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What Will Happen to State Government Finances in a Recession?

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Highlights

- States historically have been able to cope with the initial stages of recessions by drawing down reserves and taking other limited steps to balance their budgets. The 2001 recession, however, resulted in sharp declines in state revenues and led to more significant spending reductions, including staffing reductions.
- As was the case before the 2001 recession, capital gains now constitute a large share of adjusted gross income, and thus contribute a large share of state tax revenues. Continuing difficulties in the stock markets, on top of the crisis in housing markets, could result in another troubled period for states' budgets and services.
- If the nation experiences a more pronounced, longer recession, the tendency of states to increase taxes and cut real expenditures may put further downward pressure on the nation's economy.

Introduction

State government finances are linked inextricably to the economy. When the economy is growing, more workers are hired, incomes rise, and income taxes go up. When incomes are rising and people are confident about the future, they spend more and sales taxes go up. When income and spending grow, corporate profits rise and corporate taxes increase. But when the economy catches a cold, state government finances get the flu.

After six years of expansion, the national economy has weakened, and many believe the United States is now in a recession or soon will enter one. Financial markets are in turmoil, the crisis in the housing markets continues, and employment measures are mixed at best. Some forecasters still foresee continued growth, but at substantially lower levels than in recent years.

State finances are showing the effects. The Rockefeller Institute's most recent *State Revenue Report* showed state tax revenue declined in the July-September quarter by 0.6 percent, after adjusting for inflation and tax-law changes — the first such decline in more than four years. California

has announced a budget gap of $14 billion. According to the Center on Budget and Policy Priorities, 16 states have announced budget gaps totaling more than $30 billion, and another 8 states have announced gaps not yet publicly quantified. As governors and legislatures grapple with budgets over the next few weeks, more gaps will be announced and states will begin to decide on their responses.

This report examines the ways in which states have responded to previous downturns as a guide to potential budgetary choices in the coming year.

Will There be a Recession?

For more than a year, troubles in one sector — the housing market — have dominated much of the discussion over trends in the national economy. These worries have been compounded by record-high oil prices. Despite some signs of a broader slowdown following several years of strong growth, many economists and policymakers spoke of "sustainable growth" that could prevent a downturn such as the nation experienced in 2001.

In recent months, however, portraits of the economy have grown decidedly cloudy.

Many economists now predict a recession in 2008. Perhaps most prominently, former Treasury Secretary Lawrence Summers wrote in late November that "the odds now favour a U.S. recession that slows growth significantly on a global basis." Summers cited risks of a continuing "free-fall" in home construction and prices, large additional losses by major financial firms, tightening of private credit, and other concerns.[1] And a popular market for futures contracts on political and economic events suggests that market participants believed in late January that the probability of a recession in 2008 was approximately 70 percent (www.intrade.com).

The broad consensus of experts remains more positive, predicting continued growth in the coming year, but clearly trending downward. The Blue Chip Economic Indicators survey for December projected gross domestic product growth of 2.2 percent in 2008, with the odds of a recession put at nearly 4 in 10.[2] The consensus of approximately 55 economists in a January 2008 *Wall Street Journal* survey was for growth in 2008 of about 2.0 percent (fourth quarter over fourth quarter), although the economists, on average, estimate the probability of a recession in the next six months at 42 percent, the highest in more than three years. Other frequently cited sources such as Moody's Economy.com and Global Insight predict growth in the area of 2.0 percent. The revised Gross Domestic Product (GDP) growth rate for the July-September quarter was a robust 4.9 percent. And the positive spread between 10-year and 3-month Treasury yields, combined with the low federal funds rate, suggests a low probability of recession under the terms of a recession forecasting model developed by Federal Reserve economist Jonathan Wright (Wright 2006).

Still, many forecasters who expect continued growth are less optimistic than they were as recently as a few months ago. The Federal Open Market Committee (FOMC), the monetary policy-setting arm of the Federal Reserve System, cut its target for the federal funds rate by 75 basis points in January, on the heels of cuts of 25 basis points in December and October, and a cut of 50

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1 Lawrence Summers, "Wake up to the dangers of a deepening crisis," *Financial Times*, November 25, 2007.

2 Joanne Morrison, "Economy may just skirt a recession," Reuters, December 10, 2007.

basis points in September. Minutes of the committee's October meeting, released publicly November 20, reported that "the central tendency of participants' projections for real GDP growth in 2008 was revised down to 1.8 to 2.5 percent, notably below the 2½ to 2¾ percent central tendency in June." Committee members cited "the tightened terms and reduced availability of subprime and jumbo mortgages, weaker-than-expected housing data, and rising oil prices."[3]

From a fiscal planning perspective, the *direction* of economic forecasts is not the only key indicator. The level and nature of *risks* to the forecast are important, as well. At the October FOMC meeting, "most participants viewed the risks to their GDP projections as weighted to the downside," and "judged that the uncertainty attending their October projections for real GDP growth was above typical levels seen in the past."[4] Federal Reserve Chairman Ben Bernanke repeated that latter concern in late November, saying that "the current stresses in financial markets make the uncertainty surrounding the outlook even greater than usual."[5] In January, Chairman Bernanke told a Congressional committee that economic conditions "continue to pose a downside risk to the outlook."[6]

Even in the absence of a national recession, the combination of an overall slowdown and typical variations in regional economic trends are likely to produce hard times in some states. Calendar year 2006 brought strong growth nationwide — with overall private-sector employment, for example, rising by 2 percent. Still, two states (Michigan and Louisiana) saw private employment decline during the year, and job growth in two others (Ohio and Maine) was 0.5 percent or less. Industries that play important roles in generating tax revenue can also vary dramatically from state to state. Construction jobs jumped nationwide by 4.8 percent in 2006, but fell in Michigan, Kentucky, Wisconsin, and Alaska. Financial-sector employment rose nationwide by 2.6 percent that year, but declined in Delaware, Michigan, Pennsylvania, Louisiana, Ohio, and Maine.[7]

Recessions and State Finances

Recessions Vary in Their Depth and Duration

While a recession is popularly thought of as two consecutive quarters of decline in real gross domestic product, the actual definition is more complex. The National Bureau of Economic Research, a widely recognized arbiter of recessions, defines a recession as "a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales" (Hall et al. 2003).

The U.S. economy has become less volatile in recent decades, with variability of growth in real output declining by half since the mid-1980s. Economists have dubbed that trend the "Great Mod-

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3 "Minutes of the Federal Open Market Committee, October 30-31, 2007," Board of Governors of the Federal Reserve System.

4 Ibid.

5 Speech to the Charlotte Chamber of Commerce, Charlotte, NC, November 29, 2007.

6 "The Economic Outlook," testimony to the U.S. House of Representatives Committee on the Budget, January 17, 2008.

7 Employment data from *Just The Facts*, Public Policy Institute of New York State, www.ppinys.org.

eration" (Bernanke 2004). This decline in volatility has occurred not just in the national economy but in the economies of individual states. In fact, since about 1983, volatility in employment growth has declined in every state, with a median decline of about 38 percent (Carlino 2007).

Economists have offered three potential explanations for this decline in volatility: structural change, improved monetary policy, and good luck. Structural changes such as improvements in technology, improvements in inventory management, a more-open global economy, and the increasing sophistication of financial markets may have made it easier for the economy to absorb shocks. Ben Bernanke, the current chairman of the Federal Reserve Board, argues that improved monetary policy has accounted for a good part of the volatility decline (Bernanke 2004). And less-frequent and less-severe economic shocks in the last several decades ("luck") also may have dampened volatility. If structural and policy improvements have caused most of the volatility decline, then continued low volatility might be expected in the future. But if luck is the main cause, well … luck runs out. Unfortunately, the jury is still out and economists continue to analyze these questions. The housing price bubble and recent sharp fluctuations in financial markets have led some to worry that luck truly may have been the major cause of the great moderation (Leonhardt 2008).

Meanwhile, economic expansions have lengthened and recessions generally have shortened, particularly in comparison to the pre-World War II era. And by some measures, the most-recent recession was the mildest on record. In fact, real GDP did not decrease from the recession's official peak to trough (although there were small declines by some measures of economic activity).[8]

Table 1 shows the depth and duration of postwar recessions, and the length of each immediately prior expansion. The 1973-75 and 1980-82 recessions were relatively deep in contrast to the 2001 recession. The expansions preceding the two most recent recessions have been long by historical standards, with the pre-2001 expansion being the longest on record. As of December 2007, the most recent expansion was 73 months long, also significantly longer than the postwar average.

Table 1. Recessions Vary Enormously in Depth and Duration, and the Most Recent One Was Mild

Post-war recessions

Recession:	Gross domestic product % change	Duration of contraction (months)	Length of prior expansion
1948-49	-1.7%	11	37
1953-54	-2.7%	10	45
1957-58	-3.2%	8	39
1960-61	-1.6%	10	24
1969-70	-0.6%	11	106
1973-75	-3.1%	16	36
1980	-2.2%	6	58
1981-82	-2.6%	16	12
1990-91	-1.3%	8	92
2001	0.0%	8	120
Post-2001			73 (Dec 2007)

Sources: Rockefeller Institute analysis of data from National Bureau of Economic Research for recession dates, and U.S. Bureau of Economic Analysis for GDP change.

8 In some other respects the 2001 recession was deeper than it appears by the GDP summary measure. See Banerji 2002.

Recessions Differ in Their Character

Recessions differ not only in their depth and duration but also in their character. Different kinds of recessions will have different impacts on the tax receipts of state governments. For example, a recession characterized by a steep drop in consumption might have especially severe impacts on a state that relies heavily on the sales tax, while a recession with steep investment declines might have a relatively larger impact on states with very industrialized economies.

Each postwar recession has had a unique character, as shown in Table 2. The deep 1973-75 recession included a dramatic 26.8 percent drop in investment that was larger, in dollar terms, than the entire drop in gross domestic product. Consumption, by contrast, accounted for only a small portion of the drop in GDP. The 1980 and 1981-82 double dip recessions also were driven by investment declines, while consumption actually increased during the 1981-82 period. The 1990-91 recession was notable because consumption played a much greater role, accounting for nearly two-thirds of the decline in total GDP. Finally, the 2001 recession is notable because it was mild in many respects.

Table 2. Recessions Differ in Their Character

Percent change, peak to trough

Recession:	Gross domestic product	Consumption	Investment	Government
1973-75	-3.1%	-0.6%	-26.8%	4.6%
1980	-2.2%	-1.2%	-15.9%	-1.1%
1981-82	-2.6%	2.9%	-22.5%	3.9%
1990-91	-1.3%	-1.1%	-10.1%	1.4%
2001	0.0%	0.7%	-4.7%	1.5%

Sources: Rockefeller Institute analysis of data from National Bureau of Economic Research for recession dates, and U.S. Bureau of Economic Analysis for GDP components.

Recessions Vary Across States

The economic performance of individual states varies considerably during national recessions, reflecting the characteristics of a particular recession, the characteristics of state economies, and other factors. For example, in the 2001 recession, employment in the United States as a whole declined by 1.5 percent from the start of the recession to the recession's trough, but the impact on states ranged from a decline of 2.6 percent in Massachusetts to an increase of 1.6 percent in Wyoming. In the 1990-91 recession, employment changes ranged from a 4.2 percent decline in Rhode Island to a 1.7 percent increase in Utah.[9]

The 1990-91 and 2001 recessions had very different regional impacts. The 1990-91 recession was more severe with peak to trough employment declining in a median state by 1.3 percentage points, while employment in the 2001 recession declined by 0.6 percentage points. Table 3 shows the peak to trough employment changes by state for the two recessions.

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9 We use employment data for the analysis of state economies because quarterly data on gross domestic product by state are not available. To analyze the employment data, we obtain monthly data from the U.S. Bureau of Labor Statistics, convert it to quarterly data, and then seasonally adjust using the Census X11 ARIMA methodology. We begin with unadjusted data because a far longer time series of these data is available from BLS than for seasonally adjusted data.

Table 3. Recessions Differ Across States and Over Time

Peak to trough employment changes by state, two most recent recessions

State	1990 recession	Rank, 1990 (1=worst)	2001 recession	Rank, 2001 (1=worst)	Change in rank
Alaska	1.1%	44	1.2%	49	5
Alabama	-0.2%	30	-1.3%	26	(4)
Arkansas	0.2%	35	-1.0%	32	(3)
Arizona	0.4%	39	-1.1%	31	(8)
California	-0.9%	23	-1.7%	18	(5)
Colorado	0.6%	42	-2.3%	6	(36)
Connecticut	-2.5%	8	-0.6%	40	32
Delaware	-1.1%	19	-1.6%	19	-
Florida	-1.7%	14	-0.2%	44	30
Georgia	-1.8%	13	-2.1%	8	(5)
Hawaii	1.4%	48	-1.8%	17	(31)
Iowa	0.1%	34	-1.5%	20	(14)
Idaho	1.2%	46	-0.8%	35	(11)
Illinois	-1.0%	21	-2.1%	9	(12)
Indiana	-1.4%	17	-2.0%	12	(5)
Kansas	-0.5%	27	-0.7%	36	9
Kentucky	-0.8%	25	-1.9%	15	(10)
Louisiana	0.4%	40	-0.8%	34	(6)
Massachusetts	-3.7%	3	-2.6%	1	(2)
Maryland	-2.6%	6	-0.1%	46	40
Maine	-2.3%	9	-0.9%	33	24
Michigan	-2.0%	10	-2.5%	3	(7)
Minnesota	-0.1%	31	-1.3%	25	(6)
Missouri	-1.6%	15	-1.4%	23	8
Mississippi	-0.5%	26	-1.4%	22	(4)
Montana	0.9%	43	-0.2%	43	-
North Carolina	-1.6%	16	-2.4%	5	(11)
North Dakota	1.2%	47	-0.3%	42	(5)
Nebraska	0.5%	41	0.2%	47	6
New Hampshire	-4.0%	2	-2.0%	13	11
New Jersey	-2.6%	7	-0.1%	45	38
New Mexico	0.1%	33	0.3%	48	15
Nevada	0.3%	38	-1.5%	21	(17)
New York	-2.8%	5	-2.5%	2	(3)
Ohio	-1.4%	18	-2.0%	10	(8)
Oklahoma	0.0%	32	-0.7%	38	6
Oregon	-0.9%	24	-2.4%	4	(20)
Pennsylvania	-1.1%	20	-1.2%	27	7
Rhode Island	-4.2%	1	-1.1%	29	28
South Carolina	-1.8%	12	-1.9%	14	2
South Dakota	1.1%	45	-0.7%	39	(6)
Tennessee	-1.0%	22	-2.2%	7	(15)
Texas	0.2%	36	-1.1%	30	(6)
Utah	1.7%	50	-1.1%	28	(22)
Virginia	-2.0%	11	-1.3%	24	13
Vermont	-2.9%	4	-0.7%	37	33
Washington	0.3%	37	-2.0%	11	(26)
Wisconsin	-0.3%	29	-1.8%	16	(13)
West Virginia	-0.3%	28	-0.4%	41	13
Wyoming	1.6%	49	1.6%	50	1

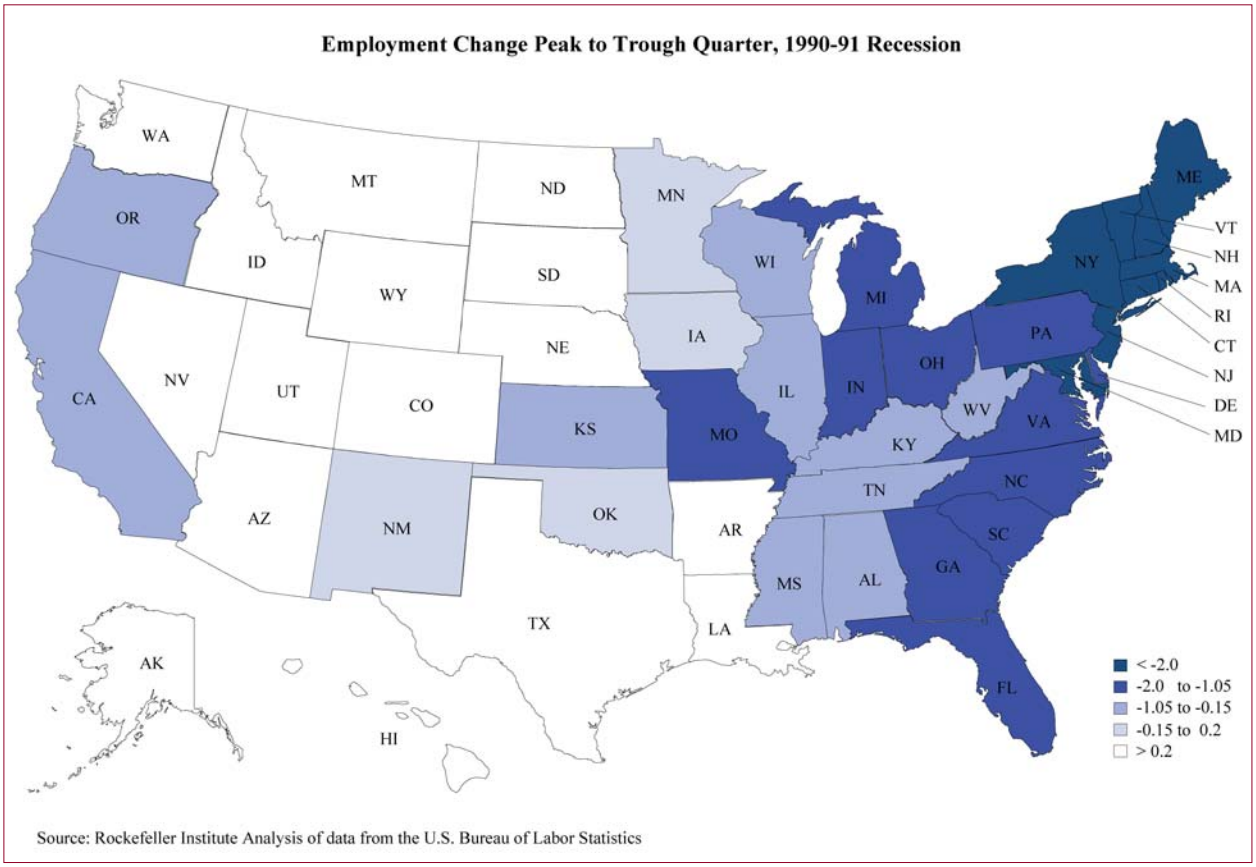
Source: Rockefeller Institute analysis of data from Bureau of Labor Statistics.

While each recession had different impacts around the country, in general the states that were hit hardest in the 2001 recession were different from those that suffered most in the 1990-91 recession. For example, as Figure 1 shows, Colorado was barely hit at all by the 1990-91 recession, with an employment increase of 0.6 percentage points, among the best in the nation. But in the 2001 recession, as Figure 2 shows, Colorado suffered a 2.3 percentage point decline making at the sixth hardest hit state in the nation. Hawaii, too, was barely hit by the 1990-91 recession and was hit severely by the 2001 recession. By contrast, Maryland and New Jersey both suffered severe declines in the 1990-91 recession yet were barely touched by the 2001 recession. And then there are the states that did well in both periods: Alaska and Wyoming moved their way through each recession. On the other hand, Massachusetts and New York each were in the top five for employment losses in both recessions. Each of these recessions involve sharp income losses in the financial services industries, and Massachusetts and New York, with their dependence on these industries, paid the price.

The 1990-91 recession was highly concentrated in the Northeast, as Figure 1 shows: eight of the nine states with the largest declines were in the Northeast, and both Rhode Island and New Hampshire had employment declines of more than 4 percentage points. In contrast to the severity in the Northeast, 17 states did not have peak to trough declines at all.

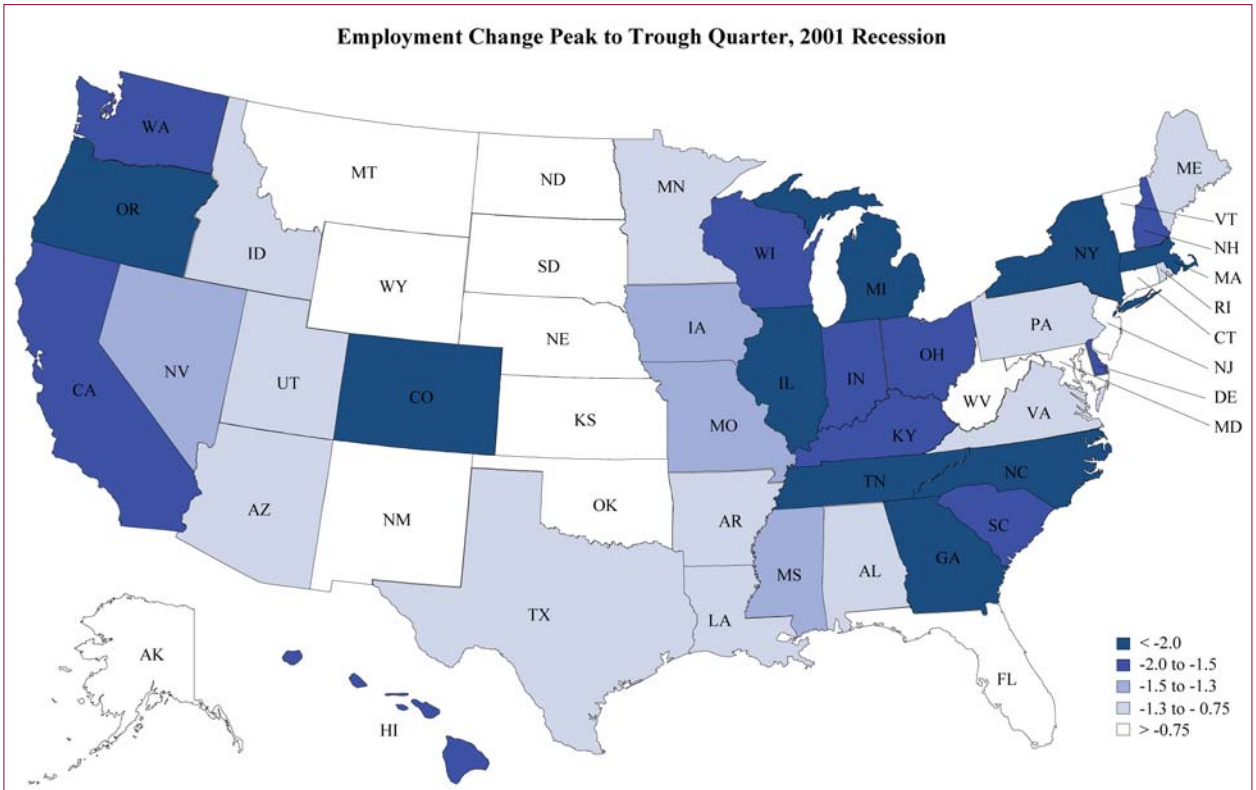
The 2001 recession was milder overall, but employment declines were more widespread, with only Alaska, Nebraska, New Mexico, and Wyoming spared (although *growth* in employment did slow). (See Figure 2.)

Figure 1. The 1990-91 Recession Hit Northeast, Great Lakes, and Southeast Disproportionately



Source: Rockefeller Institute Analysis of data from the U.S. Bureau of Labor Statistics

Figure 2. Employment Change in the 2001 Recession



Source: Rockefeller Institute Analysis of data from the U.S. Bureau of Labor Statistics

The Next Recession

The next recession — or this recession, if we are in one — will affect different parts of the country differently. Table 4 shows major industries in the United States and their share of total gross domestic product in 2006, followed by a row for each state and the extent to which that industry share in that state is above or below the national average. For example, looking at the second column of numbers, we see that manufacturing accounted for 12.2 percent of the nation's output in 2006. Scanning down the rows we see that manufacturing's share of the economy in Hawaii was 10.5 percent below the national average, meaning it accounted for only 1.7 percent of Hawaii's output. Similarly, we see that manufacturing had a 16 percentage point larger share of Indiana's economy, meaning it accounted for 28.2 percent of that state's total.

The table suggests that Indiana might suffer greatly in a recession such as the double-dip recession of 1980-82, which had a disproportionate impact on manufacturing. It also suggests that a recession with a disproportionate impact on finance and insurance, such as the 1990-91 recession, might hit Delaware, South Dakota, Connecticut, and New York.[10]

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10 The states with a disproportionate concentration in finance and insurance might seem a little surprising. Delaware and South Dakota are on the list because of their large numbers of companies with credit card operations. Iowa has been a Mecca for insurance companies, placing it in the top five. Whether these states would be affected disproportionately by a recession concentrated in finance would depend upon which elements of the finance industry are most affected.

Table 4. Industrial Concentration by State

Industry share of total output (gross domestic product) in 2006 for the nation and states

State	Construc-tion	Manufac-turing	Wholesale trade	Retail trade	Informa-tion	Finance and insurance	Real estate, rental, and leasing	Pro-fessional and technical services	Health care and social assistance	Govern-ment	All other
US share	4.9	12.2	6.0	6.6	4.4	7.8	13.2	7.1	6.9	11.7	19.2
	Industry share of GDP in each state minus average share for the nation										
Arizona	2.9	(4.1)	(0.2)	2.0	(1.6)	0.6	1.3	(1.3)	0.1	0.4	(0.1)
Arkansas	(0.5)	7.5	0.8	0.9	(0.6)	(3.9)	(4.5)	(3.3)	0.6	1.9	1.2
California	(0.1)	(2.4)	(0.1)	0.4	1.6	(1.2)	3.8	1.5	(0.9)	(0.7)	(1.8)
Colorado	1.3	(5.7)	(0.6)	(0.6)	4.1	(1.9)	0.0	1.9	(1.2)	(0.2)	2.9
Connecticut	(1.6)	(0.6)	(0.4)	(0.8)	(0.6)	8.7	0.8	0.5	0.6	(2.7)	(3.6)
Delaware	(4.9)	(4.6)	(2.3)	(2.4)	(2.6)	25.0	(1.4)	(1.2)	(1.8)	(3.1)	(0.6)
Florida	2.9	(7.2)	0.6	1.4	(0.4)	(1.0)	4.0	(0.7)	0.3	(0.6)	0.8
Georgia	0.3	0.7	2.0	0.1	1.8	(1.9)	(1.2)	(0.6)	(1.1)	1.2	(1.3)
Hawaii	1.0	(10.5)	(2.6)	0.8	(1.9)	(3.3)	4.8	(2.5)	(0.2)	10.3	4.1
Idaho	1.8	2.2	(0.6)	2.1	(2.2)	(3.2)	(1.6)	(0.2)	(0.3)	0.9	1.0
Illinois	(0.2)	1.0	1.2	(0.8)	(0.8)	1.5	0.0	1.4	(0.4)	(2.1)	(0.8)
Indiana	(0.6)	16.0	(0.3)	(0.2)	(2.3)	(2.2)	(3.4)	(3.3)	0.3	(1.9)	(2.1)
Iowa	(0.7)	8.9	(0.2)	(0.5)	(1.5)	4.3	(4.1)	(4.0)	(0.3)	(0.2)	(1.7)
Kansas	(0.9)	1.5	0.3	0.2	1.7	(1.9)	(3.5)	(2.0)	0.1	3.2	1.4
Kentucky	(0.7)	6.5	0.3	0.4	(1.7)	(2.9)	(3.8)	(3.0)	1.2	3.0	0.9
Louisiana	(0.3)	8.8	(1.5)	0.1	(2.3)	(4.6)	(5.3)	(3.3)	(1.5)	(1.4)	11.2
Maine	0.5	(0.8)	(0.7)	2.3	(1.8)	(1.0)	0.6	(2.4)	3.9	2.4	(3.1)
Maryland	1.2	(6.7)	(0.9)	(0.3)	(0.9)	(1.4)	3.8	3.2	0.4	4.8	(3.2)
Massachusetts	(0.6)	(2.3)	0.1	(1.3)	0.5	2.1	1.7	3.9	2.0	(2.9)	(3.2)
Michigan	(0.7)	5.8	0.2	0.2	(1.6)	(1.7)	(0.8)	0.7	0.9	(0.9)	(2.0)
Minnesota	(0.3)	1.7	1.3	(0.5)	(1.0)	1.6	(0.1)	(1.1)	1.4	(1.3)	(1.6)
Mississippi	0.2	3.1	(0.5)	2.4	(2.0)	(3.6)	(4.2)	(3.6)	0.3	5.2	2.7
Missouri	(0.1)	3.0	0.5	0.3	0.4	(1.8)	(2.5)	(1.1)	0.5	(0.1)	1.0
Montana	1.8	(7.6)	(0.7)	0.5	(1.6)	(2.9)	(1.4)	(2.4)	2.1	4.3	7.9
Nebraska	(0.6)	(0.4)	(0.1)	(0.3)	(1.3)	2.1	(3.8)	(2.5)	0.3	2.1	4.5
Nevada	5.1	(7.3)	(1.8)	1.1	(2.6)	(0.9)	1.7	(2.0)	(2.1)	(1.8)	10.5
New Hampshire	(0.1)	(0.4)	0.5	1.8	(0.9)	0.4	1.5	(0.4)	1.6	(2.5)	(1.4)
New Jersey	(0.7)	(3.0)	2.1	(0.3)	0.3	0.4	4.1	1.4	0.1	(1.8)	(2.7)
New Mexico	(0.1)	(2.5)	(2.6)	(0.4)	(1.9)	(4.8)	(3.8)	(0.1)	(0.7)	5.4	11.5
New York	(1.8)	(5.9)	(0.9)	(1.2)	2.8	7.7	2.2	1.6	0.6	(1.7)	(3.2)
North Carolina	0.1	7.6	(0.4)	(0.1)	(1.0)	3.3	(3.4)	(2.3)	(0.8)	0.8	(3.7)
North Dakota	(0.2)	(2.7)	1.9	0.6	(1.0)	(1.9)	(3.9)	(3.5)	1.6	3.6	5.5
Ohio	(1.0)	7.2	0.2	0.2	(1.8)	0.5	(2.5)	(1.6)	1.1	(1.0)	(1.3)
Oklahoma	(1.1)	(1.8)	(1.2)	0.1	(1.4)	(3.5)	(3.9)	(3.0)	(0.6)	3.6	12.8
Oregon	(0.1)	5.3	0.7	(0.8)	(1.3)	(2.2)	0.3	(2.3)	0.5	1.9	(2.0)
Pennsylvania	(0.2)	2.6	0.1	(0.2)	(0.9)	(0.5)	(1.3)	0.3	2.5	(2.0)	(0.2)
Rhode Island	0.1	(2.3)	(0.9)	(0.4)	(0.7)	3.8	1.9	(1.4)	2.4	0.4	(2.9)
South Carolina	1.2	5.4	0.1	1.5	(1.7)	(2.8)	(1.8)	(2.6)	(1.1)	4.0	(2.0)
South Dakota	(0.7)	(1.7)	(0.4)	0.6	(1.7)	9.3	(4.5)	(4.5)	1.8	1.2	0.6
Tennessee	(0.5)	5.6	0.8	1.8	(1.3)	(2.4)	(2.8)	(1.9)	1.8	(1.1)	(0.1)
Texas	0.5	0.9	0.6	(0.3)	(0.4)	(2.3)	(3.7)	(0.7)	(1.2)	(1.1)	7.5
Utah	1.5	(0.9)	(1.0)	0.9	(0.7)	0.8	(2.3)	(0.5)	(1.1)	1.8	1.5
Vermont	0.4	(0.1)	(0.7)	1.7	(0.7)	(1.7)	(1.1)	(1.1)	2.8	1.7	(1.3)
Virginia	0.4	(2.9)	(1.6)	(0.5)	0.7	(1.6)	0.3	4.7	(1.6)	5.4	(3.1)
Washington	0.1	(1.0)	0.2	0.7	3.5	(2.2)	1.2	(1.1)	(0.4)	1.7	(2.9)
West Virginia	(0.4)	(1.2)	(0.9)	1.4	(1.9)	(3.9)	(3.8)	(3.1)	2.6	5.3	5.7
Wisconsin	(0.4)	8.6	(0.1)	(0.3)	(1.5)	(0.4)	(0.9)	(2.9)	1.3	(0.8)	(2.6)
Wyoming	1.0	(8.8)	(2.3)	(1.1)	(3.0)	(5.5)	(4.8)	(4.2)	(2.9)	1.2	30.3

Source: Rockefeller Institute analysis of data from U.S. Bureau of Economic Analysis.

Perhaps more relevant for the current environment, the table suggests that a slowdown in construction might have a significant impact on Nevada and Florida and that broader problems in the real estate industry might be especially problematic for Hawaii, New Jersey, Florida, and California.

The biggest risk to the economy right now appears to be from the subprime mortgage loan crisis. Subprime loans were an innovative approach that allowed home purchases by many people who might not have been able to afford them under standard mortgage underwriting rules. These loans generally allowed purchasers to obtain a relatively low interest rate for two to three years, after which the interest rate would be adjusted to reflect a substantial premium to market rates. The "reset" rates would entail large increases in interest rates and in monthly mortgage payments. With ris-

ing home values, secure incomes, and low market interest rates, borrowers often were able to either afford the "reset" payments or refinance the loans at fixed rates.

But if home prices fell, income growth slowed, or market interest rates rose, the resets would become much harder to refinance or afford. According to research from the Federal Reserve Bank of Boston, based on detailed mortgage data for Massachusetts, "homeownership that begins with a subprime purchase mortgage end up in foreclosure almost 20 percent of the time, or more than 6 times as often as experiences that begin with prime purchase mortgages." Falling prices are the main trigger leading to these delinquencies: "homeowners who have suffered a 20 percent or greater fall in house prices are about fourteen times more likely to default on a mortgage compared to homeowners who have enjoyed a 20 percent increase" (Gerardi et al. 2007).

Income growth has begun to slow and, more importantly, home prices have begun to fall in some parts of the country. In September 2007, median single-family home prices in 17 states were lower than their year-ago values. Declines were sharpest in California, followed by Arizona, Florida, Louisiana, and Nevada.

With home prices falling in some parts of the country and slowing their rise in others, consumption is likely to slow as well. In a recent analysis for the U.S. Conference of Mayors, Global Insight predicted that the mortgage crisis will sharply curtail growth in gross domestic product in 2008, lowering it by a full percentage point from 2.9 percent to 1.9 percent. Global Insight predicts that growth will be cut by more than a third in 65 metropolitan areas. The areas expected to be hit hardest are a mix of those that experienced rapid price appreciation prior to the mortgage crisis, such as California, Florida, and many coastal areas and heartland areas that were already suffering economic stress and where homeowners were finding it difficult to qualify for conventional mortgage loans such as Indiana, Michigan, and Ohio.

In total, Global Insight estimates that 17 of the 40 Metropolitan Statistical Areas (MSAs) that will lose the most due to the subprime crisis are in California (see Table 5). Most of the other top losers are in the Southwest or the Southeast.

Recessions and Revenue

Different recessions have had very different effects on state revenues. Figure 3 shows year-over-year growth in real gross domestic product per capita and in real state tax revenue per capita for the nation as a whole over a span that includes the last four recessions.[11] It's apparent that the declines in tax revenue during the 1980-82 double dip recession and the 1990-91 recession were reasonably consistent with the decline in the economy. But the 2001 recession was very different. On a fiscal year basis, real GDP per capita declined by 0.3 percent while real tax revenue per capita declined by 7 percent. The GDP decline was far milder than in the previous recessions and yet the tax revenue decline was dramatically greater. In fact, according to data from the U.S. Bureau of Economic Analysis, real tax revenue for state governments declined more steeply than it had at any time since 1959.

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11 Note: these data are not adjusted for changes in tax laws, which is beyond the scope of this brief. We believe the same basic picture would hold if such adjustments were made.

Table 5. Metropolitan Areas Losing Most from Subprime Crisis

Global Insight Estimates of MSAs With Greatest Losses Due to Subprime Crisis

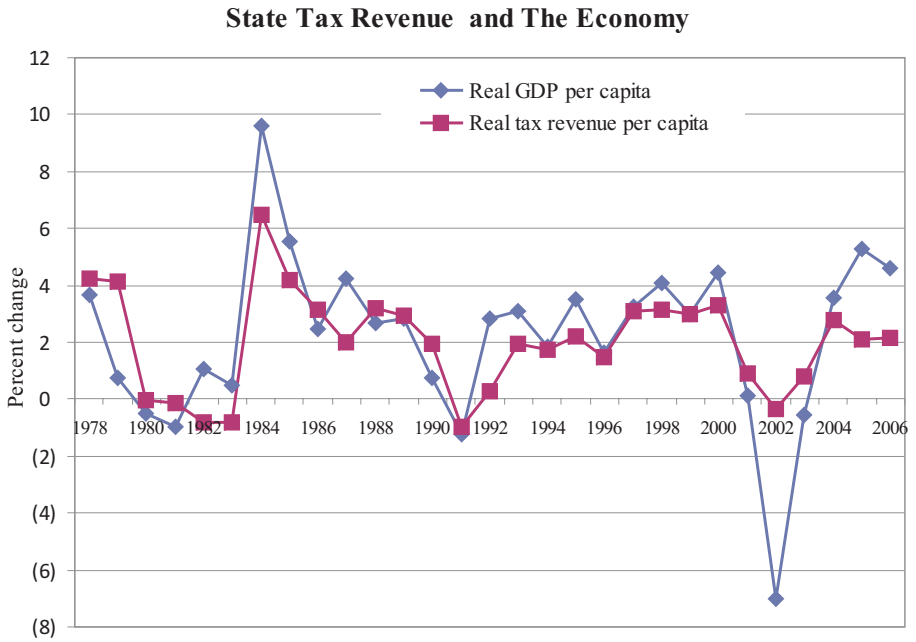
MSAs	Loss in Real Gross Metropolitan Product Growth, %
Myrtle Beach-Conway-North Myrtle Beach, SC	(1.7)
Merced, CA	(1.7)
Madera, CA	(1.6)
Sarasota-Bradenton-Venice, FL	(1.5)
Napa, CA	(1.5)
Manchester-Nashua, NH	(1.4)
Rapid City, SD	(1.4)
Salinas, CA	(1.3)
Bay City, MI	(1.3)
Mount Vernon-Anacortes, WA	(1.3)
San Luis Obispo-Paso Robles, CA	(1.3)
Salisbury, MD	(1.2)
Odessa, TX	(1.2)
Santa Cruz-Watsonville, CA	(1.2)
Palm Bay-Melbourne-Titusville, FL	(1.2)
Santa Barbara-Santa Maria, CA	(1.2)
Stockton, CA	(1.2)
Oxnard-Thousand Oaks-Ventura, CA	(1.2)
San Jose-Sunnyvale-Santa Clara, CA	(1.2)
Rome, GA	(1.1)
Carson City, NV	(1.1)
Dubuque, IA	(1.1)
Yuma, AZ	(1.1)
Yuba City, CA	(1.1)
Bremerton-Silverdale, WA	(1.1)
Fairbanks, AK	(1.1)
Kennewick-Richland-Pasco, WA	(1.1)
Ocala, FL	(1.1)
Spartanburg, SC	(1.1)
Eugene-Springfield, OR	(1.1)
Visalia-Porterville, CA	(1.1)
Modesto, CA	(1.1)
Colorado Springs, CO	(1.1)
Bakersfield, CA	(1.1)
Fresno, CA	(1.1)
Bridgeport-Stamford-Norwalk, CT	(1.1)
Orlando-Kissimmee, FL	(1.1)
Sacramento--Arden-Arcade--Roseville, CA	(1.1)
Riverside-San Bernardino-Ontario, CA	(1.1)
San Francisco-Oakland-Fremont, CA	(1.1)

Source: Global Insight 2007, Appendix Table A-2.
Note: Global Insight may have slightly different ordering of MSAs, due to rounding differences.

Precisely how revenue will be affected by a recession depends not just on the characteristics of the recession, but also on the structure of taxes.[12] There is no clear answer about which tax is most volatile or most susceptible to recessions. In some circumstances income taxes can be hit harder

12 See Bruce, Fox, and Tuttle 2006 for analysis of many of these issues.

Figure 3. The Mild 2001 Recession Had a Severe Impact on Tax Revenue



than sales taxes while in other circumstances the opposite is true. As we will discuss below, income tax declined especially sharply in the 2001 recession.

The structure of individual taxes matters, too. A broad-based sales tax that includes food will be more stable than a narrower-based sales tax because people's purchases of food do not drop off as much during a recession as do their purchases of other, more-discretionary items. Income taxes that are progressive can be much more volatile than those that are flatter in part because the incomes of upper-income individuals tend to vary more sharply than those of lower-income people. Capital gains income, interest income, and dividend income, which are disproportionately received by upper-income taxpayers, usually fall off more rapidly than wage income during a recession. While states can adjust these taxes to make them less volatile, these changes may conflict with other tax policy goals.

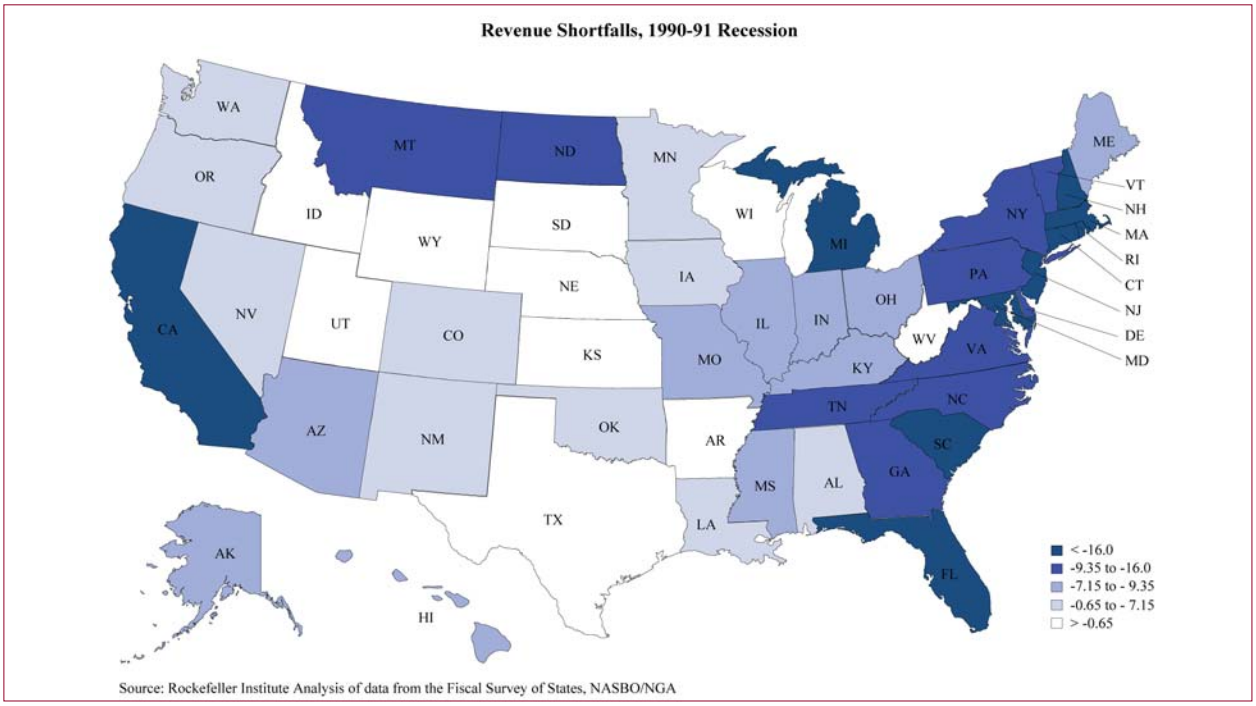
Although it is not always clear which tax is most volatile, in general states that rely on a portfolio of different taxes are likely to have less volatility than states that rely heavily on a single tax. Revenue from individual taxes generally does not move in lockstep with revenue from other taxes, and much as a portfolio of different securities will be less volatile than individual securities, a portfolio of taxes also will be less volatile.

Finally, revenue from individual taxes may respond differently on the upside than when the economy is moving down, and may respond differently when tax revenue is above its long-term trend than when it is below. Bruce, Fox, and Tuttle analyzed this issue in a 2006 article for the *Southern Economic Journal*, producing state-by-state estimates of income tax and sales tax responsiveness to economic changes under different circumstances.

Varying Impacts

Just as recessions have affected state economies in different ways, they have also affected state finances in different ways. One indicator of this is the extent to which states have experienced tax revenue shortfalls relative to earlier projections. The 1990-91 recession, which was heavily concentrated in finance and real estate, was particularly hard for eastern states and California. The 2001 recession, by contrast, was more widespread in its impact, hitting hardest those states that rely heavily on income taxes. Figures 4 and 5 show the regional pattern of revenue shortfalls for the last two recessions.

Figure 4. Bicoastal Recession — Or Northeast Plus CA



Source: Rockefeller Institute Analysis of data from the Fiscal Survey of States, NASBO/NGA

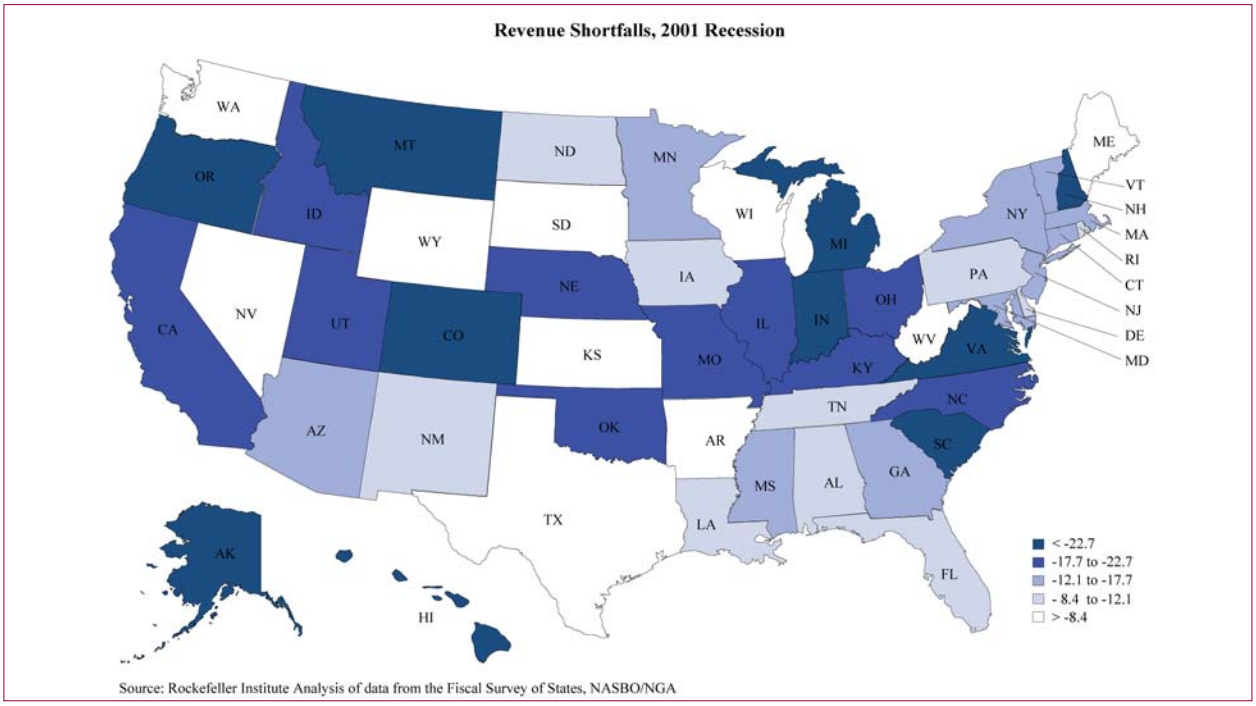
In 1991, the worst year of that recession period, the median state income and sales tax shortfalls were about the same — 2.4 percentage points for the income tax and 2.3 percentage points for the sales tax. In 2002, the worst year of the most recent recession period, both were worse, but the income tax was dramatically worse: the median state income tax shortfall was 10.8 percentage points while the median state sales tax shortfall was 3.5 percentage points.

Income Taxes and Capital Gains

One reason the states' income tax revenue fell so significantly in the 2001 recession is that capital gains, which had grown enormously prior to the recession, fell sharply as stock markets plummeted. Over the 50 year period for which we have data on capital gains, they averaged approximately 2.6 percent of GDP for the nation as a whole. However, as a result of the stock market boom of the 1990s capital gains rose to 6.6 percent of gross domestic product by 2000.[13] Over the next two years capital gains fell by more than 60 percent, with devastating impacts on budgets

13 This does not count the spike in 1986, when capital gains rose to 7.3 percent of GDP, reflecting the behavioral response of taxpayers to an impending increase in the tax rate on capital gains.

Figure 5. Income Tax Recession



of states that rely heavily on tax revenue from capital gains. However, in the subsequent stock market recovery, they rebounded sharply and by 2005 they had reached 5.5 percent of GDP, almost back to their pre-recession peak. Figure 6 shows capital gains as a percentage of gross domestic product over the last 50-plus years. It is clear just how unusual the peak was in 2000, and how unusual it is now. While there are sound reasons why capital gains might now be above the long-term trends, related to economy, tax rates, and other aspects of the tax system, states once again appear to face substantial budget risk if the stock market plummets.

Figure 6. Capital Gains Are Once Again Atypically High

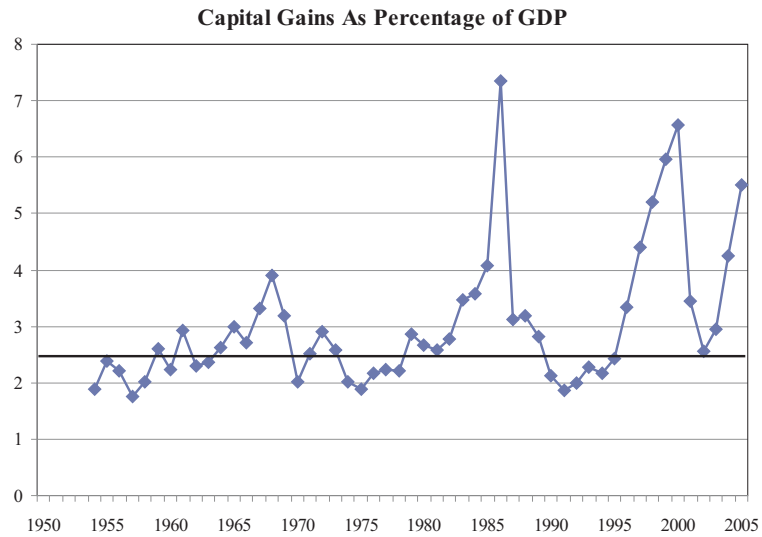
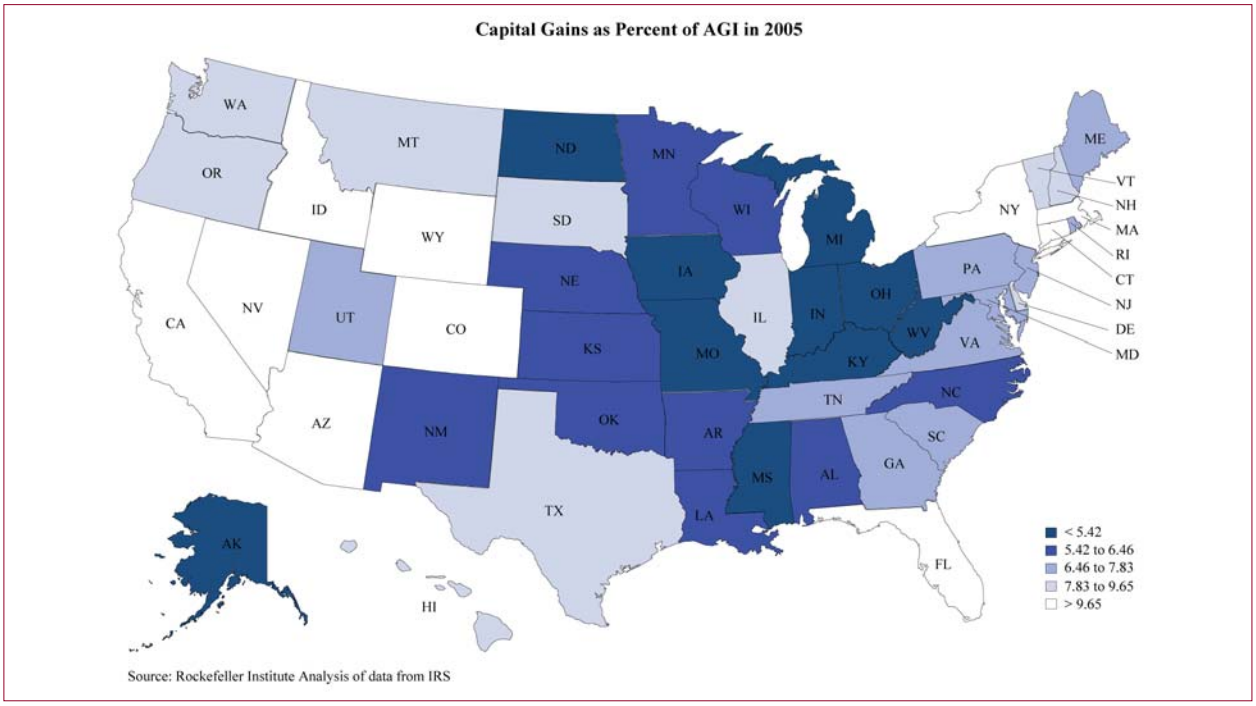


Figure 7. Capital Gains



Revenue Shortfalls

When tax revenue falls rapidly during a recession these sudden shifts are usually very difficult to predict, especially when driven by unpredictable changes such as a 60 percent reduction in capital gains. As a result, states often have large revenue shortfalls during recessions, leading to unanticipated cuts in spending, possible tax increases, reserve fund drawdowns, and other unpleasant actions.

Table 6 shows the median of state tax revenue shortfalls for the three fiscal years most affected by each of the last two recessions.[14] We calculate the sum of the shortfalls across the three years as a rough measure of the aggregate impact of each recession on tax revenue. This sum was almost three times as large in the 2001 recession as in the 1990-91 recession, consistent with the analysis above, and the income tax shortfalls were much larger than the sales tax shortfalls in this most recent recession. (Corporate tax shortfalls were the largest by far in both recessions in percentage terms, but most states do not rely heavily on corporate income taxes.)

The Next Recession and Revenue

In a November 2007 report on the mortgage crisis for the U.S. Conference of Mayors, Global Insight hypothesized that the economic slowdown attributable to the mortgage crisis would have its greatest impacts on local property taxes, sales taxes, and real estate transfer taxes. They argued that property taxes would suffer, eventually, from declines in property values, sales taxes would be hurt

14 As reported by the National Governors Association and the National Association of State Budget Officers, fall *Fiscal Survey of the States* for relevant years.

Table 6. Revenue Shortfalls Were Larger in the 2001 Recession and More Concentrated in the Income Tax

Medians of state revenue shortfalls for major taxes, 2 recession periods

1990 recession period

Fiscal year	Sales tax	Income tax	Corporate tax	Median for sum of major taxes
1990	-0.4%	0.6%	-10.6%	-0.7%
1991	-2.3%	-2.4%	-9.9%	-2.6%
1992	-1.1%	-2.4%	-3.5%	-1.7%
Sum	**-3.9%**	**-4.2%**	**-24.0%**	**-5.0%**

2001 recession period

Fiscal year	Sales tax	Income tax	Corporate tax	Median for sum of major taxes
2001	-0.3%	0.2%	-6.5%	-0.6%
2002	-3.5%	-10.8%	-24.3%	-8.7%
2003	-1.5%	-7.0%	-4.6%	-5.1%
Sum	**-5.3%**	**-17.5%**	**-35.4%**	**-14.4%**

Source: Rockefeller Institute analysis of data from NASBO/NGA Fiscal Survey of the States, Fall of relevant

by declines in consumer spending due to the wealth effect from losses in property values, and that transfer taxes would decline as a result of declines in both values and numbers of transactions.

In a Global Insight analysis of 10 large states representing a cross-section of the country, the property tax by far bore the greatest brunt of the mortgage crisis. For example, in California, Global Insight estimated that state and local governments would lose $3 billion of property tax revenue, $1 billion from the sales tax, and $39 million from the transfer tax. They estimated that New York local governments would lose $686 million from the property tax, and that the state and local governments would lose $97 million from the sales tax and $47 million from the transfer tax (Global Insight 2007).

This analysis is useful, but in some ways the impacts are likely to be far more severe and in other ways they are likely to be muted and delayed. The impacts are likely to be more severe because the Global Insight analysis intentionally was limited to the relatively direct effects of the mortgage crisis.To the extent that the crisis spills over to other parts of the economy leading to declines in the stock market, declines in employment, and consumer fears about job loss and associated slowing of consumption, it will lead to additional losses in income taxes, sales taxes, and other revenue. Some of the impacts are likely to play out over time. Global Insight analysis did not attempt to predict how property taxes would change over time, and any estimates of this nature would likely be highly speculative. However, property taxes historically have shown considerable resilience during recessions. Declines in property values ultimately will be reflected in tax bases but not necessarily to the same extent in tax revenue. The tax base may respond slowly because assessments and their timing are based partly upon administrative choices. Tax revenue may not respond greatly because government officials have the ability to raise tax rates to reduce the impact on revenue.

Recessions and Other Elements of State Budgets

By and large, the most severe impacts of recession are felt on the revenue side of state government budgets. States generally budget in the short term, neither doing long-term projections nor long-term financial plans. In the short term, many expenditures are relatively fixed and not affected anywhere near as directly and dramatically by the ravages of a recession as are tax revenues.

School aid — the largest expenditure in many budgets — typically is fixed by appropriation. School aid does not respond automatically in any significant way to recession. The number of pupils tends to be relatively unaffected by recessions, at least at the state level, although areas affected by prolonged economic downturns can suffer population losses and losses in the numbers of school-age children. (By contrast, the number of students in colleges, particularly community colleges, tends to increase during recessions — when it becomes more difficult to find jobs it is more attractive to stay in school and build job skills.) While states certainly have chosen to cut school aid in the aftermath of a recession, this is a policy response, and not an automatic response to the recession.

Medicaid is the second-largest or largest expenditure in many state budgets. But about two-thirds of Medicaid expenditures nationwide are for care for the elderly and disabled,[15] and recessions generally do not affect the numbers of eligible people in these groups or the cost of their care significantly. A much smaller fraction of Medicaid is for people who have low incomes and their children, and who may also be eligible for cash assistance grants. There's relatively little research on this point, but one review of studies concluded that a sustained increase in unemployment of one percentage point could lead to an increase in Medicaid enrollment of adults and children of about 4 to 4.5 percent, and to an increase in enrollment of the blind and disabled of about 1.7 percent (Holahan and Garrett 2001). Still, in the scheme of state budgets, these effects are likely to be very small in comparison with the effects of recessions on state tax revenue.

There are other areas in which recessions can lead to automatic changes in state government spending. When oil prices rise sharply, heating costs, electricity costs, and the cost of using state vehicles rises. (For a few states, such as Louisiana, high oil prices are producing significant revenue increases and are expected to continue doing so.)

One other important area is pension costs. State/local government pension funds in aggregate now have approximately 70 percent of their assets invested in equities.[16] To the extent that a recession is accompanied by a stock market decline, this can lead to a sharp increase in actuarially required contributions to pension plans. While actual payments to plans need not move in lockstep with actuarially required contributions, the eventual increase in payments can be significant.

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15 "Medicaid Payments, by Eligibility Group: Fiscal Years 1975-2002," Medicare & Medicaid Statistical Supplement, Centers for Medicare & Medicaid Services.

16 Total assets of retirement plans and their allocation are based on Federal Reserve Board, Flow of Funds, Z1 Release, June 7, 2007. The data for corporate equities include direct investments by pension plans plus estimates of indirect investments through mutual funds. In addition, this definition also includes estimates of equity investments in real estate via real estate investment trusts (REITs) and estimates of private equity investments. As a result, the Flow of Funds estimate is greater than some estimates developed from financial statements of individual pension funds, which generally provide greater detail but are not available in comprehensive form for long spans of time.

How States Respond to Recessions

The Timing of Response

When economic weakness hits unexpectedly in the course of a fiscal year, it can hit hard. For example, in fiscal year 2002 state tax revenue fell short by 9.5 percent of original projections for the nation as a whole, and much of that shortfall came near the end of the fiscal year when tax returns for 2001 were filed. Tax revenue fell approximately 9 percent year-over-year in the final two quarters of fiscal year 2002, after falling a much more gentle 3 percent in the first two quarters. Many states were confronted with large and growing budget gaps that appeared or worsened significantly in the second half of the fiscal year.

States' options to close a large budget gap that arises in the middle of the year are few. The legislature may not be in session, and unless called back states will be limited to actions they can take administratively. Legally, they may be unable or severely limited in their ability to scale back spending that has been approved by the legislature. Without legislative involvement they generally will be allowed to freeze hiring, and postpone or cancel purchases of supplies, materials, and services under contract. But these are not the largest areas of state spending — in the typical state, school aid and Medicaid are the largest spending areas. Legislatively approved aid payments to school districts cannot usually be cut administratively, and changing Medicaid eligibility rules, service coverage, and payment rates usually require legislative involvement. Furthermore, any actions of this nature typically involve long implementation times, so fiscal savings do not come quickly.With rare exceptions, states cannot raise taxes without the legislature, and have limited ability to raise other revenue administratively. They may have some ability to shift payment dates for some revenue sources, potentially accelerating revenue into the fiscal year at the expense of the future. And they often will have some ability to shift money among funds of the state, borrowing from Peter to pay Paul. In addition to these limited administrative spending and revenue options, states usually have the ability to withdraw money from reserve funds administratively, to issue deficit notes, and perhaps to raid some off-budget funds.

Even if the legislature is in session or is called back by the governor, practical midyear options for achieving large quick savings are limited. While it is legally possible to implement a wide range of gap-closing solutions if the legislature is involved, ranging from layoffs to tax increases, these actions generally are not practical solutions to a midyear budget crisis. It takes time to assess the size of a problem, to negotiate political solutions, to implement those solutions, and to realize savings from them. For example, implementing employee layoffs might involve complicated and time-consuming "bumping" rules for deciding which employees would lose their jobs (where a senior employee at risk of layoff may move into the job of a more-junior employee). If the state chose to cut school aid payments, it might find that most of the payments had already been made by the time of legislative action and that there were few targets of opportunity. If a legislature returned to session in November, five months into the typical state's fiscal year, and decided it wanted to raise sales taxes to help close a current-year budget gap, the tax increase would be in effect and providing resources for only a short period of time — the state would need to enact the increase, develop new tax forms, reach out to tens or even hundreds of thousands of retail vendors, and then plan for the additional delay between the time a tax increase is implemented and the time that vendors remit taxes to the state. In addition, legislatures do not always have as great an incentive to act in a midyear special session (e.g., November or December) as they do in the period following the gover-

nor's budget submission (e.g., March or April). If the legislature acts in a special session, they may share more of the credit or blame for spending cuts and tax increases than if they wait for the governor's budget proposal, which must include proposals for whatever actions are needed to balance the budget, granting the governor the public credit for these proposal.

For all of these reasons, the initial state response to a midyear budget crisis tends to be fairly limited: hiring freezes, modest spending cutbacks, raids of off-budget funds, and withdrawals from reserve funds often are the first targets of opportunity. Many of these changes provide only one-shot resources or may even push part of the problem into a subsequent year. The next round of response typically is incorporated into a governor's proposed budget and the legislative response — a period in which the governor and legislature are grappling with a budget gap in the then-current year plus a projected gap for the upcoming fiscal year. In such a period the governor and legislature can agree upon far more substantive and enduring changes, including sizeable spending cuts and tax increases. Which of these actions will play the largest roles depends on the political dynamics in a state, its history, and current environment, and many other factors, and is difficult to predict.

This is also a period in which states begin to engage in what many people consider gimmicks — further raids on off-budget funds

Table 7 displays information on the last fiscal crisis and how states responded. The first two columns give an indication of the size of and timing of the crisis — the first gives the percentage change in real per capita tax revenue, and the second shows aggregate state tax revenue relative to original budget estimates, for the nation as a whole. The recession technically began toward the end of fiscal year 2001, and the stock market had begun to decline in 2000. But the fiscal environment did not truly deteriorate until fiscal year 2002, when real per-capita tax revenue for the states in aggregate declined by 7 percent, and revenue fell short by about 9.5 percent. Fiscal year 2003 was another very difficult year, but by fiscal year 2004 states projected their (now lower) revenue much more accurately.

The next three columns show fiscal choices made by states, relative to the size of state tax revenue. The first of these columns shows the use of fund balances by states, and true to the behavior described above the largest use of fund balances by far was in the very first year, when the drawdown amounted to 4.8 percent of tax revenue. This was enough to reduce balances by 59 percent, leaving them precariously low and of little use as a mechanism for further budget relief.

The next column shows midyear budget cuts reported by states. These actions are the response to midyear surprises, and are not necessarily enduring. While in many cases they were across-the-board cuts, rather than the sort of targeted cuts that one might expect from a full budget review process, they varied dramatically by state. For example, California claimed to make cuts in all areas of the budget, with no exemptions; but many other states exempted K-12 education, Medicaid, sometimes by legislative choice and in other cases as a constitutional mandate. (Most states presumably exempt debt service from midyear cuts because of its contractual nature.)

The big guns of significant tax increases or spending cuts often don't come out until after the politically and economically easier actions of reserve fund drawdowns, obvious gimmicks, and similar actions have been taken. The next column shows tax and revenue enactments — tax increases — as a percentage of tax revenue. It shows that in response to the 2001 recession, states in-

creased taxes modestly in comparison to overall tax revenue, in fiscal year 2003 and again in 2004. (States raised taxes again in 2005 and 2006, but by much smaller amounts.)

Finally, we come to spending cuts. Unfortunately, there are no solid numbers on cuts states actually make in spending, and announced cuts may not end up as large as they are portrayed initially — state government spending, as measured comprehensively by the Census Bureau, often grows in years of large announced cuts. An alternative way to look at this question is to examine the bottom line — how much does spending financed by the state, measured comprehensively, grow or decline in years following a recession? That is what the final column does — it shows the growth rate in real per-capita state government spending financed from own revenue sources.[17] Here we see that state-supported spending grew well above the rate of inflation plus population growth in 2001, slowed considerably in 2002 but was still quite positive, and slowed considerably again in 2003. By 2004, while tax revenue was recovering sharply, states actually cut real per-capita spending by 2.2 percent, although growth did resume in 2005.

Table 7. The Timing of States' Responses to the 2001 Recession: Reserve Funds First, More Difficult Actions Later

	Indicators of the magnitude of the crisis		Responses as % of tax revenue (Positive numbers reduce the budget gap)			What happened to total spending?
Fiscal year	Real per-capita tax revenue growth	Revenue shortfall (income, sales, and corporate taxes)	Use of fund balance	Midyear budget cuts	Tax and revenue enactments	Growth in real per-capita spending financed from own sources
2001	0.1%	-0.1%	0.8%	0.3%	-1.0%	3.4%
2002	-7.0%	-9.5%	4.8%	2.6%	0.1%	2.0%
2003	-0.6%	-6.6%	0.3%	1.5%	1.5%	0.3%
2004	3.6%	1.6%	-1.9%	0.4%	1.6%	-2.2%
2005	5.3%	4.2%	-2.9%	0.1%	0.5%	2.7%

Sources: Rockefeller Institute analsis of (1) data on fund balances, midyear budget cuts, and tax and revenue enactments from NASBO/NGA Fall Survey of the States, and (2) Tax and expenditure data from the Census Bureau.

To summarize, the initial response to a recession in the year of a negative revenue surprise typically includes administrative actions or a combination of administrative and legislative actions. These commonly involve across-the-board cuts, reserve-fund drawdowns, and borrowing from other parts of the budget. These actions often have no impact on longer-term structural problems, or can even make the subsequent year's problem worse. States reserve the big guns of large tax increases and spending cuts for the executive budget process, and that process can take several years to play out, as it certainly did after the last recession.

17 We define spending financed from own revenue sources as the Census Bureau's concept of "total general expenditures," minus revenue received from other governments (primarily the federal government).

Reserves, Spending Cuts, and Other Actions

Even a modest recession can have impacts far greater than can be managed simply by drawing funds down from a rainy day fund. One study concluded that if states had wanted to maintain expenditure growth without tax increases during the 1990-91 recession, they would have needed reserve funds that were, on average, around 30 percent of expenditures (Sobel and Holcombe 1996). Other analyses have reached similar conclusions.

If states establish rainy day funds, do they actually put money into savings — achieving greater ability to smooth the ravages of a recession — or are savings simply shifted from other, less-visible places? One analysis concluded that states really did increase their savings when they established such funds (Knight and Levinson 1999). Another study concluded that as a result of increasing reserves and other savings, "savings are substantial relative to swings in state budget cycles…states entered the recession of 2001 much better prepared than they would have been without those savings, and much better prepared than for the recessions of the previous several decades" (Gonzalez and Levinson 2003).

But as states prepare to take less palatable actions, what governs those actions? One analysis concluded that when a single party controls the statehouse and the governorship, state governments solve deficits (or get real surpluses) much faster than when party control is divided. The same paper concluded that states have tended to eliminate at least half of an unexpected deficit within the first fiscal year, through tax increases and spending cuts. It also concluded, somewhat surprisingly, that over a two-year period states have tended to eliminate about 40 percent of unexpected deficits through cuts in projected spending, and 90 percent through tax increases (put differently, they oversolve the problem). By contrast, it found that states did not increase spending much or quickly, or cut taxes much or quickly, to soak up surpluses (Poterba 1994).

Another researcher concluded that the long-term relationship between nonwelfare spending (including K-12 education) and the economy was pro-cyclical, while spending on public welfare was countercyclical. He also concluded that during recession years, policymakers in many states appeared to increase both taxes and expenditures, perhaps in an effort to maintain pre-recession spending levels (Dye 1999)

Responses to Recent Recessions

In responding to the 2001 recession, states certainly drew down their reserves first, protected K-12 education, cut growth in other areas of the budget, and made relatively small tax increases that tended to be targeted rather than broad-based. In an analysis of the 2001 recession, the Urban Institute noted that states responded by turning first to reserves and one-time revenue, and relied far less heavily on tax increases than in prior recessions. Spending cuts were designed to avoid large programmatic effects — often reflecting delayed expansions rather than program cutbacks (Finegold 2003).

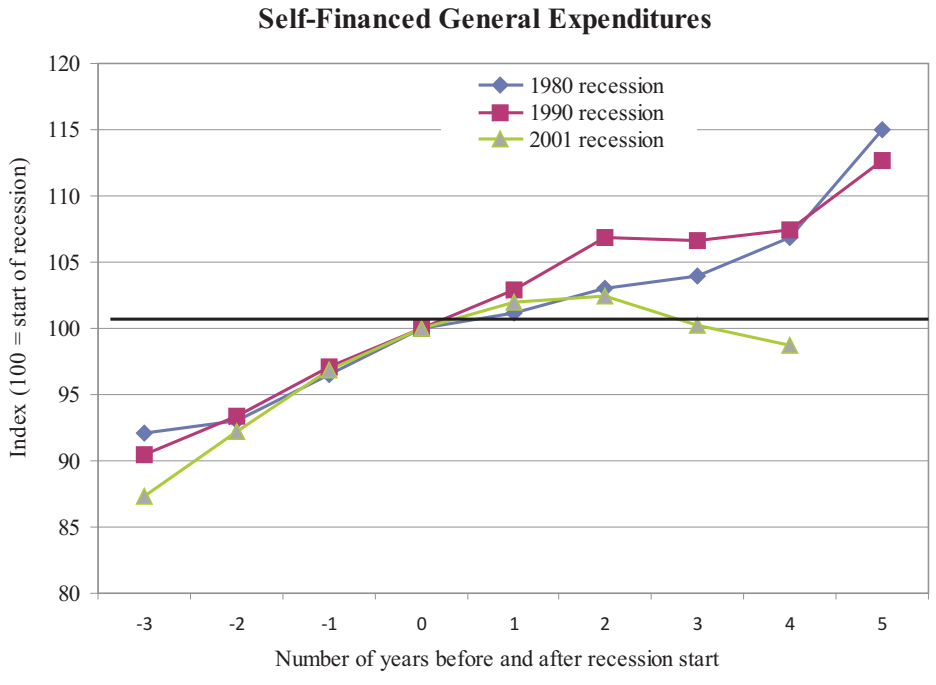
Tax increases were smaller and more targeted in the 2001 recession than in the 1990-91 recession. One analysis of 10 states concluded that "states with few exceptions relied on targeted revenue measures, such as cigarette and alcohol taxes, but were unwilling to engage in significant increases in personal or corporate income taxes or sales taxes. States did continue the pattern of recent years of drawing on reserves or rainy day funds, transferring monies from dedicated trust funds

and shifting spending or taxes across time periods to address current shortfalls." The study also noted considerable policies that reduced support for higher education, aid to localities, and the size and compensation of the state workforce. Finally, most states cut health care programs in some fashion, freezing or reducing provider reimbursement rates and cutting optional benefits in Medicaid (Holahan et al. 2004).

Another analysis examined tax changes in recessions. It concluded that states increased taxes rapidly in the early 1990s, but in the 2001 recession very few increased taxes, aside from tobacco taxes. "In FY1991 states enacted tax policy changes that increased revenue by about $10 billion or 3.3 percent. The following year tax policy changes increased revenue about 4.2 percent.… In contrast, in FY2002 states enacted policy changes that increased total net revenues by only 2 tenths of one percent. In FY2003 policy changes increased state tax revenues only 1.4 percent" (Maag and Merriman 2003).

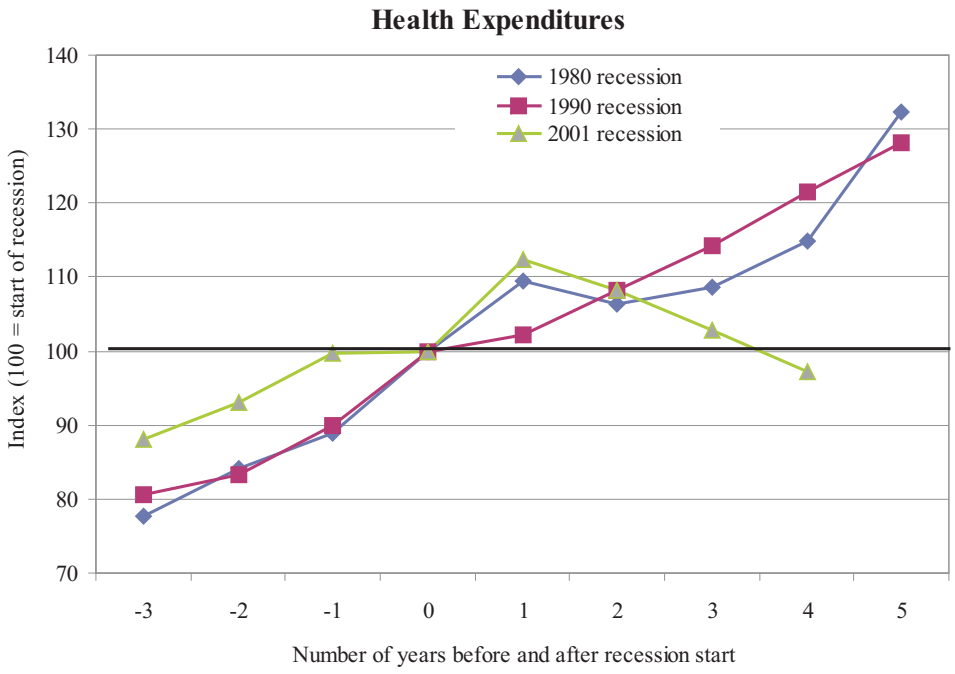
As discussed earlier, state governments in aggregate did not cut spending significantly immediately after the 2001 recession started. In fact, even after adjusting for inflation and population growth, spending from states' own funds rose in 2002 and 2003. But in 2004 spending financed from states' own funds actually declined by more than 2 percent, in contrast to the previous two recessions in which expenditures increased almost unabated. By 2005, spending did resume growing even after adjusting for inflation and population growth, but it was well below the trend of previous recessions. Figure 8 shows the change in inflation-adjusted spending financed by state's own funds from taxes, fees and other sources, before and after the start of the last three recessions, with 0 representing the start of the recession in each period.

Figure 8. State Governments Actually Reduced Real Per-Capita Spending After the 2001 Recession



Some areas of state budgets were hit much harder than others. Real per-capita spending on health (especially public health) declined by nearly 5 percent in 2004 and by 5.5 percent in 2005 (Figure 9). In adjusted terms, spending on corrections declined by almost 7 percent in 2004, while highway expenditures and transit subsidies were cut as well. Finally, real per-capita spending on natural resources and parks and recreation were also cut substantially in both years. In general, states appear to have placed greater emphasis on cutting expenditures in response to the 2001 recession than they did in the two previous recessions.

Figure 9. State Health Expenditures Declined After the 2001 Recession



A review of past recessions suggested that states were unlikely to cut employment after the 2001 recession (Boyd 2002). That conclusion was based on trends such as those in Figure 10 (on the next page) for three earlier recessions, which showed that states historically had not cut employment significantly. (After the start of the 1973 recession, state governments for the nation as a whole rose essentially without interruption, although growth did slow after about two years. Employment also continued to grow after the start of the 1980-82 double-dip recession, but declined briefly and modestly about two-and-a-half years after the start of the 1980 recession, declining by about 0.8 percent before resuming growth. After the start of the 1990-91 recession, state government employment for the nation as a whole grew for a year, then declined by 0.9 percent over a three-month period, and then resumed its growth.)

But history was not a very good guide to states' actions in response to the 2001 slowdown. From late 2002 through mid-2004 aggregate state government employment actually declined before resuming modest growth. As of a year later state government employment growth still had not reattained its mid-2004 peak (see Figure 11).

Figure 10. States Historically Have Not Cut Employment After Recessions

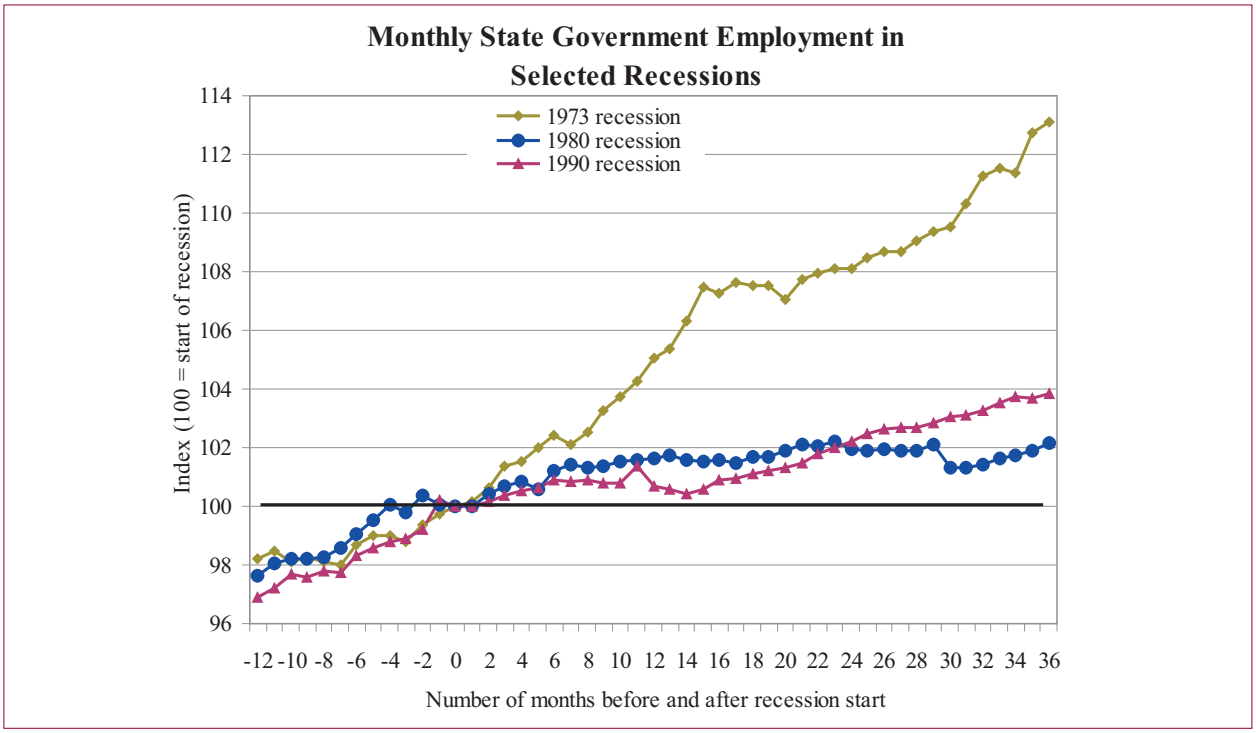
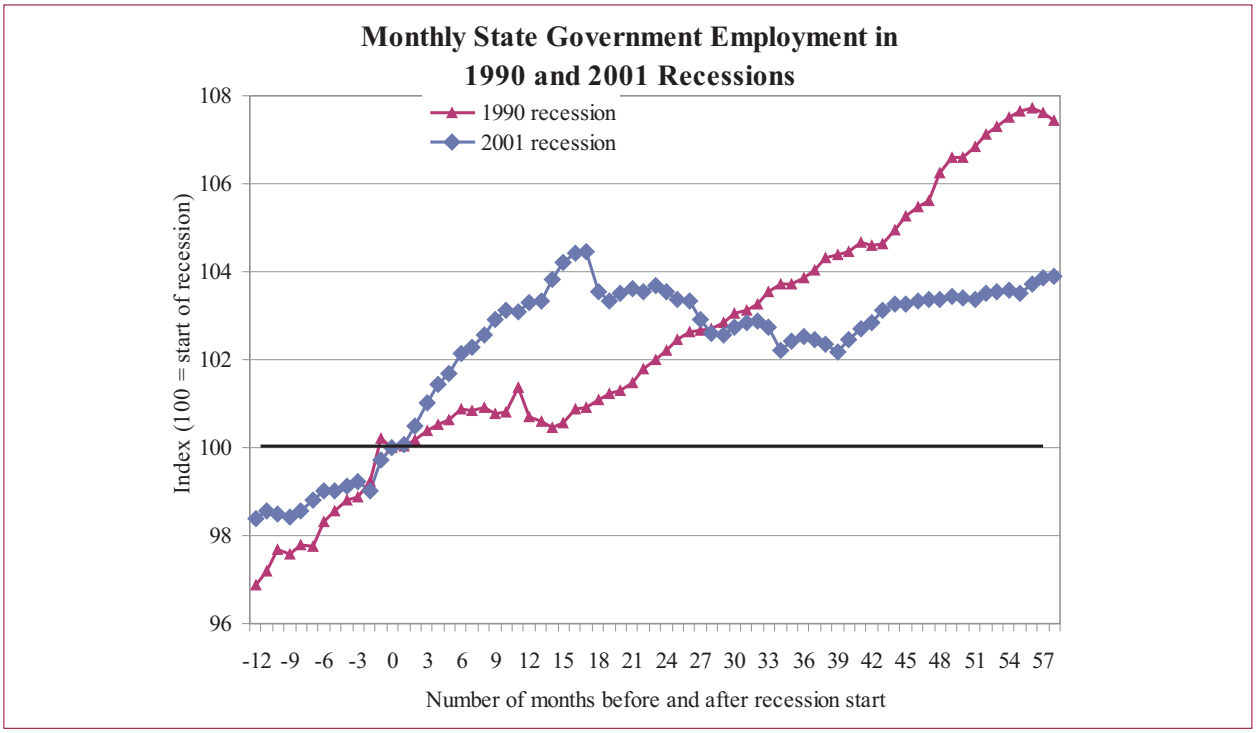


Figure 11. State Governments Did Curtail Employment Growth After the 2001 Recession



In contrast to the two previous recessions and counter to earlier predictions, states actually did curtail spending and employment in the wake of the 2001 recession. The change in fiscal behavior may have occurred simply because states had little choice, given the magnitude of the drop in revenues in 2001 — much larger than those in previous downturns.

Conclusions

The economy has weakened and is at substantial risk of recession, if we are not already in one now. Recessions vary enormously in their depth and duration, and in their regional impact. Although economic volatility has been declining, the reasons for the decline are not fully sorted out by economists and future recessions well could be as severe as those earlier in the postwar period. Furthermore, even mild recessions can have drastic impacts on state tax revenue. The 2001 recession was the mildest postwar recession and yet it caused real state government tax revenue to decline more steeply than it had at any time since 1959.

Each recession has a different effect on different taxes, and affects the regions of the country differently. It is difficult to predict in advance how different regions and taxes will be affected. At present, the regions of the country most affected by the mortgage crisis appear likely to be at greatest risk — in particular, California, Florida, Michigan, and Ohio, and other parts of the Southwest, Southeast, and Great Lakes regions.

One of the reasons the 2001 recession had such a sharp impact on state tax revenue is that revenue had increased rapidly prior to the recession in an unsustainable way, in part because of a soaring stock market and large increases in capital gains. While capital gains have not yet increased to their pre-2001 level as a share of income, they are quite close, meaning that they are once again susceptible to a sharp drop if conditions become right. While it is hard to imagine stock markets selling off again as much as they did in the 2000 through 2002, the broad market is down about 7 percent at this writing and revenue related to investments is at substantial risk.

States' expenditure patterns generally tend to be pro-cyclical. In boom times, states tend to enact larger-than-average increases in spending on education, transportation, and other services and programs. During economic downturns, states may be forced to spend more on social-welfare programs, but overall spending increases are likely to be constrained by limited revenues. In 2008, a short, mild recession might result in only limited fiscal response by states, with little import for the national economy. A more pronounced, deeper downturn, on the other hand, could force states into staff reductions and other spending cuts that could add to the nation's economic woes.

What can states do to prepare for the heightened risk? The first set of answers relates to decisions made during times of expansion. States should maintain and increase reserve funds, where possible. Studies have shown that reserve funds generally are not anywhere large enough to fully dampen the effects of a recession, but that they do tend to soften some of the policy responses otherwise needed. States that rely on a balanced portfolio of taxes rather than depending primarily on a single tax may enjoy more consistent revenues than others. And finally, of course, states can prepare budgets conservatively, even when revenues are strong, and avoid long-term spending commitments based on revenue sources that appear unsustainable.

As for budgets adopted in 2008, states should inform their revenue projections with a healthy consideration of potential risks. When many economists say their own predictions are weighted to the downside, states may wish to err on the low side in estimating projected revenues, and to shape decisions on the expenditure side of the budget accordingly.

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