

# IMF Working Paper

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## Great Recession and Fiscal Squeeze at U.S. Subnational Government Level

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**IMF Working Paper**

Fiscal Affairs Department

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**Abstract**

The paper discusses the fiscal impact of the Great Recession of 2007–08 on state and local governments in the United States. It documents the sharp decline in tax revenue and discusses how states responded to close the budget gaps in order to obey the balanced budget provisions. It highlights the procyclical nature of this policy response, provides a brief comparison with subnational policy stances in other advanced economies, and discusses some options for making subnational fiscal policy less procyclical within the framework of current rules.

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## I. INTRODUCTION

In the aftermath of the Great Recession of 2007–08, public finances in most advanced economies have weakened quickly and significantly. Both as a result of the impact of the crisis on economic activity and tax revenue, and, to a lesser extent, as a result of the policy response to mitigate the crisis, budget deficits widened sharply, and public debt ratios began to increase rapidly, in some countries reaching post–World War II heights. One of the more significant deteriorations of fiscal positions took place in the United States, with general government gross debt increasing from 67.2 percent of GDP in 2007, to 102.9 percent of GDP in 2011.<sup>1</sup>

In some economies, the crisis led to increased deficits at both the central and local government levels. However, in a number of other economies, the fiscal response at the subnational level was constrained by fiscal rules that limited the ability of local authorities to borrow in order to run deficits. The balanced budget rules (BBRs) that limit state borrowing have received the most attention. Most states have some form of BBR, which helped shape the mix of adjustment and financing during the crisis. The United States is unique in that the BBRs have not been imposed centrally, but were introduced by states individually, reflecting a deeply rooted tradition of fiscal discipline at the state level.

This paper looks how the Great Recession impacted U.S. subnational finance.<sup>2</sup> The second section summarizes the institutional constraints on state governments' borrowing and discusses their origins. The third section looks at how the crisis affected the fiscal positions of state and local governments, and highlights the differences between state and local tax collection owing to the governments' different tax bases and varying impact of the crisis on tax bases. The fourth section analyzes how state governments responded to budget shortfalls that emerged as a result of the crisis by drawing down the accumulated balances in the “rainy day” funds, cutting spending, and even raising taxes. State and local governments also received help from the federal stimulus package at the time/during that period.

The fifth section contrasts the policy response to the crisis at the federal level with the response at the state and local levels, and provides some comparison of the subnational policy stances in the United States and other economies. Even though a similar procyclical fiscal tightening has been observed at the subnational level during the latest crisis in a

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<sup>1</sup> During the same period, the average gross government debt for advanced G-20 countries rose from 80.5 percent of GDP to 110.3 percent of GDP. See IMF (2012a).

<sup>2</sup> For an earlier review of fiscal challenges of state and local governments, see IMF (2011). In this paper, we focus mainly on state governments. However, where relevant, we also discuss the fiscal development of local governments, which include counties, cities, towns, school districts, and special districts with a range of entities providing public services (water, electricity, hospitals, etc.).

number of advanced economies, the U.S.'s tightening appears to have been among the most pronounced.

The final section discusses the appropriateness of the constraints limiting states' fiscal discretion in light of their experience during the Great Recession. On the pro side, the borrowing limits helped prevent state and local authorities from accumulating large debts that would pose a threat to macroeconomic stability, as happened in some other countries. The U.S. municipal bonds market continues to offer financing to borrowers at a reasonable cost. On the con side, the frequently tight limits on borrowing forced the local authorities to implement sharp spending cuts and tax increases that may have, at times, been at cross-purposes with the federal government's effort to stimulate the economy. However, while some authors have questioned the desirability of fiscal tightening at the state and local levels, there has not been a widespread call to ease the BBRs or debt limits. The paper concludes that there is scope for improving the flexibility of subnational fiscal policy during downturns without abandoning the long tradition of fiscal discipline embedded in the BBRs.

## II. THE SCOPE AND IMPACT OF BALANCED BUDGET RULES

States (with the exception of Vermont) in the U.S. are subject to balanced budget rules. The origin of BBRs can be traced to the state debt crisis of the early 1840s. During the 1820s and 1830s, many states invested heavily in canals, railroads, and banks, financing their investments by borrowing. However, when the expected high revenues from tolls and dividends failed to materialize, nine states defaulted in 1841–42 on their interest payments.<sup>3</sup> The federal government resisted the pressure by states and investors for bailout.<sup>4</sup>

The defaulting states were those with the highest per capita debt. Thus, in the wake of the crisis, states began to impose constitutional or statutory limits on the issuance of state and local debts, starting with the 1846 New York Constitution.<sup>5</sup> In addition to the limits on borrowing, states began introducing provisions to set aside revenue to service future debt obligations by rising current taxes, a move reminiscent of the later PAYGO provisions in the federal budget. These provisions had two effects: (i) the electorate faced the full cost of investment financed by issuing debt immediately; and (ii) there was less risk of default and crisis in case the expected revenue from the financed project failed to materialize.

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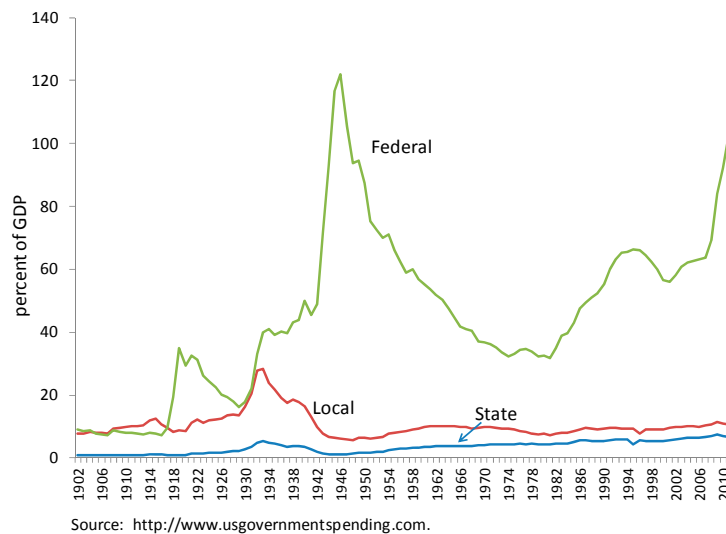
<sup>3</sup> Grinath and others (1997).

<sup>4</sup> As discussed in Henning and Kessler (2012), the rejection of state debt assumption by the federal government established the no-bailout clause, after which no state bailout request has been granted (with one special exception).

<sup>5</sup> For example, Article 7 of the 1846 New York Constitution states that a state may borrow to “repel invasion, suppress insurrection, or defend the state in war.” It also asserts that “no other debt could be incurred unless it was authorized by law, limited to a single objective, included provisions for a direct annual tax sufficient to pay interest as it came due and to retire the principal within eighteen years.” Quoted from Grinath and others (1997).

The borrowing limits and no-bailout policy had the intended effects. With the exception of the Civil War and Great Depression periods, state defaults have almost disappeared following the introduction of constitutional or statutory limitations on state borrowing.<sup>6</sup> Yet, even though they remained limited most of the time, the issuance of state and local debts did not end. As Grinath and others (1997) conclude, rather than setting hard limits on state and local government borrowing, these limitations made new debt issuance contingent on raising taxes to service future debt, thus minimizing the risk that the failure of debt-financed investment to generate projected revenue would throw the indebted state into default. Moreover, several states did not adopt legal provisions to limit their debt issuance immediately, and collective state indebtedness increased four times between 1841 and 1860. States' debt further rose during the post-Civil War reconstruction.

**Figure 1. Century of Government Debt**



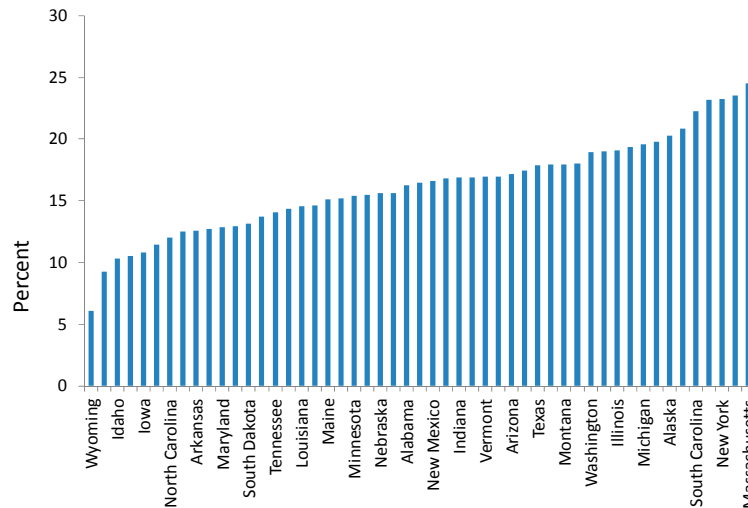
Outstanding state and local debt hovered around 10 percent of national GDP in the first two decades of the 20<sup>th</sup> century, but increased rapidly during the Great Depression, peaking at 34 percent of GDP (Figure 1).<sup>7</sup> It fell sharply during the Second World War, to below 10 percent of GDP (even as federal debt climbed sharply), but subsequently grew slowly and steadily, though with temporary interruptions and reversals. In 2008, at the beginning of the

<sup>6</sup> Defaults did not quite disappear at the local government level, partly because the constitutional borrowing limits did not work as effectively at the local level as they did at the state level. However, the no-bailout and hard budget constraint practices of the federal government vis-à-vis state governments were similarly replicated by state governments vis-à-vis local governments. This did not preclude occasional assistance in exchange for fiscal reforms (New York City during the 1970s) or during times of serious stress (the 2007–08 crisis).

<sup>7</sup> The increase in the debt ratio mainly reflected the collapse of nominal GDP during 1929–1933; in nominal terms, state and local debts increased during that period by only about 33 percent and 11 percent, respectively.

crisis, there were large differences in the stock of state and local government debt, ranging from 6 percent of gross state product in Wyoming to almost 25 percent of gross state product in Massachusetts (Figure 2).

**Figure 2. US State and Local Debt, 2009  
(In Percent of Gross State Product) <sup>1</sup>**



Source: Bureau of Economic Analysis; U.S. Census Bureau 2008 Annual Surveys of State and Local Government Finances.  
<sup>1</sup> Fiscal year ending June 30, 2009.

There are several reasons why BBRs do not completely prohibit debt issuance. First, BBRs cover only part of the total state budget, mainly the so-called operating budget (General Fund budget subject to regular annual or biannual appropriations), and allow borrowing to finance spending from capital budgets.<sup>8</sup> While most revenue is collected in, and spending drawn from, the general budget, there are other channels of spending. Second, the BBRs do not prohibit borrowing for current spending completely. In earlier recessions, as well as during the latest Great Recession, some states (Louisiana in 1988, Connecticut in 1991, and Illinois in 2011) borrowed to finance repeated fiscal deficits due to prolonged economic downturns. In some states, the executive can borrow short term for cash management purposes. Third, some states (New York, Virginia) recognized the shortfall in actuarially sound contributions to their pension plans as debt to be repaid (thus, the insufficient contribution became an explicit liability, rather than an implicit liability in the form of an unfunded pension plan).<sup>9</sup>

<sup>8</sup> Some states also have education funds that are financed through tax revenues, and are subject to similar balanced requirements as the general fund. Together, these two funds receive up to two thirds of state revenue collection. Grants and reimbursements from the federal government are the main sources of funding for a state's non general fund. As spending from this source is limited to received funds, the issue of balancing does not arise here. Similarly limited by available funds is state spending from a non general fund financed by a state's own "earmarked" revenue

<sup>9</sup> Borrowing can take place in the form of a general obligation bond, in which case the borrower pledges legally available resources, mainly in the form of tax revenue, to repay the creditors. Another option is the revenue bond, in which repayments are guaranteed from revenue generated by the entity financed by the bond (e.g., toll roads, airports, power plants, etc.).



However, state debt issued for other purposes than capital spending remains relatively low. Moody (2011) shows that since 1991, the median net tax-supported debt has hovered around 2.5 percent of personal income, before rising to 2.8 percent in 2011. While the debt ratio varies among individual states (Connecticut, Hawaii, and Massachusetts have ratios around 10 percent, Nebraska and Wyoming's debt ratios are zero, or close to zero), these reflect longer-term trends rather than different responses to the Great Recession. Only in six states did the debt-to-personal income ratio rise by more than one percentage point between 2007 and 2011.

Legal rules and budgetary practices continued to evolve, and today the BBRs constitute a system of interlocking networks of multiple provisions in the states' constitutions and codes, covering different stages of the budget process. As a result, in a number of aspects, the BBRs differ among individual states.<sup>10</sup> A BBR can mean one or more of the following: (i) the governor must propose a balanced budget; (ii) state legislation must enact balanced budget; and (iii) no deficit can be carried from one fiscal year into the next. These requirements could be statutory, or constitutional, or both. Hou and Smith (2006) observe that because of legal complexities (and even contradictions and inconsistencies), it is not straightforward to categorize and classify states according to these requirements, and different attempts to do so have not yielded the same results. The table below summarizes the results of two such efforts.

**Table 1. Number of States with Balanced Budget Rules**

	Governor must submit balanced budget		Legislature must pass balanced budget			Deficit cannot be carried over to next fiscal year	
	NASBO <sup>1</sup>		H&S <sup>2</sup>	NCSL		H&S	
Constitutional	34	44	33	33	41	45	38
Statutory	25			18			
							10

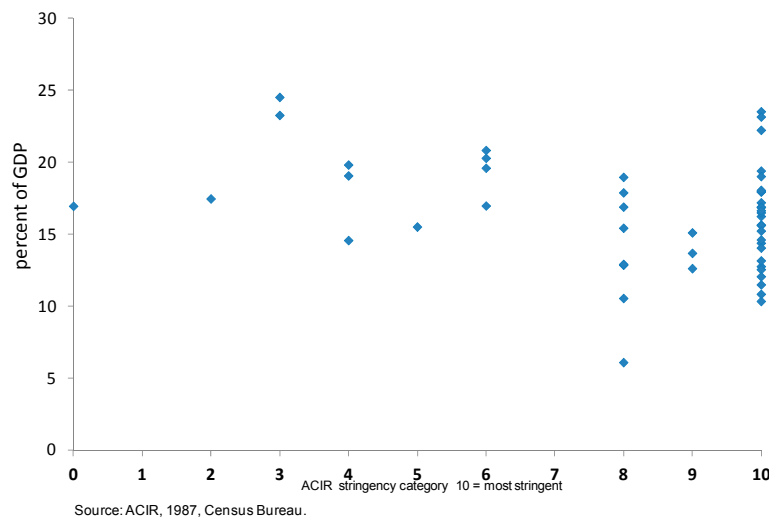
<sup>1</sup> National Conference of State Legislatures (2010). Second column shows total constitutional and statutory requirements. Some states have both constitutional and statutory requirements.

<sup>2</sup> Hou and Smith (2006).

Studies attempting to rank states according to the stringency of BBRs show a substantial dispersion. According to the NCSL (2010), quoting an earlier evaluation, twenty-six states reached the highest score of 10 (they have constitutional prohibitions against carrying debt to the next fiscal period, and require that the governor pass, and legislation approve, a balanced budget). Another ten states scored 8 or 9 while the four lowest-scoring states (score of 3 or less) have only a statutory or constitutional requirement that the governor submits a balanced budget, but legislature need not pass it.

<sup>10</sup> In addition to BBRs, there are also rules and limits covering tax and expenditure policies, and also debt limits. For a detailed overview, see *National Association of State Budget Officers* (2008), Tables 11–13.

**Figure 3. State Budget Rules and 2010 Debt Level  
(State and Local Government Debt)**



Have state budgetary outcomes been sensitive to the specifics of the BBRs? Many studies conclude that budget rules affect borrowing behavior. The often-quoted 1987 study concludes that “state experience . . . indicates that constitutional restraint can be an effective instrument of fiscal discipline.”<sup>11</sup> Poterba (1996) argues that “the substantial empirical literature . . . provides clear support for the view that budget rules matter.” Poterba and Rueben (1999) find that general-obligation bond yields are more sensitive to fiscal news in states with fiscal rules that are more lax. They also find that bond markets respond very differently to expenditure and tax limits: expenditure limits can reduce borrowing costs marginally, but tax limitations result in substantially higher borrowing costs. However, the picture becomes foggier when comparing the stringency of BBRs according to the Advisory Committee on Interstate Relations (ACIR), and the level of state debt (Figure 3). There are large differences in debt level in states with the same stringency of BBRs, and vice versa; states with similar debt levels have very different BBR stringencies.<sup>12</sup> For example, in states with the most stringent BBRs (category 10), the debt ratio ranges from 10 percent to 24 percent of GDP.<sup>13</sup>

<sup>11</sup> Advisory Committee on Intergovernmental Relations (1987).

<sup>12</sup> The degree of stringency is an index based on the number of points each state receives according to their meeting different characteristics of BBRs, namely, whether the BBR is statutory or constitutional, whether the governor has to submit the balanced budget or legislation has to pass it, whether or not the deficit can be carried into and corrected in the next year, or whether or not it can be carried into the next biennium or fiscal year.

<sup>13</sup> One can argue that even debt ratios above 20 percent of GDP are rather low and do not indicate a serious lack of fiscal discipline.

### III. IMPACT OF THE CRISIS ON STATE BUDGETS

The Great Recession had a severe impact on state and local government finances. State tax revenue fell precipitously during the crisis. At the same time, the recession “automatically” increased demand for a range of state-provided services, although the expenditure impact on the budget was less than the revenue impact. In this section, we look at how the Great Recession affected the states’ budgetary financial position (“budget gaps”), and the roles of revenue loss and expenditure pressure. The focus is mainly on state finances, but where data is available, or additional useful insight could be obtained, we look at local governments, as well (Box 1).

#### A. State Budget Gaps

State budgets reflect an estimate of the amount of revenue they will collect for the coming fiscal year. If the estimate is short of what the state would need to fund ongoing services and meet existing obligations for the year, the state faces a budget gap or “projected deficit.” If, during the course of the fiscal year, revenues come short of what the state needs to fund services, the state has a “midyear budget gap” or “midyear deficit.”<sup>14</sup> It must rebalance the budget by utilizing reserve funds, cutting spending, increasing revenues, or using other means (Section IV). In some states, the power to cut the budget midyear rests with the governor, in others, with the legislature.

The evolution of state budget gaps shows the impact of the Great Recession on state budgets (Figure 4). The total budget gap consists of the gap as projected before budget adoption (closing it balances the approved budget), and the gap that appears during budget execution (closing it should balance the actual budget outcome). Following the spike in 2003–04, state budget gaps fell rapidly as the economy boomed, but then rose sharply in 2009, and peaked in 2010 at US\$174 billion (1.2 percent of GDP). The initial estimate of 2009 budget gaps before budgets’ approval turned out to be too optimistic as significant gaps opened during the budget execution.

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<sup>14</sup> See McNichol (2012), “Methodology Annex,” for details of budget gaps estimations.

### Box 1. The Great Recession and Local Governments <sup>1</sup>

Thus far, on the whole, local governments have been hit by the Great Recession somewhat less critically than state governments, but fiscal pressures are likely to mount. Local governments experienced a smaller fall in tax revenue than the states, thanks to a high reliance on property taxes. Even as national home prices fell by 27 percent between the end of June 2006 and the end of June 2010, property tax collection increased by 31 percent during the same period, reflecting a delayed response to home price changes and new tax measures (see below). But falling housing prices will eventually feed into local tax revenues. In addition, about one third of local government revenue comes in the form of state aid, which has been falling as the states try to cope with their own fiscal stress. At the same time, spending pressures at the local level tend to increase during recessions for reasons such as higher demand for public hospitals and crime fighting.

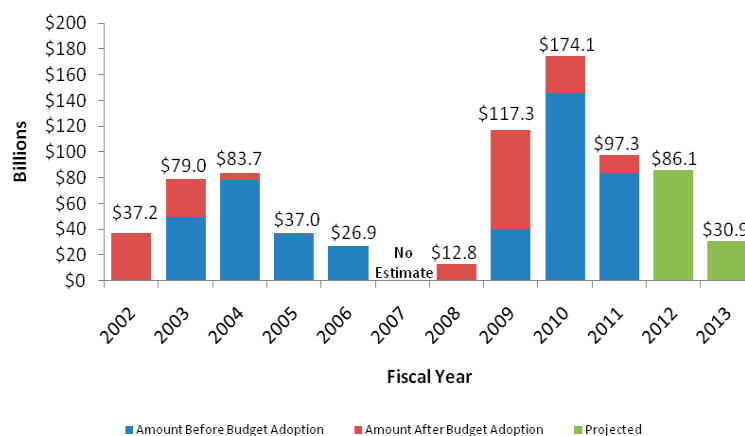
Like state governments, local governments responded to fiscal pressures by reducing expenditure by close to 3 percent in real terms during FY 2008–2009. Local governments also cut their labor force by about 2 percent between the end of 2007 and the end of 2010. Like state governments, local governments can also delay their contributions to future services, namely, pension and health care funds. However, some spending is mandated, and costs are shared with state governments (Medicaid), which limited local governments' flexibility.

Local governments increased some taxes, including property taxes, and broadened their tax base, which helped support tax collection early in the crisis. But there are limits as to how high local governments can raise taxes without driving taxpayers out. Some limits are also mandated by the state. The limited scope for further tax increases, together with the delayed effect of falling home prices on property taxes, suggests that in the period ahead, local tax collection is likely to be weak.

Unlike state governments, local governments' borrowing is not constrained by balanced budget provisions. Local governments can borrow short term (usually 12–18 months) to finance operating deficits, or long term to finance capital spending. States frequently limit how often local governments can refinance maturing short-term debt with a new short-term debt. Borrowing costs serve as a protection against excessive borrowing. Markets usually do not expect states to bail out municipalities facing problems with servicing their debts, and thus differentiate between more and less indebted borrowers. At the end of 2008, the spread of AAA-rated municipal debt over Treasuries was less than 1 percentage point, while the spread of BBB-rated bonds exceeded 5 percentage points.

<sup>1</sup> This Box is based on Congressional Budget Office (2010).

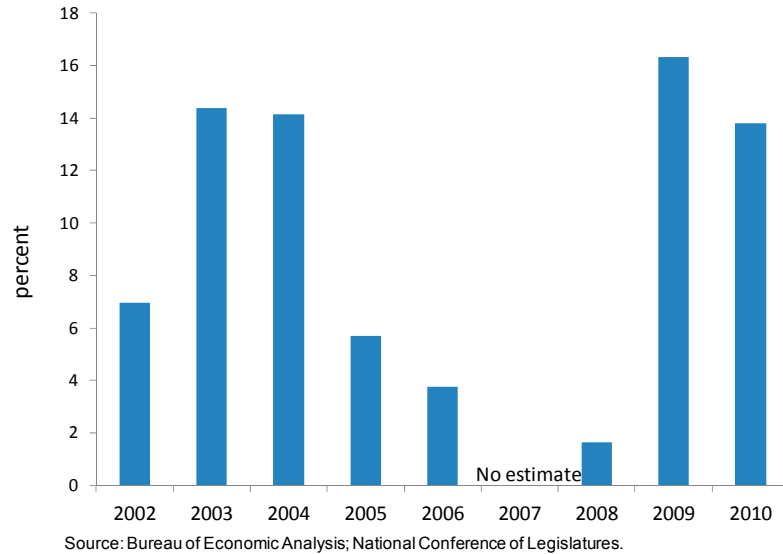
**Figure 4. State Budget Gaps, FY 2002 to FY 2013**



Source: National Conference of State Legislatures (2011b).

To put the shortfalls in perspective, Figure 5 shows the budget gaps in percent of state tax receipts for the period up to FY 2010. While 2009–10 budget gaps reached record levels in dollar terms, measured against tax revenue, they were equal to about 15 percent of total receipts, which was about the same as the average gaps in 2003–04, this being quite a significant level.<sup>15</sup>

**Figure 5. State Budget Gaps in Percent of Tax Receipts**



## B. Tax Revenue

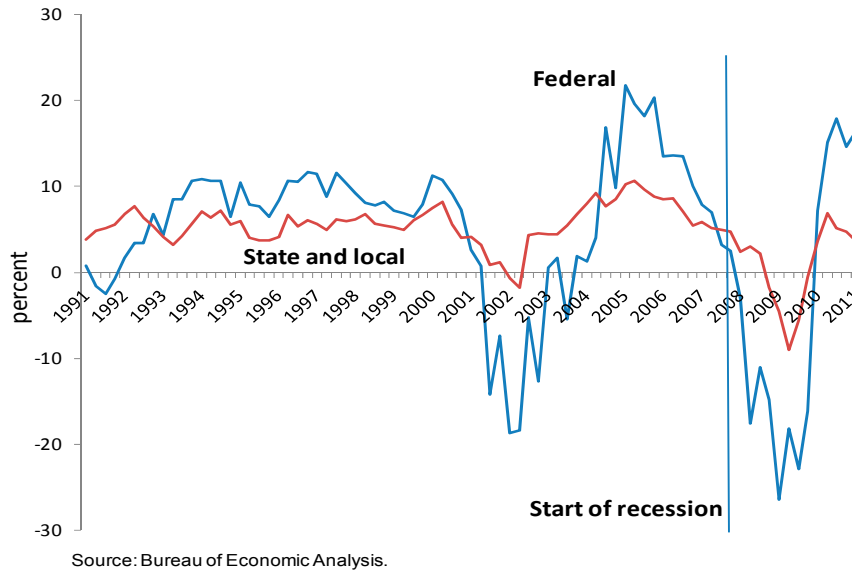
The main impact of the Great Recession on state and local government finances was a decline in tax revenue. According to Boyd and Dadayan (2009), in the first quarter of 2009, state and local government tax collection recorded the largest nominal and real decline since at least 1963. This mainly reflects the depth of the Great Recession, one of the sharpest economic contractions in U.S. history. On top of the decline in output, the unemployment rate almost doubled, going from 5 percent before the crisis to a peak of over 10 percent.

The decline in tax receipts was even sharper at the federal level (Figure 6). This reflects the fact that elasticity of state and local government tax revenue is lower than that of the federal government, because of the higher share of less cyclically sensitive property and sales taxes. Follette and Lutz (2010) estimate that the elasticity of total state and local government

<sup>15</sup> The average budget shortfall hides large differences among the states: from a very high 36 percent of general funds in Arizona and California, to only 2–3 percent of general funds in Arkansas, Kansas, Oklahoma, and South Dakota.

receipts, including federal grants, has averaged 0.6 percent during 1986–2008 (0.8 percent excluding grants), compared to total federal elasticity of 1.6 in the same period.<sup>16</sup>

**Figure 6. Tax Receipts**  
(Seasonally Adjusted Quarterly Data at Annual Rate, YOY Change)

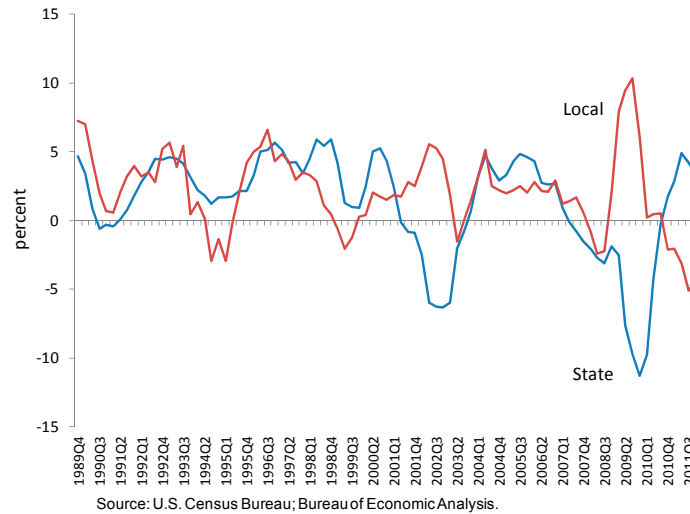


An interesting difference emerges when comparing state and local tax revenues (Figure 7). To smooth out quarterly growth rate fluctuations, the figure shows year-on-year changes of four-quarter averages.<sup>17</sup> Before the start of the recession, the picture was similar for both state and local governments: booming revenue in the mid-2000s, and a gradual slowdown during the two years preceeding the recession. However, during the Great Recession, state and local tax revenues began to diverge: while state tax revenues began to collapse in 2008, the growth of local tax revenues actually picked up. In 2009, state tax collection fell almost 12 percent compared to 2008, while local tax collection increased by about 6 percent. The situation began to reverse in 2010, when local tax collection declined sharply, while state tax collection began to recover.

<sup>16</sup> According to the authors, property taxes are cyclically inelastic and federal grants (which represent about 20 percent of total state and local revenues) are “somewhat countercyclical.” The elasticity of corporate income tax is estimated at 0.8 percent, personal income tax 1.5 percent, and sales tax 1 percent.

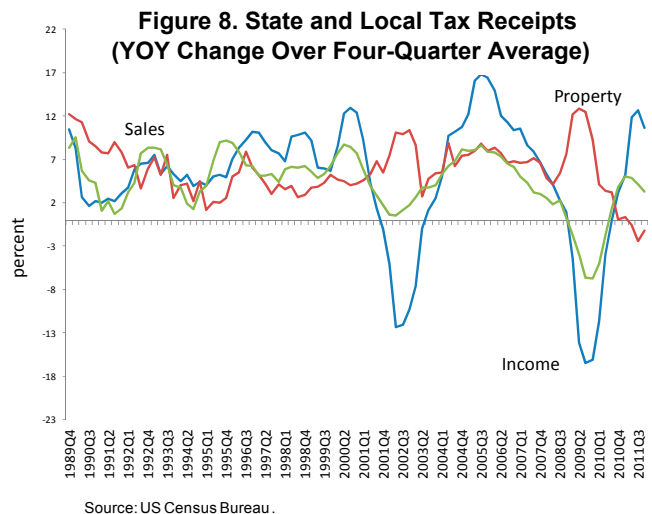
<sup>17</sup> The U.S. Census Bureau reports tax revenue data at the aggregate state and local levels, as well as at the state level. We derived local tax collection as the difference between these two measures.

**Figure 7. State and Local Real Tax Revenue  
(Percent YOY Change Over Four-Quarter Average)**



This contrasting behavior of state and local tax revenues during and after the Great Recession is explained by the differing behavior of income, sales, and property tax revenues during the crisis, and by the varying shares of these taxes in total state and local tax collection.

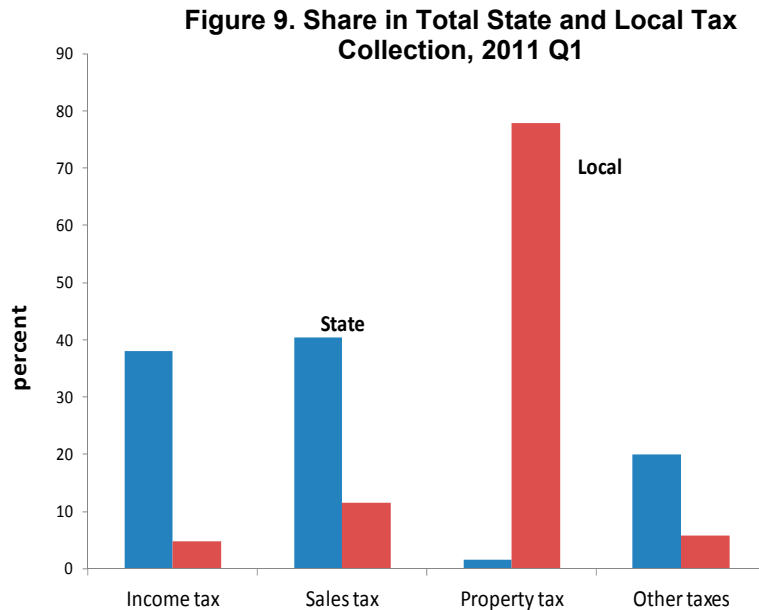
Income taxes (personal and corporate) display the largest cyclical volatility (Figure 8), reflecting the negative impact of the recession on personal and business income. The growth in income tax collection peaked at 17 percent in 2005, and then collapsed at a similar rate in 2009, before recovering somewhat in 2010, partly reflecting new tax measures.<sup>18</sup> Even though sales tax collections also recorded a significant decline in 2009, their volatility was much less than that of the income tax revenue. In contrast, property tax collection has been relatively stable, and their growth even picked up during 2008–09. It was only at the end of 2010 when property tax revenue growth turned negative in real terms (measured as four-quarter year-on-year changes).



<sup>18</sup> Johnson and others (2010) estimate that 2008–09 measures added about US\$11 billion to personal income tax collection, which was about 4 percent of 2010's collection.

The reason for the contrasting behavior of property, income, and sales taxes is to be found in the different response lag to changes in their respective tax base: house prices in the case of property taxes, and economic activity (GDP) in the case of income and sales taxes. While income and sales taxes react almost instantaneously to weaker economic activity, property taxes respond with a delay to changes in housing prices.<sup>19</sup> Thus, paradoxically, in the early stages of the crisis, property tax collection increased as a result of the delayed effect of the previous home price boom, and only in late 2010 did the collapse of home prices begin to affect property tax collection.

The respective share of income, sales, and property tax revenue in total state and local tax collection differ significantly from one another (Figure 9). Property taxes account for a marginal share in state tax collection, but represent almost 80 percent of local tax collection, while income and sales taxes play a limited role at the local government level. This explains the resilience of local tax collection thus far, but it also suggests that as the effect of depressed home prices continues to feed in, the possibility of a further decline in local tax revenue cannot be excluded, even as state tax collection potentially continues to recover.<sup>20</sup>



Source: Census Bureau.

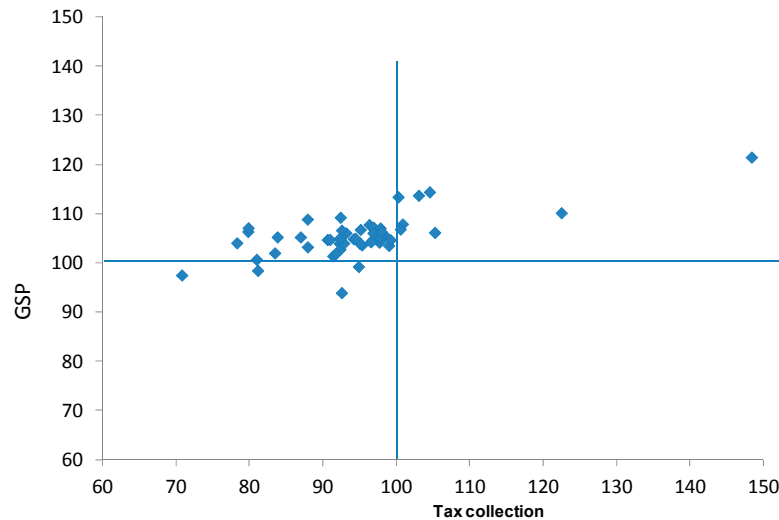
<sup>19</sup> NCSL (2011b) estimates that about 70 percent of state tax collection is from taxes that respond rapidly to the economic cycle, including general sales tax and personal income tax. Changes in consumer and business spending affect tax collection within 1–2 months.

<sup>20</sup> Changes in real estate prices affect not only property tax collection. Lutz and others (2010) identify five channels of impact of the housing crisis's impact on state and local tax revenues. The first and second channels are through property tax and real estate tax collections, which are directly related to the change in value of real estate and volume of transactions; the third channel is through the impact of sales related to construction activities on sales tax revenue; the fourth channel affects sales tax through the wealth effect's impact of changes in real estate values on household purchases; and finally, personal income tax collection is affected by income change related to construction and real estate activity. As real estate prices decline, channels 3–5 could have a sudden impact on sales and income taxes, and as these taxes' shares are higher for states, they have contributed to the faster decline in state tax collection.



The impact of the crisis on tax collection in individual states during the crisis was diverse, reflecting both the heterogeneity of tax systems and of the state economies and their varied exposure to financial and economic shocks. Figure 10 captures the degree of decline in economic activity during the recession and the differences in state tax revenue, comparing 2010 nominal gross state product (GSP) and state tax collection relative to 2007. Two facts stand out. First, the dispersion of tax collection among states was much higher than the dispersion of GSP growth (North Dakota has a 2010 collection level that is almost 50 percent higher than in 2007). Second, while in most states, nominal GSP in 2010 was above the 2007 level, nominal tax collection was still lower. Only in eight states did the 2010 tax collection exceed the 2007 level, including Alaska, North Dakota, and Wyoming, which have been helped by oil boom. On the other hand, in four states (Arizona, Louisiana, South Carolina, and New Mexico), tax collection in 2010 was still more than 20 percent below the 2007 collection.

**Figure 10. State Tax Collection and GSP in 2010 Relative to 2007  
(2007 = 100)**



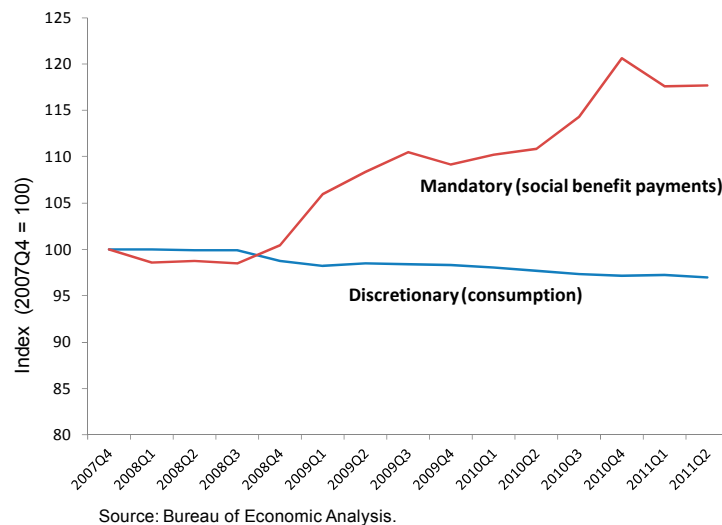
Source: Census Bureau; Bureau of Economic Analysis.

The analysis of tax revenue in this section did not separate the impact of the recession on tax collection from the impact of revenue measures taken by state and local governments in response to the crisis. The impact of policy changes is discussed in section IV. Here, we just note that Johnson and others (2010) estimated that enacted tax changes during 2008–2009 brought US\$32 billion worth of additional revenue to states, compared to the US\$87 billion lost as a result of the recession.

### C. Expenditure

As noted above, lower tax revenue was the main channel of the impact of the Great Recession on state and local budgets. On the expenditure side, the impact was less pronounced because automatic stabilizers are much smaller than they are on the revenue side. Follette and Lutz (2010) estimate that the overall sensitivity of gross state and local expenditure is about 0.04 percent of GDP per percentage point change in unemployment rate. Even though total state and local government spending equals about 15 percent of GDP, only one fifth are cyclically-sensitive transfers. Taking into account the offsetting effect of cyclically-sensitive federal transfers, the cyclical sensitivity of state and local spending becomes less than 0.02 percent of GDP.

**Figure 11. Real Spending of State and Local Governments  
(2007 Q4 = 100)**



The effect of automatic stabilizers is discernible only in a relatively rapid growth of state and local mandatory spending in recent years, which accounts for about 40 percent of total spending (Figure 11). While real state/local government discretionary spending has been gradually, but persistently, falling since 2007, real mandatory spending, which is more sensitive to cyclical conditions, has continued to grow, reaching about 120 percent of the precrisis level in the fourth quarter of 2010. This was partly the result of increased Medicaid spending (health insurance for the poor)—the biggest single item in total state spending.<sup>21</sup> The Great Recession contributed to the growth of Medicaid spending mainly because of the

<sup>21</sup> Figure 15 (section IV) shows a sizable decline during 2009–2010 in Medicaid spending from states' general funds. However, a significant increase in Medicaid spending—financed with federal funds—more than compensated for this drop. As a result, total Medicaid expenditures rose from US\$303 billion in 2008 to US\$353 billion in 2010.

increase in enrollment growth. During the 2006–07 expansion, enrollment remained practically unchanged, but it picked up in FY 2008, and grew by 6 percent on average in FY 2009–2011. Medicaid spending increased by a similar amount. While the growth of total Medicaid spending in FY 2012 is projected to decline to around 3 percent, because of the 13 percent decrease in federal funding, the growth of state-funded Medicare is projected to increase by over 18 percent, thus adding to the fiscal pressure on state budgets.<sup>22</sup>

#### **D. Long-Term Fiscal Impact**

The Great Recession has also adversely affected states' long-term fiscal outlooks by widening the gap between the promised pension and health care benefits, and the funds available to pay for these. The Government Accountability Office (GAO, 2012) estimates that closing the state and local government fiscal gap (the action that should/needs be taken today, and maintained for each year, to achieve fiscal balance over the next 50 years) would require measures that would equate to a 12.7 percent reduction in current state and local government expenditures.

The crisis affected the long-term fiscal outlook for two main reasons. First, it reduced the value of assets in states' pension plans. During FY 2009, investment losses in states' pension plans approached 20 percent (though these losses were partly recovered in FY 2010).<sup>23</sup> Second, because of the fiscal pressure during the crisis, most states failed to make the pension plan contributions recommended by their own actuaries. According to the Pew Center, the actual contribution of US\$73 billion in FY 2009 was only 63 percent of the recommended US\$117 billion (following a similar US\$36 billion shortfall in FY 2008).

The size of the unfunded pension liability of the states depends crucially on the assumption made about the investment return of the assets set aside to pay for future benefits. States usually assume an annual return of 8 percent, somewhat below the actual median return in 1984–2009, but well above the 3.9 percent recorded between 2000–2009. Using the 8 percent discount rate leaves states with a gap of about US\$1.2 trillion, with one half coming from pension benefits, and the other half from retiree health care and other benefits.<sup>24</sup> However, many experts now argue that the assumed 8 percent rate of return on assets is too high, and recommend using a riskless rate of return such as the yield on 30-year treasury bond. According to the Pew Center's calculations, using a March 2011 rate of 4.38 percent would raise the unfunded pension liability to US\$2.4 trillion (the increase would be even higher using the less than 3 percent yield as of mid-May 2012).<sup>25</sup> An intermediate alternative would

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<sup>22</sup> See National Governors Association and the National Association of State Budget Officers (2011), and The Kaiser Commission (2011).

<sup>23</sup> The Pew Center on States (2011).

<sup>24</sup> Health care plans have fewer assets than pension plans and are less sensitive to discount rate assumption.

<sup>25</sup> Some authors provide even higher estimates of underfunding. See Tett (2012).

be to use the rate on corporate bonds recommended by the Financial Accounting Standard Board for private pension plans: using this assumption and applying the March 2011 corporate bond yield of 5.22 percent would yield a state unfunded pension gap of US\$1.8 trillion.

While the decline in the value of assets could be partially or fully reversed in the future, states will have to make up for the shortfalls in their contributions. To the extent that future asset returns fail to reach the currently assumed rate of 8 percent, these contributions will have to increase even more. Otherwise, the underfunding would cast doubt on the states' ability to provide the promised pension benefits for their employees.

Growing health care costs pose potentially greater challenges. These costs, rather than the impact of the crisis, are, collectively, the driving force behind the long-term deterioration of state and local fiscal balances. GAO simulations show that health-related state and local government costs could increase from 3.9 percent of GDP in 2012 to over 7 percent of GDP by 2060 (GAO, 2012a). Due to generally weaker legal protection than pension benefits, state and local health care entitlements are easier to trim (legally, not necessary politically). However, recently, state and local governments have been taking steps to reduce their future pension obligations by such means as reducing benefits for future, and in some cases, current and retired employees; increasing member contributions; and moving toward a hybrid defined benefit-defined contribution system (GAO, 2012b).

#### IV. STATES' RESPONSES TO THE CRISIS

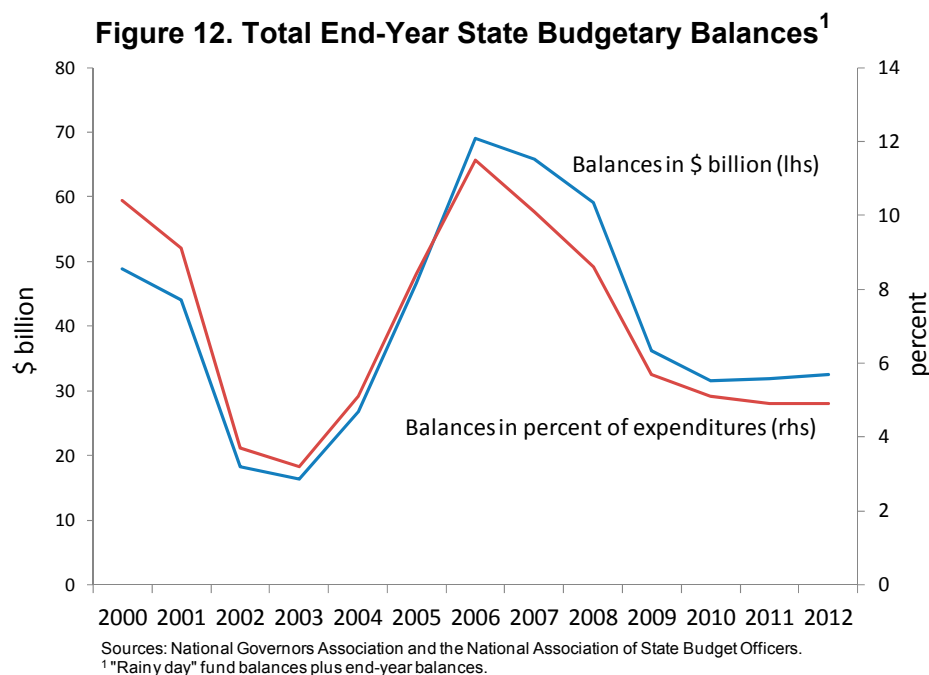
Even though they do not represent a watertight constraint on borrowing, the BBRs, and in some cases, limits on debt issuance, forced states to respond to the emergence of budget gaps by taking measures to balance their books. To keep their budgets balanced, state governments have used a combination of different approaches.

*First, they have drawn down their accumulated reserves.* States maintain a certain amount of reserves in the so-called rainy day funds. In times of strong economic growth, states replenish rainy day funds, with a view to drawing on them in lean times.<sup>26</sup> Following a period of strong growth, total end-year balances exceeded US\$65 billion in 2006–07 (over 10 percent of total state expenditure), but as state revenue weakened, they fell to about half that amount in 2009 (Figure 12).<sup>27</sup> States are usually hesitant to deplete their rainy day funds

<sup>26</sup> However, most states' rainy day funds are subject to constitutional or legal limits constraining the speed, method, and overall amount of reserve accumulation. For details, see Table 19 in the *National Association of State Budget Officers* (2008).

<sup>27</sup> National Governors Association and the National Association of State Budget Officers (2009).

fully. Moreover, there are procedural and other limits on the use of rainy day fund balances.<sup>28</sup> The buildup and subsequent drawdown of reserves somewhat eased the pressure, but was insufficient to fully close the budget gaps.



However, in a number of states, the budgetary reserves are rather limited when measured against the size of the budget expenditures. In FY2010 and FY2011, Alaska and Texas alone accounted for over one half of the rainy day funds' balances. For about one half of the states, total end-year balances represented less than 5 percent of annual expenditures (Table 2).

**Table 2. Total End-Year Balances as a Percentage of Expenditures<sup>1</sup>  
(Number of States)**

Percentage	Fiscal 2009 Actual	Fiscal 2010 Actual	Fiscal 2011 Preliminary	Fiscal 2012 Appropriated
Less than 1%	11	12	8	12
1% to 4.9%	16	14	18	19
5% to 9.9%	14	14	13	10
10% or more	9	10	11	9

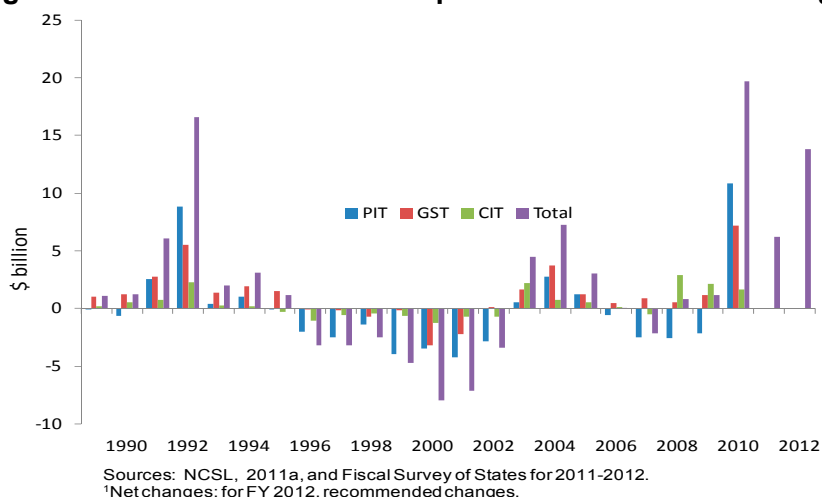
Source: *The Fiscal Survey of States*, multiple issues

<sup>1</sup>Total balances include rainy day fund balances plus end-year balances.

<sup>28</sup> National Conference of State Legislatures (2011a). As is discussed below, some criticism was nevertheless raised regarding states' hesitancy to tap more aggressively into their reserves.

*Second, states boosted revenue collection.* In contrast to strong political opposition to tax increases at the federal level, the majority of states took steps to raise tax revenue by increasing tax rates, but also by eliminating tax exemptions and broadening the tax base.<sup>29</sup> As noted in the “*National Conference of State Legislatures* (2011a), when their end-year balances fall significantly, states have usually tended to increase taxes, and then cut them during economic recovery as the balances increase. This trend continues in the aftermath of the Great Recession. In FY 2008 and 2009, the tax increase was still relatively modest (and personal income taxes were even reduced), as the impact of the crisis on tax revenue was not yet quite apparent (Figures 6 and 7). However, in FY 2010, when the adverse impact of the recession on state receipts became obvious, states enacted sizable tax increases (about US\$11 billion in personal income taxes, over US\$7 billion in general sales taxes, and close to US\$24 billion for all taxes and fees, representing about 2 ¾ percent of 2010 state tax revenue) — the largest increase since 1991, according to the NCSL.<sup>30</sup> An additional US\$6 billion increase in tax revenue was enacted in FY2011, though the fall 2011 *Fiscal Survey of States* reported little net tax increase in FY 2012 at the time of publication.

**Figure 13. Estimated Revenue Impact of State Tax Law Changes<sup>1</sup>**



Tax increases were relatively widespread across states (Table 3). In FY 2010, in more than half of the states, tax measures have on net resulted in net increase in tax revenue. Most often, the states resorted to increasing fees, while increases in corporate tax rate were used relatively less frequently.

<sup>29</sup> In eleven states, more than a simple majority is required to increase taxes beyond the statutory or constitutional limits.

<sup>30</sup> The total in Figure 13 does not include fees and other taxes, and is thus less than the total of the enacted state revenue changes reported in the *Fiscal Survey of States*.

**Table 3. Number of States with Enacted Tax Increase**

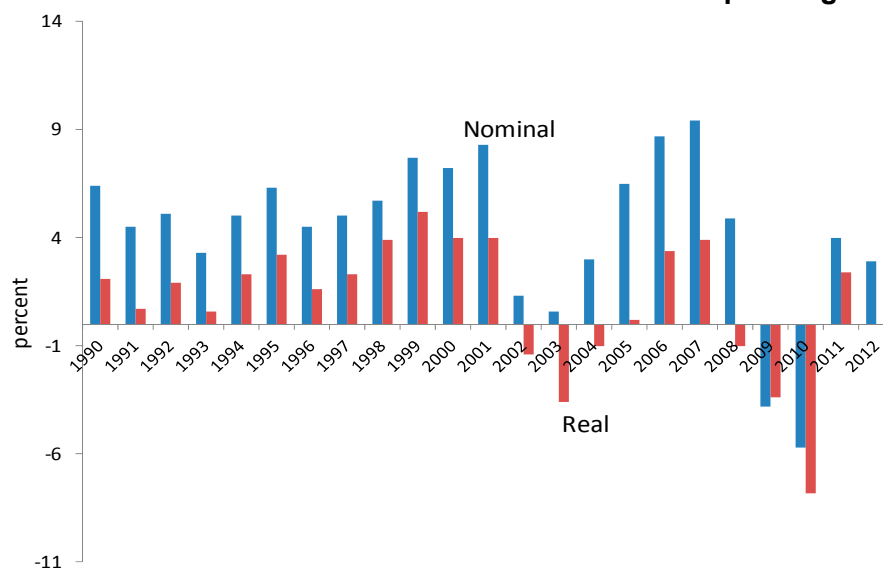
	FY 2009	FY 2010	FY 2011	FY 2012 <sup>1</sup>
Sales	4	12	9	7
Personal income	6	13	8	6
Corporate income	6	6	6	5
Fees	11	19	17	7
Total <sup>2</sup>	14	29	23	12

Source: National Conference of State Legislatures (2011a).

<sup>1</sup> Proposed

<sup>2</sup> Number of states with positive total net tax changes

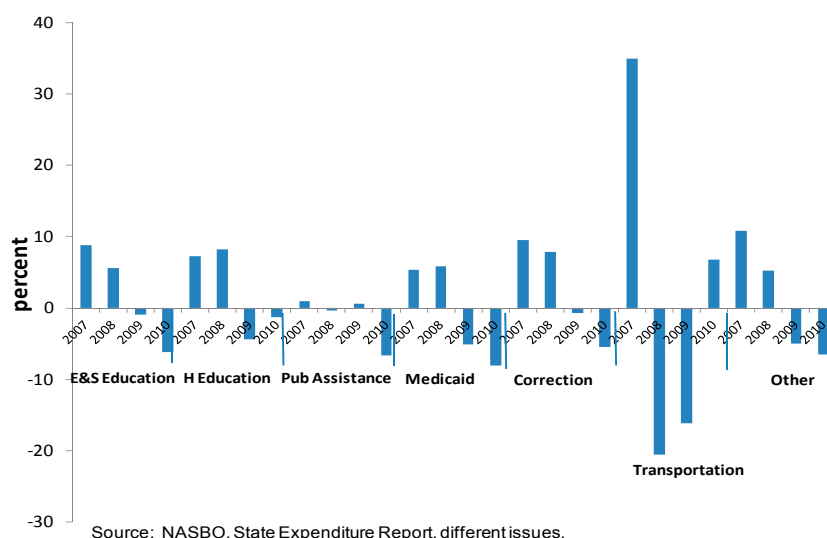
*Third, nearly all states cut their discretionary spending.* Total nominal general fund spending fell by almost 4 percent in FY 2009, and by close to 6 percent in FY 2010 (Figure 14). This was an unprecedented decline in state history and the first nominal decrease since 1983.<sup>31</sup> These large spending cuts contrast sharply with the relatively robust growth in the period preceding the crisis: in 2007, real spending growth peaked at close to 4 percent. Spending cuts affected all categories of spending. Transportation spending displayed particularly large swings (Figure 15).

**Figure 14. State Nominal and Real Annual General Fund Spending Change<sup>1</sup>**

Source: Fiscal Survey of States, 2011.

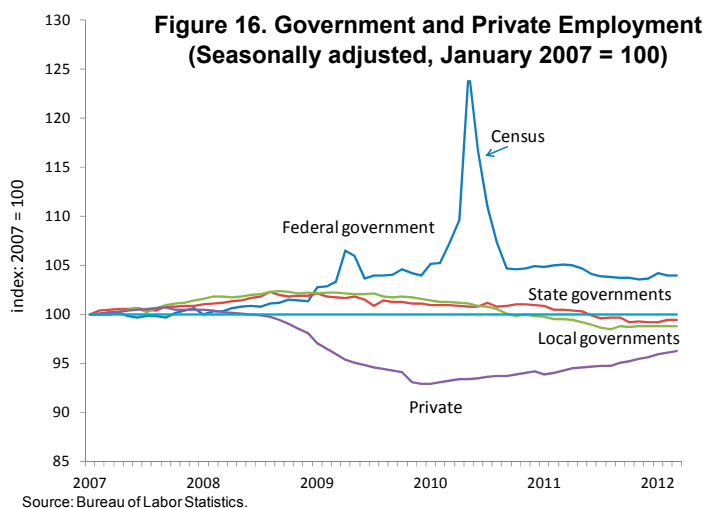
<sup>1</sup> For 2012 fiscal appropriation.

<sup>31</sup> General fund spending is the main component of state discretionary spending. It fell from 46 percent of total state spending to an estimated 38 percent in 2011, mainly as a result of increased spending from American Recovery and Reinvestment Act funds. Total real state and local expenditure fell by 0.9 percent, 1.8 percent, and 2.3 percent in 2008–2010.

**Figure 15. Nominal Change in General Fund State Expenditure**

While FY 2011 marked a turning point as state spending began to increase again, this increase was relatively muted and overall spending remains below its precrisis level. Moreover, the termination of most federal assistance to states in 2011, in combination with a slow recovery of economic activity and revenue, continues to put state budgets, collectively, in a difficult position. As a result, in FY 2012, the growth in state budget spending was projected to slow down. It may take several years before the spending reaches its precrisis level, both in nominal, and particularly in real, terms.<sup>32</sup>

Cuts in spending led to reductions in state and local government employment (Figure 16). In contrast to private sector employment, state employment was hardly affected in the early stages of the crisis. It even grew a bit after the start of the recession, and only began to decline gradually in 2009. However, state and local governments' job shedding continued during 2010—11, even as private sector jobs began to increase, and more recently, state and local employment has only stabilized,



<sup>32</sup> In terms of GDP, 2011 state spending from the General Fund was 4.4 percent, still below the 4.6 percent of GDP level in 2007. However, total state spending reached the 2007 level of 10.3 percent of GDP in 2011.

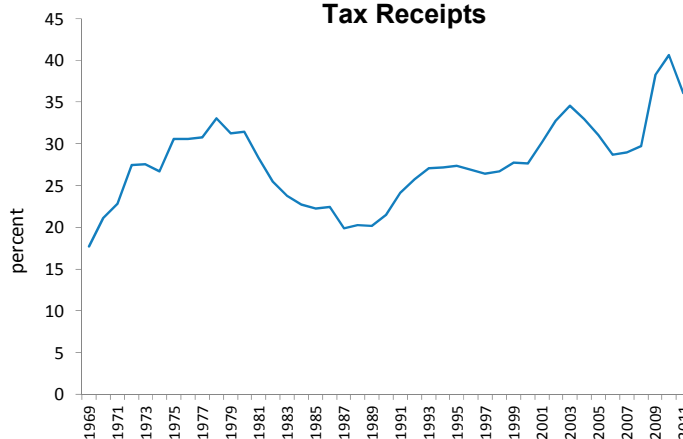


having shown no growth thus far. Moreover, state and local government job statistics do not provide the full story, as states and municipalities have resorted to other measures to cut labor costs, such as furloughs. The gradual decline in state and local government employment also contrasts with the general increase (even disregarding the spike related to the 2010 census hiring) in federal government employment.

*Fourth, during the crisis, states received a great deal of assistance from the federal government.* This assistance has been in the form of direct transfers under the American Recovery and Reinvestment Act (ARRA) of 2009, and also as a result of the extension of the jobs bill of 2010.<sup>33</sup> Federal grants grew sharply, from about 30 percent of state tax receipts to over 40 percent in 2010, before falling somewhat in 2011 (Figure 17). In 2011, federal transfers covered for over one half of state budget shortfalls (Figure 18). However, ARRA transfers are projected to disappear in FY 2013, and with the growing pressure to cut the federal budget deficit, now, federal grants to the states are also dropping off.

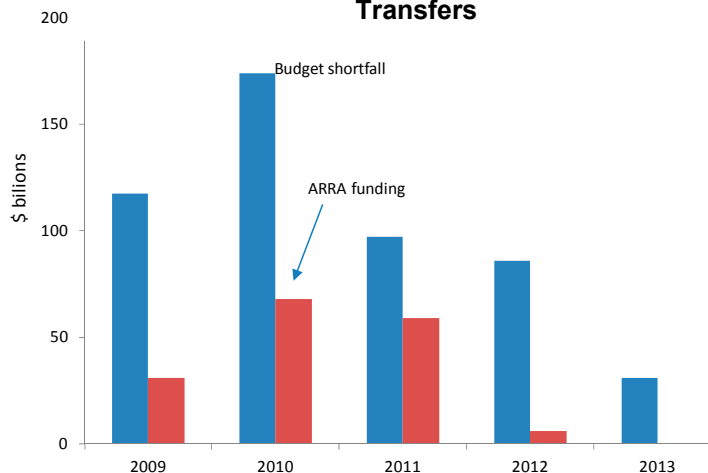
*Finally, states resorted to “other” measures to close their budgetary gaps.* These other methods include asset sales and delayed payments to state government suppliers. Figure 19 summarizes the relative contribution of the aforementioned five categories of measures for

**Figure 17. Federal Grants as Percent of State Tax Receipts**



Source: Bureau of Economic Analysis.

**Figure 18. State Budget Shortfalls and Federal Transfers**

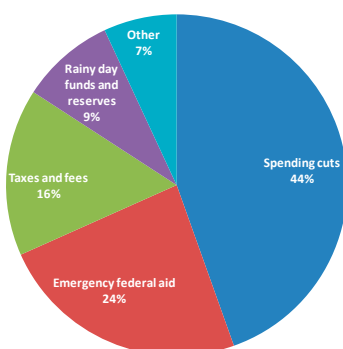


Source: Center on Budget and Policy Priorities.

<sup>33</sup> The ARRA included an increase in the federal share of state Medicaid expenditures and a State Fiscal Stabilization Fund (SFSF) targeted mainly at reducing the extent of education cuts. Together, they provided states with nearly US\$140 billion over two and a half years. The ARRA has also authorized issuance of Build America Bonds where state and local bond issuers were paid federal subsidies, allowing them to reduce borrowing costs. For a detailed analysis, see CBO (2012).

closing the budget gaps during the FY08–FY12 period, totalling almost US\$600 billion. Spending cuts accounted for almost half of the measures, followed by emergency federal aid, which closed about  $\frac{1}{4}$  of the gap, and measures to increase revenue, which helped to close about  $\frac{1}{6}$  of the gap.

**Figure 19. Measures to Close State Budget Gaps, FY 2008-FY 2012**

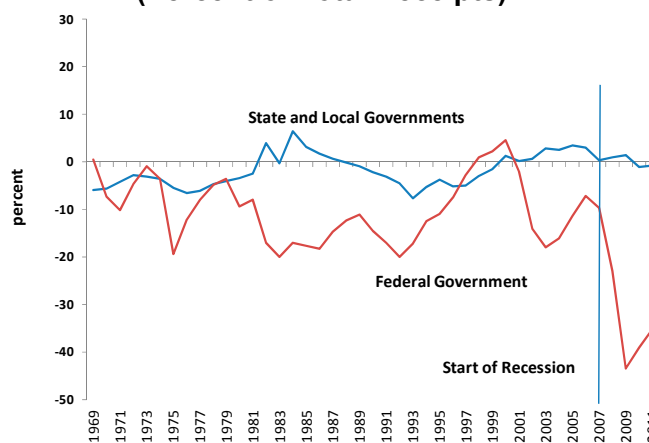


Source: McNichol, 2012.

## V. WAS THERE TOO MUCH AUSTERITY AT THE STATE LEVEL?

The fiscal response to the crisis differed at the federal, state, and local levels. While the federal government allowed automatic stabilizers to operate and also provided discretionary fiscal stimulus, most state and local governments raised revenues and cut spending, instead. As a result, federal government borrowing increased rapidly in 2008, while state and local governments' net borrowing remained largely unchanged throughout the crisis (Figure 20).

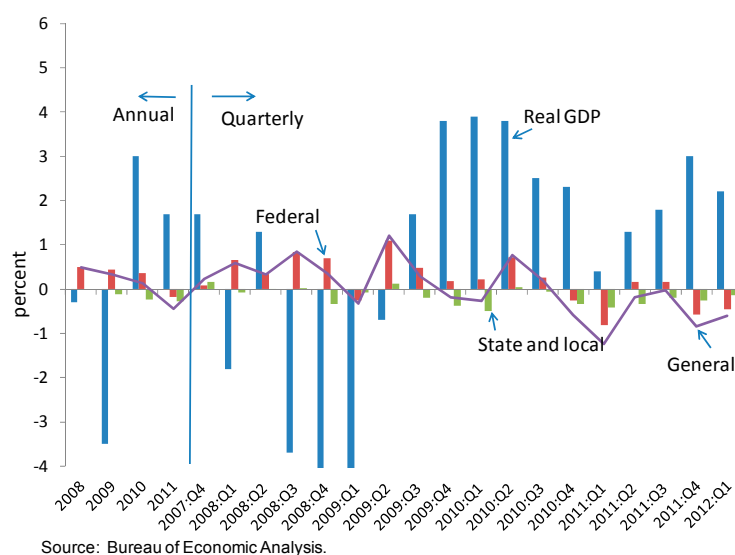
**Figure 20. Net Government Lending/Borrowing (-)  
(Percent of Total Receipts)**



Source: Bureau of Economic Analysis.  
 \*Difference between total receipts and total expenditure.

As a result of fiscal tightening, the contribution of state and local governments to real GDP growth was, on the whole, negative, in contrast with the mostly positive contribution of the federal government.<sup>34</sup> The combined contribution of federal, state, and local governments to GDP growth (line “General” in Figure 21) was quite volatile from quarter to quarter, and has been declining annually. Notable is the swing from a negative contribution of 0.3 percentage points in Q1 2009, to a positive contribution of 1.3 percentage points in Q2 2009, reflecting the ARRA passage in February 2009. In Q4 2011 and Q1 2012, all levels of government contributed negatively to GDP growth as fiscal retrenchment continued at the state and local levels, and federal defense spending fell.

**Figure 21. Contribution to GDP Growth  
(Seasonally Adjusted Annualized Quarterly Rates)**



The fiscal policy response to the Great Recession at the state and local levels raises a number of questions:

(1) *Were the U.S. state and local fiscal policies procyclical, exacerbating the output impact of the crisis?* Empirical evidence suggests that the policy response at the state and local levels weakened aggregate demand and exacerbated the decline in demand during the Great Recession.<sup>35</sup> The research shows that traditionally, U.S. fiscal policy at the state level has been procyclical (Clemens and Miran, 2012; Fatás and Mihov, 2004), and this finding also

<sup>34</sup> Total government spending represents about 20 percent of GDP, with the share of the federal government being 8 percent, and those of state and local governments being collectively 12 percent.

<sup>35</sup> In the literature, it has been long recognized that subnational governments often behave procyclically due to the following: (i) procyclicality of own revenue; (ii) procyclicality or acyclicality of federal grants; and (iii) limited ability to borrow to compensate for temporary revenue shortfalls.

applies to the Great Recession. Follete and Lutz (2010) estimate that while discretionary actions at the federal level boosted aggregate demand by 1 percent both in 2008 and in 2009, state and local fiscal policy actions (excluding the use of federal grants, which are included in the measure of the federal government's policy stance) had a negligible impact on aggregate demand in 2008, and a contractionary impact of about ½ percent in 2009. The authors argue that this procyclical response was induced by the BBRs. Their results are consistent with Figure 20, which shows a flat contribution of state and local government to GDP in 2008, and a negative contribution in 2009. Finally, Kondo and Svec (2009) found that U.S. states with stricter BBRs (measured by the ACIR index) run more procyclical expenditure policies.

(2) *How does the fiscal policy response at the subnational level in the United States compare to that of other countries?* The available evidence suggests that a procyclical response to the crisis at the subnational level has taken place in a number of countries. Table 4 summarizes the policy response to the crisis in OECD countries at the subnational governments' level. Besides the United States, subnational policy response to the crisis was procyclical in several other advanced economies, where subnational governments' fiscal discretion was limited by fiscal rules, such as balanced budget requirements.

**Table 4. Subnational Governments' Response to the Crisis**

<b>Procyclical reactions</b>	<b>Automatic stabilizers—no explicit policy measures</b>	<b>Countercyclical reactions</b>
Finland	Australia	Austria
France	Denmark	Belgium
Slovak Republic	Korea	Canada
Sweden		Germany
United Kingdom		Japan
United States		Norway
		Portugal
		Spain
		Switzerland

Source: Blöchliger and others (2010).

Rodden and Wibbels (2010) have examined subnational policy responses to business cycle fluctuations in seven federations (including Australia, Canada, Germany, and the United States, listed in table 4), and found a nearly universal procyclical response akin to that seen in the United States during the Great Recession, with own-source and total revenue always highly procyclical, and grants being either acyclical or procyclical. While regional governments' expenditures in the four developed federations are less sensitive to the cycle—boosting surplus in good times and increasing deficit in bad times—this countercyclical spending response is least pronounced in the United States. Other studies reach similar conclusions. Blöchliger and others (2010) measure the procyclicality of the fiscal stance by looking at the correlation coefficient between subcentral net lending and the output gap (with no lag, a one-year lag, and a two-year lag covering a 30-year period starting from the 1980s). According to all three measures, the U.S. coefficient is large (highest, or among the highest,

in the OECD countries), negative, and statistically significant. In contrast, for the sample of OECD countries, the average coefficient is positive at the state level without a lag and with a one-year lag, and at the local level without a lag. Using a different measure, Aizenman and Pasricha (2011) looked at the fiscal stimulus at consolidated and subnational levels in selected countries during the Great Recession (Table 5). The United States was the only country in their sample that had a positive consolidated stimulus, but a negative stimulus at the state and local levels. Using disaggregated data for eight advanced and emerging economies to assess policy response to nationwide and asymmetric shocks, IMF (2012a) found evidence of the procyclicality of subnational revenue and expenditure policies in response to nationwide shocks, with the exception of Germany.<sup>36</sup>

**Table 5. Growth of Pure Fiscal Expenditure and Real GDP Growth  
(Compound Annual Growth Rates, 2007 Q4–2010 Q1)<sup>1</sup>**

	<b>Consolidated</b>	<b>Central</b>	<b>State and Local</b>	<b>Real GDP</b>
Australia	7.37	6.4	7.94	2.17
Iceland	-2.17	0.05	-5.25	-5.68
Norway	3.82	2.54	5.14	-0.37
Sweden	1.39	1.55	1.4	-1.04
United Kingdom	3.41	3.18	3.78	-2.01
United States	1.49	5.38	-0.83	-0.39

Source: Aizenman and Pasricha (2011).

<sup>1</sup>Pure fiscal expenditure is defined as real consumption and real investment at each level of government. At the consolidated level, it is equal to G in national income identity and excludes transfers.

(3) *Did the BBRs induce an inappropriate policy response for U.S. state and local governments, and is there a case for changing the BBRs?* The sometime substantial state budget cuts and measures to increase revenues in the midst and the aftermath of the crisis have led some economists to question the appropriateness of balanced budget requirements at the state level.<sup>37</sup> The following quotation summarizes the argument:

“Nearly all of our states have balanced budget requirements. That means when the economy sags, states are forced to raise taxes or slash spending at just the wrong time, providing a fiscal drag when what is needed is a countercyclical policy to stimulate the economy. In fact, the fiscal drag from the states in

<sup>36</sup> IMF (2012a) also contrasts the experience of the United States with that of Canada, where provinces are not subject to borrowing constraints, and where policy response to the crisis was expansionary at both the federal and provincial levels.

<sup>37</sup> Paul Krugman spoke about “50 Herbert Hoovers”. See Krugman (2008).

2009-10 was barely countered by the federal stimulus plan. That meant the federal stimulus provided was nowhere near what was needed ...”<sup>38</sup>

In addition to the adverse short-term effects of the balanced budget rules, and procyclical state budget cuts on economic activity, concerns were also raised about the longer-term impact on the provision of public services, education, infrastructure maintenance, and investment.<sup>39</sup> Petacchi and Weber (2012) pointed to other unintended consequences of balanced budget rules: the increased resorting to/ reliance on public asset sales and accounting gimmicks in states with stricter balanced budget rules.

However, for several reasons, these concerns do not provide a strong case for revamping the states’ balanced budget rules.

First, it is not clear that the BBRs are the only, or even the main, reason for states’ procyclical fiscal tightening during the Great Recession. In addition to the BBRs, some states also have limits on state debt and debt service, which could also constrain fiscal discretion. However, these limits affect mainly the issuance of general obligation bonds, while debt issuance for capital projects could proceed without limits. A more important driving force of the policy’s response to the crisis at the state level appears to be the long historical roots of states’ fiscal discipline, and a strong political aversion to profligate fiscal management. Unlike in many other advanced economies, state fiscal rules in the United States were not imposed by the federal government, but introduced by the states themselves (which also is reflected in the multiple modalities of these rules). The corollary is that the federal government cannot mitigate the procyclical fiscal tightening during a crisis by easing these rules, as was done in some other countries.

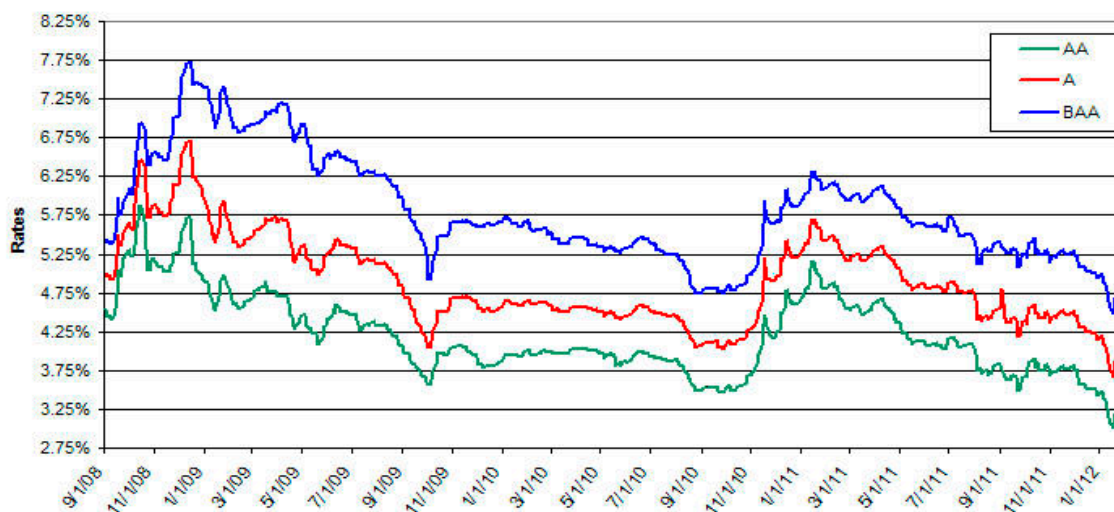
Second, the history of solid fiscal discipline and relatively low level of debt has brought important benefits. Despite some turbulence in the municipal bond market at the end of 2010 and early 2011, partly as a result of the Build America Bond program’s expiry at the end of 2010, there is little risk that state—and most local—governments would default on their obligations. Thus, municipal borrowing costs have remained relatively low (Figure 22). Following a spike in municipal bond yields in 2008, and a temporary increase in late 2010, AAA-rated, A-rated and BAA-rated municipal bond yields have all been generally declining, in contrast to the increasing rate faced by local governments in many other countries.<sup>40</sup>

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<sup>38</sup> Ornstein (2011).

<sup>39</sup> See Krugman (2008) and McNichol (2012).

<sup>40</sup> Another reason for the relative calm of the municipal bond market is that many state constitutions require the repayment of bonds to take priority over other state spending. States, unlike municipalities, do not have the legal option of declaring bankruptcy. During the 2011 debate over whether or not states should have that option, most state governors opposed the idea, fearing that it would adversely affect states’ borrowing costs.

**Figure 22. Municipal 20 Y Bond Yield by Rating Grade**

Source: WM Financial Strategies, 2012.

Third, there is scope for mitigating the potential shortcomings of the BBRs and other limits to states' fiscal discretion during economic downturns, while preserving the benefits of states' reputations for fiscal prudence. A number of suggestions on how to improve fiscal management at the state level have been made. These include:

- A more active use of rainy day funds. Williams and others (2011) argued that some states were too conservative in the use of their rainy day funds, and that they should have used the remaining balances, instead of resorting to further spending cuts in the FY 2012 budgets. The criteria for accumulation of balances in rainy day funds during good times can also be revisited. These balances could be better calibrated to match the budgetary impact of potential shocks, and the proportion of adjustment carried on by drawing down the rainy day funds.
- Extending federal assistance to states. As noted above, in FY 2012, only about US\$6 billion worth of federal emergency assistance to states is left. Oliff, Williams, and Johnson (2010) warned that the phasing out of federal assistance would eliminate a large number of state jobs and seriously hurt education reform. Bernstein makes a similar point, arguing that the portion of the previous fiscal stimulus allocated to states was the most effective.<sup>41</sup>
- Making the federal grants to local governments less pro cyclical by insulating them from the volatility of the national tax base (Rodden and Wibels, 2010).

<sup>41</sup> See <http://jaredbernsteinblog.com/what-a-drag/>. However, Cogan and Taylor (2011) argued that rather than boosting their spending, increasing federal grants to state and local governments led to a corresponding reduction in state and local borrowing.

- Reducing costly tax competition among states. Pollin and Thompson (2011) argue that states and municipalities have been competing with each other to attract businesses using various tax incentives. However, this is mainly a zero-sum game which just costs the states a lot of money in terms of lost tax revenues—by some estimates, up to US\$70 billion annually, which would help them close a substantial part of the budget gap.
- Better management of investment spending. Bernanke (2010) and Pollin and Thompson (2011) argue that states could manage their capital budgets better to smooth cyclical fluctuations by increasing the pace of infrastructure construction during times of weak economic activity. Bernanke also advocates considering revenue stability as one criterion when reviewing state tax systems, in order to mitigate one source of budgetary volatility. Similarly, Krugman (2008) argues that it makes sense to increase public investment in times of weak private demand when the public sector does not compete with the private sector for scarce resources.
- Finally, it should not be forgotten that during the boom period preceding the Great Recession, many states treated the increase in revenues as permanent, boosting their current and future spending obligations. A more conservative approach would have mitigated the risk of struggling with spending cuts in leaner years.

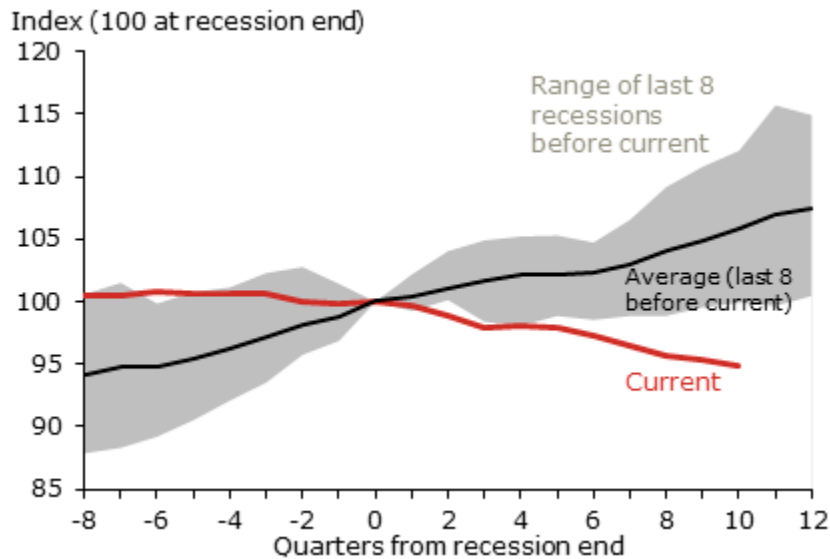
## VI. CONCLUSION

In this paper, we reviewed the impact of the Great Recession on the U.S.'s state and local government finances. Weaker economic growth, falling employment rates and incomes, as well as declining housing prices, led to a shortfall in tax revenue unprecedented in post–World War II history. To be sure, federal government tax collection fell even more sharply after the start of the crisis, and job losses were more pronounced in the private sector. But the impact of the Great Recession on states and municipalities may linger for some time: state and local government employment has broadly stabilized, but has yet not begun to increase. Tax and nontax revenues are recovering only slowly, and in most states, remain below their precrisis level as a percent of GDP. Furthermore, most states continue to cut their spending in their current FY 2012 budgets (Figure 23).<sup>42</sup>

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<sup>42</sup> Only fifteen states expect to reach the previous FY 2008 peak in FY 2012 in nominal tax collection. See National Conference of State Legislatures, 2012.



**Figure 23. State and Local Real Government Spending**

Source: Williams (2012).

The projection of a weak and uneven recovery following the Great Recession suggests that the economic conditions facing the states and municipalities are not going to improve quickly. The Great Recession was not a typical economic crisis, but a balance sheet crisis. As historical experience suggests, recoveries of output and employment from this type of crisis take much longer than recoveries from the “garden variety” cyclical slowdown. Weak growth in output, employment, and income would imply a weak tax base, and would thus only lead to a slow recovery in state and local revenues. Moreover, because of the lagged response to falling house prices, local tax collection will continue to be adversely affected for several years to come by lower property tax collection. Even an unlikely rapid recovery of the housing market would not immediately translate into higher property tax collection. Growing political pressures to reduce the federal government’s deficit means that states and municipalities can expect to receive less help to be drawn from the federal budget.

Thus far, the Great Recession has not resulted in the widespread financial distress of states and municipalities. One analyst’s dire prediction that there would be 50 to 100 defaults of U.S. municipal bonds—totaling hundreds of billions of dollars—turned out to be incorrect.<sup>43</sup> While there were some isolated cases of financial stresses and bankruptcies (Alabama, Harrisburg, Vallejo), these have not led to a massive wave of bankruptcies. This is in line with historical evidence: there have been few U.S. state and municipal bankruptcies

<sup>43</sup> See <http://www.bloomberg.com/news/2011-02-07/whitney-whips-up-wall-street-in-high-heels-commentary-by-alice-schroeder.html>.

throughout the country's history, and states (and municipalities) continue to enjoy low borrowing costs.<sup>44</sup>

However, the crisis has brought attention to the desirability of tight borrowing constraints that prevent state governments from spreading out their adjustment efforts. While fiscal policy during the crisis has been pro cyclical in a number of advanced economies, this pro cyclicality appears to have been especially pronounced in the United States. This raises the issue regarding whether or not the current fiscal rules are forcing states to undertake overly drastic procyclical policies that could derail or delay recovery and weaken long-term economic performance. Our conclusion is that far-reaching changes to current borrowing rules are unlikely and unnecessary, and that an improvement in the tradeoff between states' fiscal flexibility and fiscal discipline could be achieved within the existing framework of balanced budget rules and debt limits. Possible steps in this direction include a more flexible use of budgetary reserves in rainy day funds (more accumulation during boom times and more use in lean times), a more active counter cyclical implementation of public investment, a more conservative approach to spending during periods of strong revenue performance, and some reformations to state tax systems that would reduce revenue volatility induced by cyclical fluctuations.

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<sup>44</sup> Since 1980, there have been only 259 municipal bankruptcies, with less than 0.5 percent of the 55,000 government entities issuing debt. See [http://www.pewcenteronthestates.org/report\\_detail.aspx?id=85899365417](http://www.pewcenteronthestates.org/report_detail.aspx?id=85899365417). Out of the 18,400 municipal bond issues rated by Moody's between 1970 and 2009, only 54 defaulted.

## Appendix: Data Sources on U.S. State and Local Governments

**The Center on Budget and Policy Priorities** analyzes fiscal issues at both the federal and state levels, including analysis of the effects that federal policy choices can have on state budgets. The publications include *An Update on State Budget Cuts*.

<http://www.cbpp.org/research/index.cfm?fa=topic&id=40>

**The Federal Reserve Statistical Release, Flow of Funds Accounts**, has data on credit market borrowing and outstanding debt by sectors, including (joint) state and local government borrowing and debt. See Tables D1–D3.

<http://www.federalreserve.gov/releases/z1/current/default.htm>

**The Government Accountability Office (GAO)** has published the *State and Local Governments' Fiscal Outlook* since 1997. This publication includes long-term fiscal simulations for the state and local government sector. Using the Bureau of Economic Analysis's National Income and Product Accounts (NIPA) as the primary data source, GAO's model projects the level of receipts and expenditures for the sector until 2060, based on current and historical spending and revenue patterns.

<http://www.gao.gov/products/GAO-11-495SP>

**The National Association of Budget Officers**, jointly with the **National Governors Association**, publishes the semiannual *Fiscal Survey* in spring and fall. Analyses of trends and significant developments of states' fiscal conditions, along with tabular summaries of state general fund revenues, expenditures, and balances, are included in the report. It contains both individual and aggregate totals based on states' responses to a survey conducted by NASBO. The spring survey details governors' proposed budgets, while the fall survey details enacted budgets. NASBO also publishes the annual *State Expenditure Report* which examines spending in the functional areas of state budgets.

<http://nasbo.org/Publications/tabid/61/Default.aspx>

**The National Conference of State Legislatures (NCSL)** provides, among other things, research on issues of state tax policy, revenues, and budgets. This includes NCSL Fiscal briefs, covering updates on state budgets and policy responses to recessions. The *October 2010 Brief* provides a good summary of the state's balanced budget provisions.

<http://www.ncsl.org/Default.aspx?TabID=756&tabs=951,61,161#951>

**The Pew Center on the States** “conducts research and analysis on how states can make strategic investments, run government more efficiently and effectively and be responsible fiscal stewards.”

<http://www.pewcenteronthestates.org>

***The Rockefeller Institute of Government*** publishes analyses of state fiscal conditions, tax policies, fiscal capabilities, and spending trends, including how states have implemented major initiatives, as well as the institutional strengths and weaknesses revealed by such efforts. Among the important publications is the quarterly *State Revenue Report*.

<http://www.rockinst.org>

***The U.S. Census Bureau*** conducts a census of state (not including local) government finance. Attached is the methodological note:

[http://www2.census.gov/govs/state/08\\_methodology.pdf](http://www2.census.gov/govs/state/08_methodology.pdf)

The latest census on revenue, expenditure, debt, and assets (cash and security holdings) are for 2009. They include data for the 50 states and the District of Columbia, as well as a national summary. Statistics also are available by level of government: state, local, and state plus local aggregates.

<http://www.census.gov/govs/estimate>

In addition to the *Census*, in noncensus years, the Census Bureau produces the *Annual Survey of Government Finances*. This survey work deals primarily with the finances of state and local governments. The annual sample survey data, collected in noncensus years, has coverage that parallels that of the Census of Governments, namely, revenue by source, expenditure in considerable functional detail, indebtedness and debt transactions, and financial assets by type.

<http://www.census.gov/govs/www/financegen.html>

***U.S. Department of Commerce Bureau of Economic Analysis***

Section 3 of the *National Income and Product Accounts* has annual and quarterly data on state and local government receipts and expenditures (Tables 3.20–3.23).

<http://www.bea.gov/national/nipaweb/SelectTable.asp?Selected=N#S3>

NIPA data on state and local government budgets are also reproduced in the *Economic Report of the President* (Tables B-85 and B-86).

<http://www.gpoaccess.gov/eop/tables11.html>

***The U.S. Department of Labor, Bureau of Labor Statistics' Economic News Release*** contains data on federal, state, and local government employment in Table B-1.

<http://stats.bls.gov/news.release/empsit.toc.htm>

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