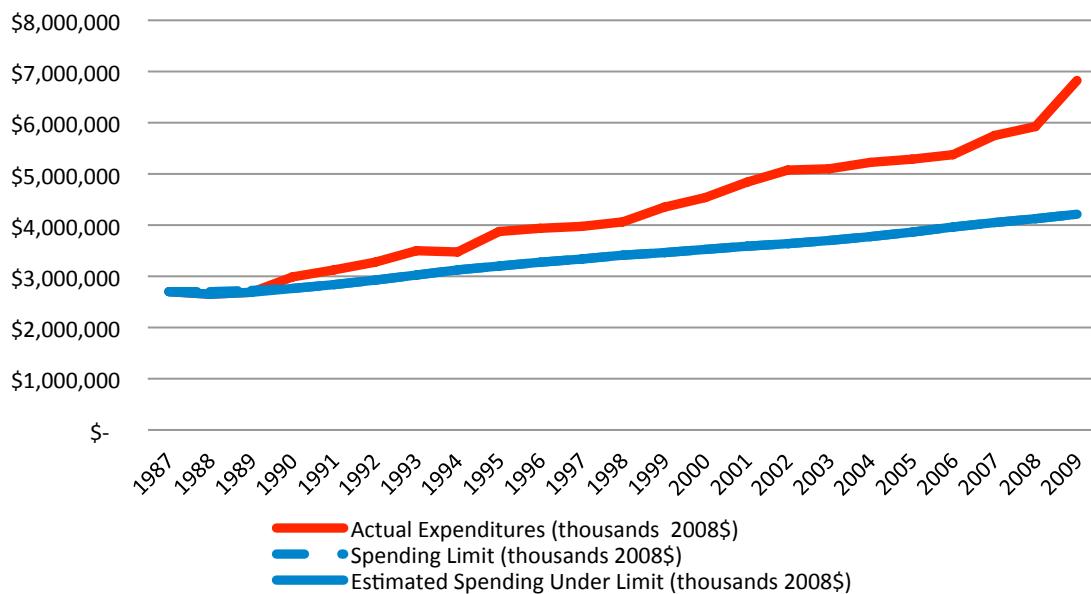


Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.
Produced by: Mercatus Center at George Mason University

Figures 26 and 27 illustrate the alternative spending paths of Florida. In 2009, Florida spent approximately \$66 billion. If the state had maintained its real 1987 per capita spending level, however, I estimate that its 2009 budget would have been \$46 billion. Under this scenario, the state would have avoided its \$5.7 billion 2009 budget gap. Unlike the other states in the analysis, however, if spending restraint had begun more recently, it would not have been sufficient to have avoided Florida's 2009 budget gap. If, beginning in 1995, the state had kept real spending on par with population growth I estimate that the state would have spent nearly \$64 billion. The difference between this estimated amount and actual expenditures would not have been enough to have avoided the state's \$5.7 billion budget gap (though the gap would have been 43 percent smaller). Florida's experience reinforces the point that fiscal prudence requires a long-term commitment.

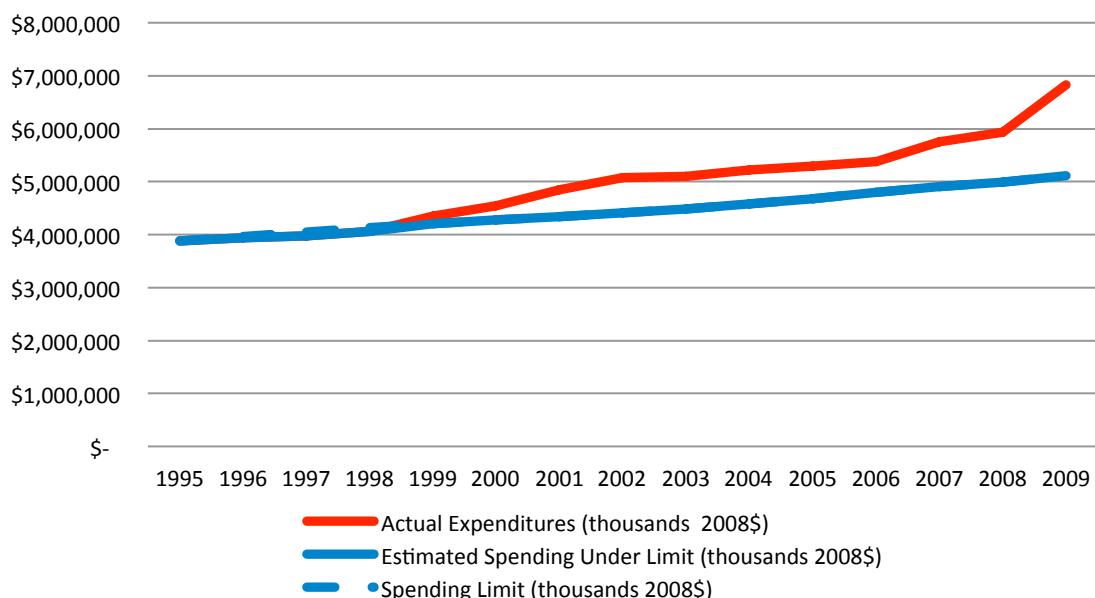
11. Idaho

Figure 28. Idaho's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*. Produced by: Mercatus Center at George Mason University

Figure 29. Idaho's Alternative Spending Path, 1995 Base Year

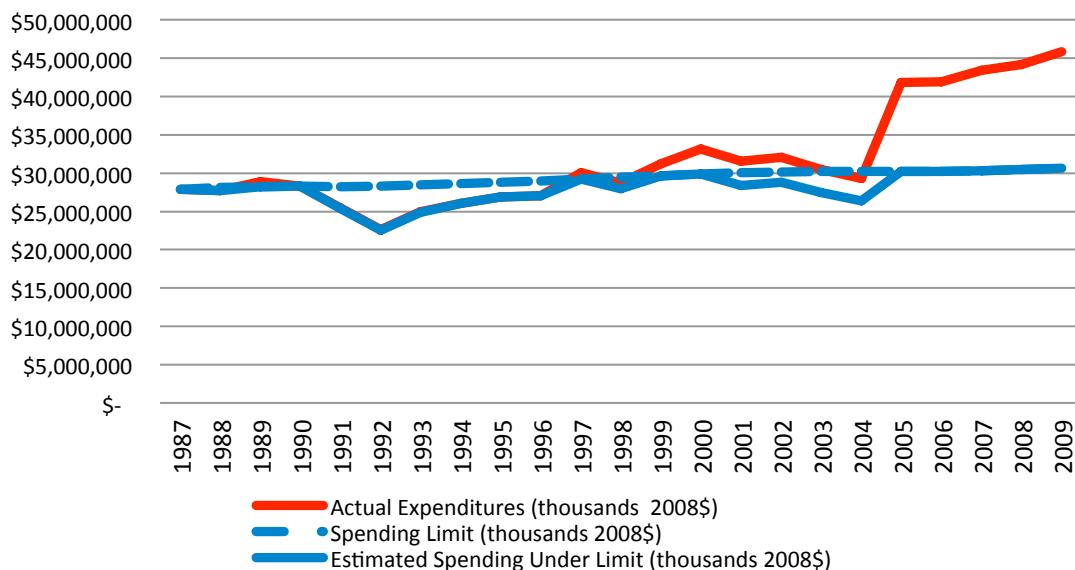


Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*. Produced by: Mercatus Center at George Mason University

Idaho's alternative spending paths are shown in Figures 28 and 29. In 2009, Idaho spent approximately \$6.8 billion. If it had held spending to real 1987 per capita levels, however, I estimate that its 2009 budget would have been \$4 billion. The difference is easily enough to have avoided the state's \$452 million FY2009 budget gap. Similarly, spending restraint beginning in 1995 would have resulted in a \$5 billion budget, still enough to have avoided the budget gap. (Note that in every year of the analysis, Idaho's spending under the limit is equal to the limit.)

12. Massachusetts

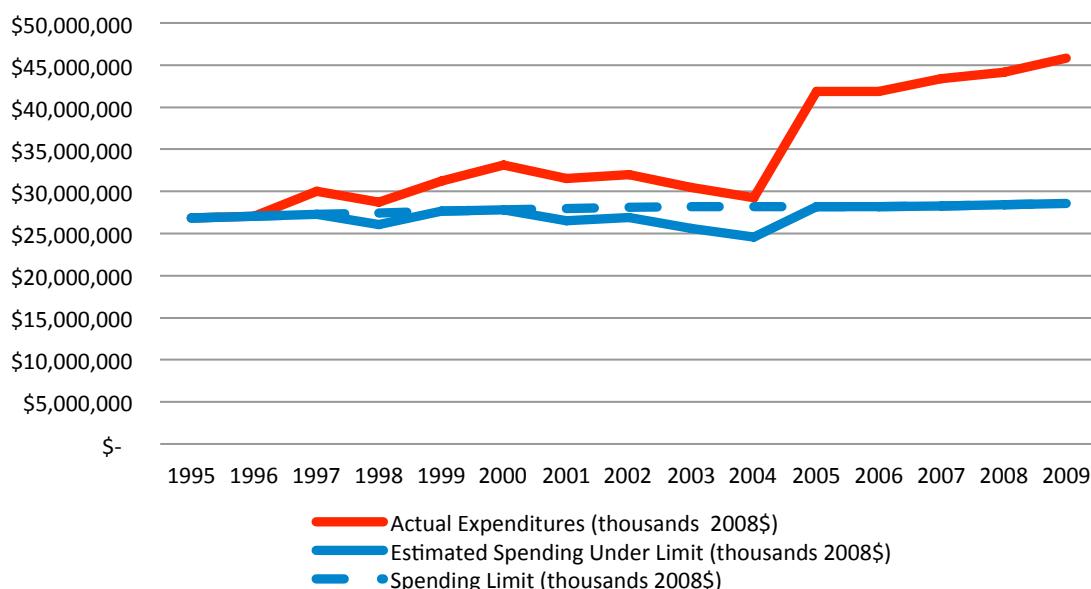
Figure 30. Massachusetts's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.

Produced by: Mercatus Center at George Mason University

Figure 31. Massachusetts's Alternative Spending Path, 1995 Base Year



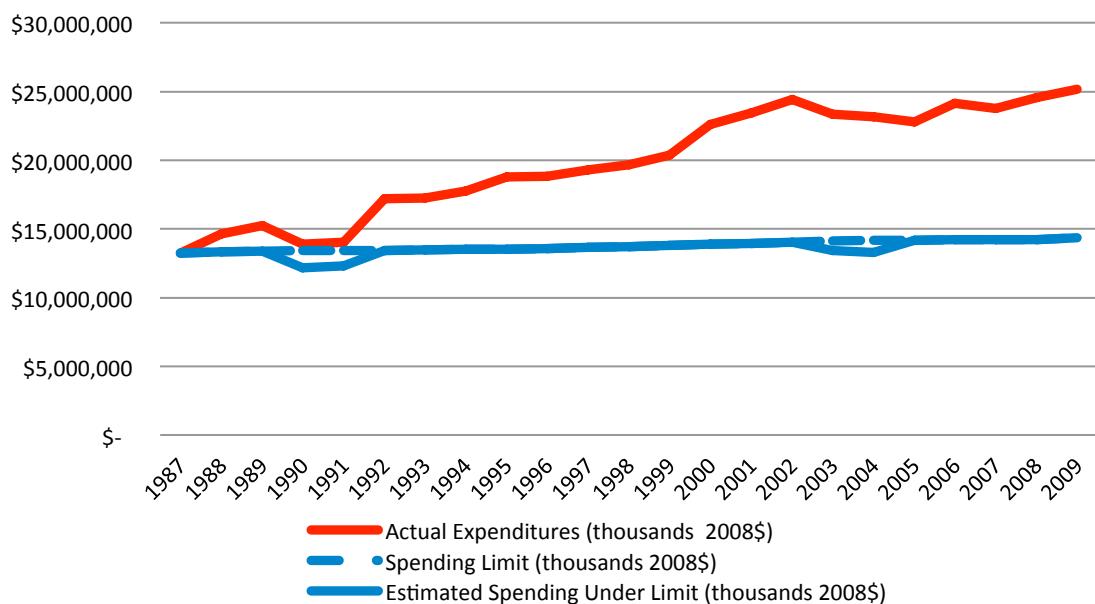
Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.

Produced by: Mercatus Center at George Mason University

Figures 30 and 31 illustrate the alternative spending paths for Massachusetts. For a time, Massachusetts held the line on spending. For much of the period between 1987 and 2004, the state was spending near its real 1987 per capita levels. In 2004, however, real per capita spending began to climb dramatically. By 2009, the state was spending approximately \$46 billion. In the same year, it encountered a \$5.2 billion shortfall. If spending restraint had begun in either 1987 or in 1995, the state would have avoided this budget gap. If it had held to real 1987 per capita spending levels, Massachusetts's 2009 budget would have been about \$31 billion and if it had held to real 1995 per capita levels, its 2009 budget would have been \$29 billion. Under either scenario, the state could have avoided its 2009 budget gap.

13. Connecticut

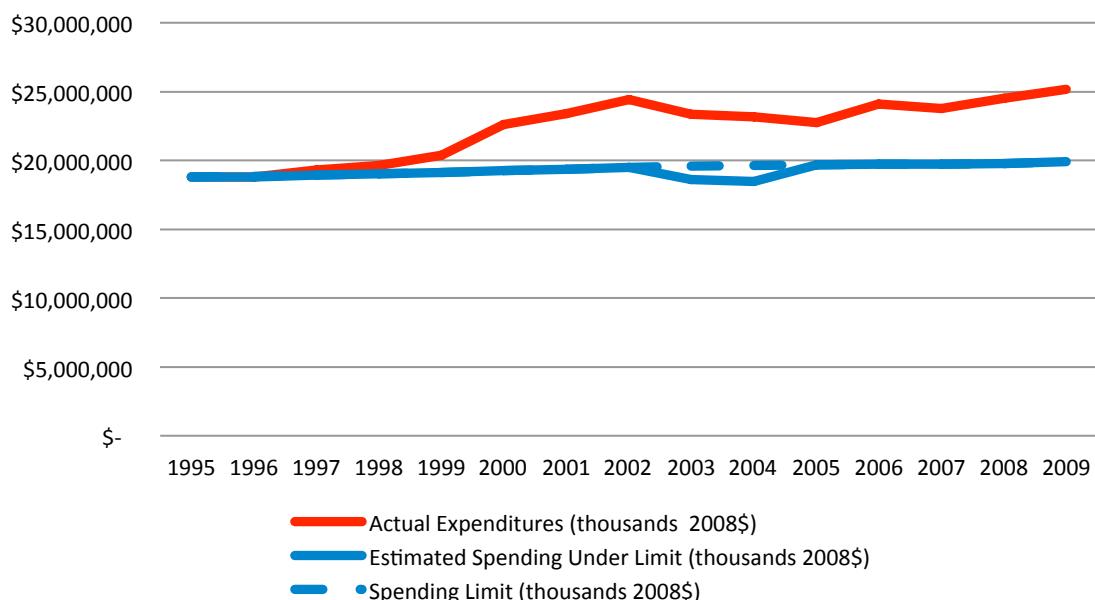
Figure 32. Connecticut's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*.

Produced by: Mercatus Center at George Mason University

Figure 33. Connecticut's Alternative Spending Path, 1995 Base Year

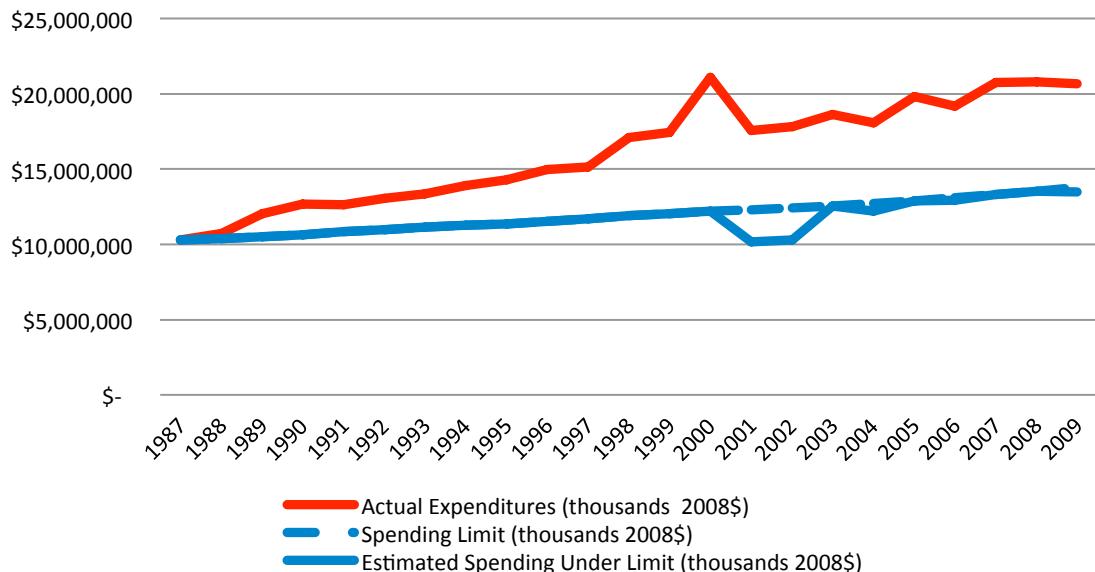


Sources: National Association of State Budget Officers, *State Expenditure Reports, 1987 through 2009*; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index, 2010*. Produced by: Mercatus Center at George Mason University

Connecticut's spending path is relatively conventional. It, and alternative paths, are depicted in figures 32 and 33. For most of the period under study, its budget grew faster than inflation and population growth, meaning real per capita spending rose significantly. By 2009, the state was spending approximately \$25 billion. In that year, it encountered a \$2.7 billion budget shortfall. If spending restraint had been instituted in 1987, however, the state's 2009 budget would have been \$14 billion and if it had been instituted in 1995, the budget would have been about \$20 billion. In either case, the difference in spending would have been sufficient to have avoided the 2009 budget gap.

14. South Carolina

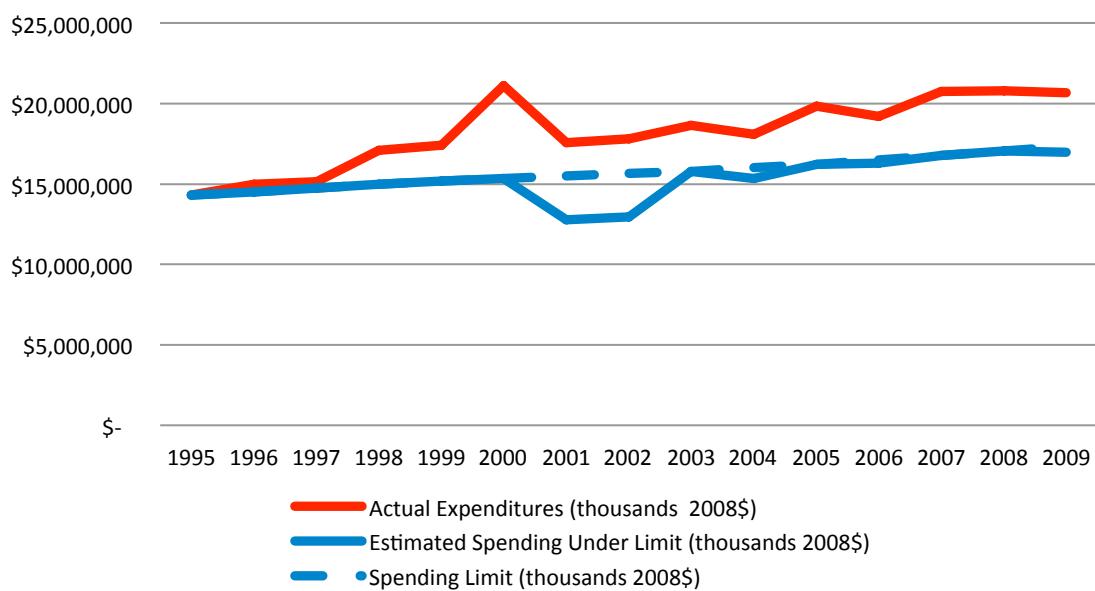
Figure 34. South Carolina's Alternative Spending Path, 1987 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.

Produced by: Mercatus Center at George Mason University

Figure 35. South Carolina's Alternative Spending Path, 1995 Base Year



Sources: National Association of State Budget Officers, *State Expenditure Reports*, 1987 through 2009; Census Bureau, *Current Population Report*; Bureau of Labor Statistics, *Consumer Price Index*, 2010.

Produced by: Mercatus Center at George Mason University

Lastly, consider South Carolina. Its alternative spending paths are illustrated in Figures 34 and 35. In 2009, that state's budget was about \$21 billion and its budget gap was about \$1.1 billion. If spending restraint had begun in 1987, however, I estimate that the state would have spent about \$13 billion in 2009 and if restraint had begun in 1995, I estimate that it would have spent about \$17 billion. In either case, the difference would have been sufficient to have avoided the FY2009 budget gap altogether.

In sum, I have analyzed counterfactual spending paths for fourteen states. These cover the ten states with the largest budget gap in 2009 as well as the ten states with the largest gap in 2010 (and six states that make both lists). In every state but Nevada and Florida, I estimate that the entire FY2009 budget gap would have been avoided had the state maintained real 1995 per capita spending levels. Furthermore, in every state but Nevada, the 2009 budget gap would have been avoided had the state maintained real, 1987 per capita spending levels.

Section IV. Ways to Limit Spending

How might states achieve the sort of spending restraint outlined above? Research suggests a number of institutional reforms that might restrain the growth of state spending.

Medicaid Reform

As Medicaid is the largest driver of state spending growth, reform of this program is crucial to spending restraint. However, because the program is jointly financed by the federal government, states cannot reform Medicaid on their own. The most promising reform would address the federal matching formula that determines the amount of money the federal government spends on the program in each state. Currently, the formula provides a strong incentive for each state to spend money on marginal expansions in the program, even when those expansions fail a cost-benefit test. This is because—

depending on the state's particular matching formula—every extra dollar a state spends on the program attracts another one to four dollars from the federal government.²⁰

Consider Mississippi, the poorest state in the union and therefore the state with the most generous federal matching formula. The federal government pays 76 cents out of every \$1.00 in Medicaid spending in Mississippi. Now imagine the state is considering an expansion in the program (say, by expanding eligibility). Assume the expansion would cost \$1 million but provide only \$300 thousand dollars in benefits to the state's citizens. If the state had to pay its entire cost, it would not fund the program. However, because of the federal government's four to one matching formula, the state would only have to pay \$240,000 for the expansion. Thus, they would choose to expand the program, despite the fact that the expansion fails a simple cost-benefit test. Though Mississippi faces a particularly strong incentive to spend money on Medicaid, every state in the nation faces a similar incentive.

An alternative funding program would involve block grants from the federal government that would not be based on a multiple of state spending. In switching to such a system, the federal government could dramatically decrease states' incentives to spend beyond the benefit-cost maximizing level.²¹

Tax and Expenditure Limitations

Beyond federal policy changes, there are a number of reforms at the state level that would help restrain spending. Formal tax and expenditure limitations (TELs) may be one such reform. Thirty states have TELs, but their designs vary considerable. Studies suggest that the particular form of TEL as well as the environment in which it operates makes a difference. For example, studies that examine the impact

²⁰ The 2009 economic stimulus package temporarily increased the federal matching rate for 27 months. Under this period, the federal government will contribute up to 5.6 dollars for every one dollar the states spend. See the Kaiser Family Foundation (2010) report for details.

²¹ There is evidence, however, that even block-grant structures encourage states to spend beyond the optimal level. See Bailey and Connolly (1998) for a review of this phenomenon.

of TELs without accounting for their particular structure or for the environment in which they operate have tended to find that they have little or no impact on the growth of statewide expenditures or revenues.²²

On the other hand, studies that have examined particular varieties of TELs have found they can be effective, but the details matter. Michael New of the University of Alabama has stressed that an effective TEL has three key characteristics:

1. It limits spending growth to inflation and population growth (as was assumed in this analysis), rather than to some other measures, such as growth in income.
2. It refunds surpluses to taxpayers automatically.
3. It adjusts automatically when states pass power to other levels of government. (Without such a provision, states will simply direct local governments to take on responsibilities that the state would otherwise perform, and overall state and local spending would be unchanged.)²³

Researchers have also found that certain policies, as well as characteristics of the state economy, can increase the effectiveness of TELs. Bails and Tieslau (2000), for example, find that TELs restrain spending more when they are used in combination with a strict balanced budget limit. Similarly, Shadbegian (1996) and Crain (2003) find that TELs work in states with slow income growth but are ineffective otherwise. In short, TELs can be effective, but their design matters, as does the broader institutional setting in which they operate.

²² See, for example, Bails (1990) and Primo (2007).

²³ Michael New (2001 and 2003).

Line-Item Veto Authority

Governors in every state but five have a line-item veto and research suggests that in certain circumstances, certain varieties of the line-item veto can be effective.²⁴ Holtz-Eakin (1988), for example, found that when different political parties control the executive and legislative branches, the line-item veto helps governors lower spending and raise taxes. Furthermore, Crain and Miller (1990) found that a certain variety of line-item veto, the so called “item-reduction veto” can effectively restrain spending. In states with this provision, the governor need not reject an entire spending item if he objects to it. Instead, he may write in a lower spending amount for the item.²⁵

Balanced Budget Rules

Another tool for limiting spending is a strict balanced budget rule. While every state but Vermont has a balanced budget rule, these vary considerably in their effectiveness. Some such as Hawaii only require that proposed budgets be balanced and not actual budgets.²⁶ Other ineffective budget rules permit legislatures to “carryover” a deficit from one year to the next (Arizona has such a rule).²⁷ Lastly, in some states, an independently elected court evaluates whether or not the legislature has complied with its obligations while in other states (such as New Jersey), politically selected judges evaluate the matter. In general, a strict balanced budget requirement will: a) require actual (as opposed to prospective) balance, b) not permit a deficit to be carried over to the next year, and c) have independently-elected judges. Most evidence suggests that these characteristics not only lead to effective budget balance, but also limit state spending growth.²⁸

²⁴ Studies that treat all line item vetoes the same tend to find they have a negligible impact on state spending. See, for example, Carter and Schap (1990) and Bohn and Inman (1996). As with TELs, the details matter.

²⁵ Crain (2003) corroborated these results.

²⁶ Snell, 2004.

²⁷ Ibid.

²⁸ See, for example, Bohn and Inman (1996), Crain (2003), and Primo (2007). Bails and Tieslau found that strict balanced budget rules only limit spending when used in combination with an expenditure limit or in combination with a supermajority requirement for tax increases.

Supermajority Requirements for Tax Increases

Legislative supermajority requirements for tax increases may be another means to limit spending. Studies by Crain and Miller (1990), Knight (2000), and Crain (2003) all conclude that these types of laws effectively limit the growth in spending and/or the level of taxation. At this point, fifteen states currently have such limits.²⁹

V. Summary and Conclusion

State and local spending growth has outpaced private sector growth for many decades. In recent years, however, the gap has widened. From 2000 to 2009, real state and local spending grew at about twice the annual rate of growth of the private sector. Medicaid spending accounts for most of this spending growth, and much of the growth in Medicaid spending seems to be due to increased enrollment.

The current policy course is unsustainable. State spending cannot continually outpace the growth of the wealth-creating sectors of the economy. Nor, for the sake of their citizens, should states continue the boom-and-bust cycle that has come to characterize budgeting in recent years. Spending restraint is the sound alternative. Among the states with the worst budget gaps in the last two years, twelve of the fourteen would have had zero gap had they had kept per capita spending at inflation-adjusted 1995 levels. Thirteen of the fourteen would have had no budget gap had they kept per capita spending at inflation-adjusted 1987 levels.

Spending restraint is not an easy task. But several reforms show promise. At the federal level, the Medicaid funding formula could be changed so that it no longer incentivized states to spend beyond their means. At the state level, a number of institutions have been shown to limit spending. These

²⁹ These are: Arizona, Arkansas, California, Delaware, Florida, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Nevada, Oklahoma, Oregon, South Dakota, and Washington. See Waisanen, 2010, for details.

include certain varieties of TELs, an executive item-reduction veto, a strict balanced budget requirement and a supermajority requirement for tax increases.

Bibliography

- Abrams, Burton, and William Dougan. "The Effects of Constitutional Restraints on Government Spending." *Public Choice* 49 (1986): 101-16.
- Bails, Dale. "The Effectiveness of Tax-Expenditure Limitations: A Re-evaluation." *American Journal of Economics and Sociology* 49, no. 2 (1990): 223-238.
- Bails, Dale, and Margi Tieslau. "The Impact of Fiscal Constitutions on State and Local Expenditures." *Cato Journal* 20, no. 2 (2000): 255-277.
- Bohn, Henning, and Robert Inman. "Balanced Budget Rules and Public Deficits: Evidence from the U.S. States." *Carnegie-Rochester Conference Series on Public Policy* 45 (1996): 13-76.
- Bureau of Economic Analysis. *National Economic Accounts*. 2010.
<http://www.bea.gov/national/index.htm#gdp> (accessed July 10, 2010).
- Bureau of Labor Statistics. *Consumer Price Index - All Urban Consumers*. 2010.
<http://data.bls.gov/PDQ/servlet/SurveyOutputServlet> (accessed July 27, 2010).
- Coughlin, Teresa A., and Stephen Zuckerman. "State Responses to New Flexibility in Medicaid" *The Milbank Quarterly* 86, no. 2 (2008): 209-240
- Carter, John, and David Schap. "Line-Item Veto: Where Is Thy Sting?" *Journal of Economic Perspectives* 4 (1990): 103-18.
- Census Bureau. "Current Population Reports, P25-1106." Washington, DC, 2008.
- Census Bureau. "Statistical Abstract." Washington, D.C., 2010.
- Crain, Mark. *Volatile States: Institutions, Policy, and the Performance of American State Economies*. Ann Arbor, MI: University of Michigan Press, 2003.
- Crain, Mark, and James C. Miller III. "Budget Process and Spending Growth." *William and Mary Law Review* 31, no. 4 (1990): 1021-46.
- Elder, Harold. "Exploring the Tax Revolt: An Analysis of the Effectiveness of State Tax and Expenditure Limitation Laws." *Public Finance Quarterly* 20, no. 1 (1992): 47-63.
- Holahan, John, and Alshadye Yemane. "Enrollment Is Driving Medicaid--But Two Target Can Yield Savings." *Health Affairs* 28, no. 5 (2009): 1453-65.
- Holtz-Eakin, Douglas. "The Line Item Veto and Public Sector Budgets: Evidence from the states." *Journal of Public Economics* 36 (1988): 269-92.
- Kaiser Family Foundation. "The Medicaid Program at a Glance." Washington, D.C. , 2010.

Knight, Brian. "Supermajority Voting Requirements for Tax Increases: Evidence from the States." *Journal of Public Economics* 76, no. 1 (2000).

Long, S.K., and J.A. Graves, and S. Zuckerman. "Assessing the Value of the NGIS for Studying State Health Care Reform: The Case of New York." *Health Services Research* 42, no. 6 (2007): 2332-53.

McNichol, Elizabeth, and Nicholas Johnson. *Recession Continues to Batter State Budgets; State Responses Could Slow Recovery*. Washington, D.C.: Center on Budget and Policy Priorities, 2010.

Mitchell, Matthew. "State Budget Gaps and State Budget Growth: Between a Rock and a Hard Place." *Mercatus Center Working Paper*, 2010.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1989.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1990.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1991.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1992.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1993.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1994.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1995.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1996.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1997.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1998.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 1999.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2000.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2001.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2002.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2003.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2004.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2005.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2006.

National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2007.

- National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2008.
- National Association of State Budget Officers. "State Expenditure Report." Washington, D.C., 2009.
- National Conference of State Legislatures. "State Budget Update: November 2009." Washington, D.C. , 2009.
- National Governors Association and National Association of State Budget Officers. "The Fiscal Survey of States." Washington, D.C. , 2010.
- New, Michael. "Limiting Government Through Direct Democracy: The Case of State Tax and Expenditure Limitations." *Policy Analysis* 420 (2001).
- New, Michael. "Proposition 13 and State Budget Limitations: Past Successes and Future Options." *Cato Institute Briefing Papers* 83 (2003).
- Primo, David. *Rules and Restraint: Government Spending and the Design of Institutions*. Chicago, IL: University of Chicago Press, 2007.
- Rueben, Kim. "Tax Limitation and Government Growth: The Effect fo State Tax and Expenditure Limits on State and Local Government." *Mimeo, Department of Economics, MIT*, 1995.
- Shadbegian, Ronald. "Do Tax and Expenditure Limitations Affect the Size and Growth of State Government?" *Contemporary Economic Policy* 14 (1996): 22-35.
- Shadbewgian, Ronald. "Do Tax and Expenditure Limitations Affect the Size and Growth of State Government?" *Contemporary Economic Policy* 14 (1996): 22-35.
- Snell, Ronald. *State Balanced Budget Requirements: Provisions and Practice*. Washington, D.C.: National Conference of sState Legislatures, 2004.
- Waisanen, Bert. *State Tax and Expenditure Limits - 2010*. Washington, D.C.: National Conference of State Legislatures, 2010.

Technical Appendix

Let:

0 = The base year

S_t = Actual spending in year t

L_t = The spending limit in year t

ES_t = Estimated spending under the limit in year t

i_t = The annual inflation rate in year t

p_{xt} = The annual percentage population increase in state x in year t

The spending limit in year t is given by:

$$L_t = \begin{cases} S_0 & \text{if } t = 0 \\ S_0(1 + i_t + p_{xt}) & \text{if } t = 1 \\ L_{t-1}(1 + i_t + p_{xt}) & \text{otherwise} \end{cases}$$

In words, the spending limit is equal to actual spending in the base year. In the year following the base year, it is equal to the value of spending in the base year, multiplied by 1 plus the annual inflation rate and the annual growth in population. In each subsequent year, it is equal to the previous year's limit, multiplied by one plus inflation and population growth.

I estimate spending under the limit in year t by:

$$ES_t = \begin{cases} S_t & \text{if } S_t \leq L_t \\ L_t & \text{if } S_t > L_t, \text{ and } S_t \geq S_{t-1}, \text{ and } S_{t-1} \geq S_{t-2} \\ (ES_{t-1}) \frac{S_t}{S_{t-1}} & \text{if } S_t > L_t, \text{ and } S_t < S_{t-1}, \text{ or } S_{t-1} < S_{t-2} \end{cases}$$

In words: if, in year t , actual spending was less than or equal to the spending limit, I let estimated spending under the limit equal actual spending.

If actual spending in year t is greater than the limit, and actual spending in year t has grown for the past two years, then I let estimated spending under the limit equal the limit.

Lastly, if spending in year t is greater than the limit, and actual spending has fallen in either of the last two years, then I let estimated spending under the limit equal estimated spending under the limit in the prior year, multiplied by the fraction by which actual spending changed. This last condition is designed to ensure that exogenous changes to spending are incorporated into my estimate of spending under the limit. In other words, if actual spending fell in a certain year (either because of deliberate policy choices or because of recessionary shortfalls), then I assume that spending under the limit will also fall.