States in Fiscal Distress

Robert P. Inman

The 2007-10 recession has imposed significant fiscal hardships on state and local governments. The result has been state budget deficits and the need to increase state taxes, cut spending, and withdraw funds from state "rainy day" accounts. The primary cause of state budget "gaps" has been the rise in the level of state unemployment. There is no evidence that these gaps are related to state political institutions, a state's prior receipt of federal funding, or possibly favored access to key congressional budget committees. The federal government has responded to these gaps with the passage of the American Recovery and Reinvestment Act (ARRA) of 2009 to aid states in fiscal distress and provide economic stimulus. Though intended as insurance for fiscal distress, ARRA covers at most $0.23 of each dollar of a state's recession-induced budget gap. These funds are provided through a large per capita payment to each state, independent of any level of state deficit. AARA was also intended as targeted assistance for stimulating local economies, but its funding is uncorrelated with state unemployment rates. ARRA funding appears to be decided by congressional politics, given Congress's desire to pass a major spending and tax relief package as quickly as possible. States are important "agents" for federal macroeconomic policy, but agents with their own needs and objectives. (JEL H3, H6, H7)

States and their subsidiaries, local governments, have long been the foundation of public finance in the United States, a fact no less true today than at the country's founding. Today state and local governments account for over 70 percent of the nation's spending on nondefense public goods and services. As a matter of public policy, we have chosen to decentralize the provision of governmental services— and for good reasons. State and local governments offer significant choices to our mobile residents and businesses for the provision and levels of services. Choices encourage states to compete for residents and firms, which leads to improved fiscal performance and a better matching of service provision to the wants and needs of residents and firms. The availability of many alternative providers allows successful program innovations to be copied by other states. Finally, with mobile residents, government repression of individual political and civil rights becomes more difficult. For each of these reasons, state governments can play a central role in ensuring a prosperous and democratic society.[1]

States today, however, are under significant fiscal stress. The recent deep economic recession has both reduced state revenues and increased state expenditures, particularly for Medicaid outlays for state poverty populations. The end result has been large state deficits requiring employee layoffs

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[1] These lessons from U.S. history appear to be generalizable to other societies and economies as well. See Inman (2007).

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and furloughs, program cuts, and tax increases to restore balanced budgets. State program cuts have been concentrated in the two biggest spending categories: (i) state aid to local education and (ii) transfers and services for lower-income families. In February 2009, 44 states reported that their anticipated balanced budgets for fiscal year (FY) 2009 had turned to deficits. Only states with significant severance taxes on state natural resources—Montana, Nebraska, North Dakota, Texas, West Virginia, and Wyoming—showed zero expected deficits for the remainder of their fiscal year. These trends have continued into FY 2010. Revenues are still expected to fall below state expenditures, and only through a variety of budget gimmicks, such as asset sales, pension underfundings, and dipping into "off-budget" funds, will the troubled states be able to balance their budgets.[2]

It is no surprise then that states as a group turned to Congress for relief. Congress responded with the passage of the American Recovery and Reinvestment Act (ARRA) in February 2009. As part of that legislation, the federal government provided over $223 billion for three years of fiscal relief for state and local governments, divided about equally between (i) general fiscal relief for education, Medicaid, and welfare expenditures and (ii) program- and project-specific transfers meant to stimulate the economy.

This paper provides a preliminary evaluation of the ARRA's relief for states in fiscal distress. It does so against a backdrop of how state finances work best in "normal" times. I reach two conclusions. First, although ARRA did provide significant aggregate fiscal relief to all state governments, the allocation of the program's funds provided at best weak relief for those states in greatest fiscal distress. Only $0.23 of each ARRA dollar was explicitly targeted to closing state mid-year deficit gaps. The remaining $0.77 of each ARRA dollar increased funding of state services generally or aided new programs favored by Congress and the Obama administration. Congressional politics played a significant role in allocating these new programmatic dollars. Second, the analysis of state budgeting in normal times suggests a better way to manage state finances in times of fiscal distress—that is, to encourage each state to maintain a budget-stabilization, or "rainy day," fund equal to at least 10 percent of state expenditures. The best way to encourage such behavior is for Congress to commit to no federal bailouts of states in fiscal distress. Congress first did so in response to the state fiscal crises of the 1840s and has continued this tradition down to President Gerald Ford's emphatic "No" to the bailout requests of New York City and New York State during their fiscal crises of 1974.[3] Today's crises in state finances provide another opportunity to reconfirm this commitment.

EFFICIENT STATE BUDGETING IN NORMAL TIMES

State governments perform two essential functions in our public economy. First, they provide statewide public services not efficiently provided by the many local governments. These are services that display significant economies of scale in production or that correct for between-community economic externalities—services such as higher education; construction, maintenance, and safety of public highways; prisons and courts; and the protection of water and air quality. Second, states redistribute incomes between residents and provide for a minimally acceptable level of meritorious local services. These redistributive activities include income protection, training, and job placement; the provision of health care services for children and lower-income families; and the guarantee, through intergovernmental transfers to schools, of a minimally acceptable level of K-12 public education for all children.

To ensure that state residents pay the marginal costs of state services, state taxes should be resident- or destination-based taxation. Resident-based taxation taxes factors of production based on where

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[2] For an excellent description of the current condition of state finances and budget strategies for dealing with states' fiscal crises, see the National Governors Association (NGA) and the National Association of State Budget Officers (NASBO) (June 2009, particularly Tables A-2, A-3, A-5a, and A-5b and their notes, which provide the details of how states have chosen to close their fiscal gaps).

[3] See Inman (2003) and Wallis and Kim (2005) for a review of this history and Shefter (1992) for a valuable review of the finance and politics of the New York fiscal crises.

the factors "live," not where they work, and taxes consumption based on the location of the consumer. The alternative is source-, or origin-, based taxation, which taxes factors of production by where they work and taxes consumption at the point of purchase. Source-based taxation may allow a share of the tax burden to shift onto nonresident labor and owners of productive capital and nonresident consumers of goods and services produced within the state. Source-based taxation, however, has two adverse consequences for economic efficiency. First, it discourages the efficient location of economic inputs.[4] Second, because nonresidents pay a share of the taxes used to finance the marginal costs of state services, residents or their elected officials may find it advantageous to overprovide subsidized state services.[5] For economic efficiency, then, the preferred structure of state taxation is resident based—ideally resident income, property, and consumption taxation.

With efficient state finances in "normal" times, states should be allowed to use long-term debt to manage large and unexpected expenditures that arise during the fiscal year. Without the ability to borrow to cover such expenditures, states would be forced to raise tax rates significantly. Firms and households typically react to large increases in their tax rates by making a disproportionately large reduction in valued private sector activities, such as investment, savings, or work effort. These efficiency losses, known as the excess burden of taxation, grow exponentially with the state tax rate. The use of government debt to pay for large one-time expenditures allows the government to increase tax rates only slightly and to then hold tax rates stable over the period of debt repayment. This fiscal strategy is called "tax smoothing" and helps to minimize the efficiency losses of state taxation.[6] Large increases in state expenditures may occur for two reasons: capital outlays for public infrastructure or relief spending to offset losses from natural disasters or deep recessions. Debt financing for

either reason is an important component of efficient state financing.

The aim of efficient state government finances is to have each state set its level of public services or transfers so that the marginal benefits of the public dollar just spent equal the marginal costs of financing that dollar. Unfortunately, states may not always choose an efficient level of public services or transfers, adopt efficient tax instruments, or use long-term debt appropriately. In these cases, federal government intervention may be necessary, including the following measures.

First, state spending must allow for all interstate spillovers, which could be relieved by federal financial assistance. Service spillovers are likely to be most pronounced for states that redistribute resident incomes or provide public goods that directly benefit nonresidents. States that engage in higher-than-average income redistribution attract lower-income residents from other states and drive out upper-income residents from their own. Such mobility of residents discourages states from providing what may otherwise be desired income transfers. This fiscal externality could be solved by federal intergovernmental transfers to states in proportion to the redistributive benefits created for residents outside the state or for the added costs borne because of the exit of the mobile tax base from within the state.[7] Federally funded intergovernmental transfers are appropriate, too, for state-provided public goods (e.g., major interstate highways, intercity airports, and infrastructure that protects air and water quality) that significantly benefit residents outside the state. The preferred form of such transfers is a price subsidy or "matching" grant equal to the share of all benefits enjoyed by nonresidents of the state.[8]

Second, federal policies could help states achieve more-efficient taxation. Although resident taxation is an efficient way to tax for state services, source-based taxation may be preferred by state residents or their elected officials. Source-based taxation is significantly easier to administer. Taxes on labor income can be collected by a withholding tax administered by firms located within the state.

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[4] See Wildasin (1989) and Gordon (1983).

[5] See Inman and Rubinfeld (1996).

[6] See Barro (1979).

[7] See Wildasin (2000).

[8] See Inman (2002).

Capital income taxes, once income is apportioned across multiple locations, can also be collected directly from the firms within the state. Finally, sales taxes can be collected at the point of sale rather than requiring residents to keep records of out-of-state purchases. In addition to ease of administration, all revenues from source-based taxation collected from nonresidents act as a subsidy to residents for their purchase of state public services. It is not surprising, then, that state officials adopt source-based rather than resident-based taxation. Fortunately, certain federal policies can solve this problem while still leaving state governments full control over their choice of tax rates. State-resident income and sales taxation could be "piggybacked" onto the federal income tax or a federal sales, value-added, or consumption tax. The state would select a tax rate and the federal government would collect the revenues from a shared national tax base, say, resident income or consumption, as reported by residents of the state. Because of the high mobility of capital and the difficulty of apportioning fixed costs across locations, capital taxation should be administered and the rates set solely by the central government.[9]

Third, the federal government may be needed to monitor states' use of long-term debt. The problem arises when states use long-term debt to finance current-year government services. Unless current and future residents, or future factors of production if taxation is source based, fully understand the extent of such deficit financing for current services, market and public sector inefficiencies will result. Market inefficiencies occur because future taxes must be increased, even though there is no future public asset (in the case of infrastructure) or income insurance program (in the case of disasters) whose benefits compensate for the tax increase. This discourages the location of new private capital and/or labor in the state, even if these factors' pretax marginal productivity would be higher than in their next-best location. Public sector inefficiencies occur

because long-term debt used to pay for current services creates a subsidy of those services if that debt is finally repaid by future residents.

There is a marketplace solution to these deficit-induced inefficiencies, however. If future debt obligations are known to all future residents and firms and if those residents and firms have equally attractive locations in other states—that is, competitive locations are in elastic supply—then any taxes to repay long-term debt used to finance prior services must be "rebated" to all new residents and firms before they will locate in the high-deficit state.[10] This can be done for new residents by either raising resident wages or by lowering the price of land for housing. New firms will enter the state only if wages are lower or if land for production is priced lower. But in the end, the price of land will bear the full burden of paying for past deficits. Land and its valued attributes—mines, oil and gas, fertile farmland, beaches, sunshine, mountains, ports, or long-standing agglomeration economies—are the only factors unique to the state and the ones that cannot move to escape the tax.[11] In the end, the debt-induced tax for current services is shifted back onto the owners of location-specific assets in the form of lower rents and entrepreneurial profits. And this is as it should be, for it was these owners of the fixed assets who enjoyed the benefits of the deficit-financed services when they were first provided. With efficient private markets, therefore, those who first received benefits now pay for the benefits, just as efficient public finance requires.

The problem with the market solution to state deficit financing lies in discovering and credibly signaling the level of such debt-financed current-account fiscal deficits. State officials have at least four ways to conceal a deficit: (i) At the end of each fiscal year, state officials may reveal the deficit but then pass the shortfall to next year's budget with a

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[9] See Wildasin (1989), who suggests that perhaps some of the proceeds of a national capital tax could be allocated back to states through intergovernmental transfers for support of productive public infrastructure complementary to private capital There is an extensive literature on the design of such tax and transfer schemes; see Krelove (1992) for the theory and Rivlin (1992, Chap. 8) for an application to U.S. federalism.

[10] An assumption of perfect elasticity of new capital to each state is certainly reasonable for capital. For evidence that residents and productive labor are also elastically supplied to states in the long run, see Blanchard and Katz (1992).

[11] See Mieszkowski (1972) and more recently Rangel (2005). In the "not too" long run there may also be fixed capital assets in place within the state, the most important of which is the existing housing stock. This fixed capital stock will also be depreciated by its share of the costs of long-term debt unmatched by compensating public benefits.

promise to repay in coming years. If the accumulated debts grows faster than state tax bases, eventually the rollover strategy will collapse and someone will need to cover the aggregated shortfalls.[12] (ii) Officials may fail to maintain local capital stocks and not record depreciation of those assets as a current expense. Unlike most machines, such government assets decay gradually, continue to provide services, but then may one day collapse. The fall of the Mississippi River bridge connecting the twin cities of Minneapolis and St. Paul, killing 13 persons and injuring another 145, is a tragic, but not uncommon, example. (iii) States may borrow money for new investments, but then spend those funds on a current service, relabeled perhaps as a "capital outlay." (iv) States may underfund their workers' defined-benefit pension plans. To ensure sufficient funds to pay workers' promised annuities, state governments must make a contribution that, with accumulated interest, will pay the accumulated annuity from that year's salary. If the government contributes less than the required payment, then the pension will be underfunded. Such underfundings are effectively a deficit created to pay part of the compensation of current public employees.[13] Information about the level of local debt created by each borrowing strategy is the key to disciplining inefficient deficits.

But who will provide the information about these types of state deficits? It is unlikely that elected state officials seeking reelection will reveal the true level of state deficits since the deficit strategy gives the appearance of quality services at low tax rates. Future residents and firms might invest in collecting the needed information, but unless *all* potential buyers of state assets have this information it will be the uninformed buyer who offers the undiscounted price who buys the property. Informed buyers do avoid a potentially bad investment, but the cost of acquiring deficit information must be borne by each individual buyer and may simply exceed the expected benefits of participating in the market. A "lemons" market may occur, where high-debt states discourage the efficient relocation of economic activity generally.[14]

Paradoxically perhaps, the only parties with an economic interest in providing credible market information are the current owners of assets in the state adopting the deficit strategy. Doing so provides a more-liquid market for their private assets and likely higher asset prices when they choose to sell. Importantly, since providing the information is a public good to all buyers, there are significant economies of scale from having the information provided by a single agent—perhaps a supervising agency of the state itself closely monitored by the state's current asset owners. Further, since investing in a state often requires a long-term commitment, having the oversight agency signal a credible commitment to future deficit-free financing is also needed. Let's call these asset owners "current homeowners," the agency an "elected state supreme court," and the commitment mechanism a "constitutionally based balanced-budget rule" (BBR). Bohn and Inman (1996) find that constitutionally based BBRs enforced by an independently elected state supreme court do in fact provide a significant check on elected state officials' propensity to run current-account fiscal deficits. But lacking such a watchdog institution, states may abuse long-term debt financing.[15]

There is one more requirement for market discipline of state deficits to work—the federal government must not bail out a state when its accumulated deficits threaten state default. If the national government cannot politically resist the temptation to bail out troubled state governments because of their macroeconomic or political impor-

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[12] This rollover strategy was the central cause of the fiscal crises in New York City in 1972, Philadelphia in 1990, the German states of Saarland and Bremen in 1994, São Paulo in 1996, Buenos Aires in 1996, and Washington, D.C., in 1997. These fiscal histories are described in Rodden, Eskeland, and Litvack (2003). Greece today is a victim of such fiscal misbehaviors.

[13] See Inman (1982), who presents evidence that underfunded public pensions lead to higher worker wages and more public employees than would be observed if worker pensions were fully funded.

[14] Without credible information about deficits, when bidding for property, uninformed buyers will always outbid informed buyers. Although informed buyers could share information, uninformed buyers are unlikely to believe it—they will fear that informed buyers will announce too high a deficit estimate in hopes of prompting uninformed buyers to make offers that are too low. Thus, informed buyers cannot win: Information is costly but does them no good. Information here is a public good and should be provided by the government.

[15] Inman (1997) provides the formal political economy analysis of self-enforcing BBRs. At the moment, 10 of the 50 states have the institutional structure sufficient for a fully effective BBR. See Bohn and Inman (1996, Table 2) and Hou and Smith (2006).

tance—that is, that they are too big to fail—then political improvidence trumps market discipline. Knowing a bailout is available from the national government, states will shift the cost of state services onto national taxpayers in a beggar-thy-neighbor game of deficit financing for current spending.[16] To qualify as too big to fail, a state financial default can either impose a large economic cost on the national economy (for example, a financial collapse, such as São Paulo's financial default that threatened Brazil in 1996, or the Greek, Portuguese, or Spanish government debt that threatens the "federal" European Union today), impose a large loss on a particularly socially favored cohort (as New Orleans's default did following Hurricane Katrina), or threaten a valued social resource not easily duplicated (as was the case for Washington, D.C., with its financial default in 1997). Having a federal government with the discipline to say "No" to a demand for a federal bailout is crucial for efficient state government finances.

Against the backdrop of these guidelines for efficient state budgeting, then, how do U.S. states do in normal times? For the sector as a whole, aggregate fiscal performance seems fine. States spend money on what they should, with federal intergovernmental assistance where appropriate. State taxes are largely residential. And most states have balanced budgets with small annual contributions to a budget stabilization fund for unforeseen shocks to the state economy.

For example, in FY 2006, the last pre-recession year, state spending for current services and transfers was $4,430/person: $1,725/person for state services, such as highway maintenance, courts and prisons, and protection of natural resources, and $2,705/person for general transfers, such as welfare and Medicaid and school aid. State spending for new infrastructure was about $340/person. States paid for these services and transfers largely with residential taxes: 25 percent from residential income taxes, 24 percent from general sales taxation, and 32 percent from resident user fees and "sin taxes." Together these residential taxes and user fees totaled 7.2 percent of personal income.

The remaining share of state revenues were collected from businesses through business fees and a state corporate income tax. The state corporate income tax is the only significant source-based tax and contributed only 5 percent to aggregate state revenues in 2006. All capital spending by states is paid for through the issuance of long-term debt.[17]

Each year states have a significant gap between revenues from fees and taxes and current spending. Again, on average for FY 2006, state revenues covered $3,236/person of the $4,430/person in current spending. The resulting gap of $1,194/person was more than covered by $1,290/person in federal intergovernmental transfers. Those transfers (provided as grants) paid for income transfers, Medicaid, and related services for state residents in poverty ($750/person), for interstate highway construction and maintenance within the state ($110/person), and for a miscellaneous collection of targeted small programs of value to state residents ($430/person).[18] Together, individual state revenues plus federal aid equaled on average $4,526/person, a bit more than enough to cover current spending. In 2006, the average state was able to run a current-account fiscal surplus equal to its own revenues plus federal aid ($4,526/person) minus current spending ($4,403/person) of $123/person, or about 2 percent of current spending. In the aggregate, deficit financing has been under control. These state surpluses have been saved in fiscal stabilization, or rainy day, funds for future fiscal emergencies. As shown in column 5 of Table 1, by the end of FY 2006, states in the aggregate had accumulated over $40 billion in total savings for future fiscal contingencies.

Against the guidelines for efficient state budgeting, there is much to recommend about this aggregate fiscal performance by U.S. states. In FY 2006, states were spending money on appropriate state functions, raising most of their money with

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[16] This beggar-thy-neighbor fiscal game is described in Inman (2003) and then applied by others in country case studies in Rodden, Eskeland, and Litvack (2003).

[17] See U.S. Census Bureau (2009, Table 439). These figures and those for federal aid below are from the *2006 Census of Governments* and include all state spending and revenues.

[18] Inman (1988) provides an evaluation of these many programs against the standards of good public finance. Not surprisingly, federal politics are an important determinant of the final allocation of federal dollars. We reach a similar conclusion, noted below, in our evaluation of the recent federal programs designed to help states during the current fiscal crisis.

Table 1

States Under Fiscal Stress: State General Funds (2009$ billions)

Fiscal year	State general funds				Overall fiscal balance
	Revenues	Expenditures	Balances*	Stabilization fund	
	(1)	(2)	(3)	(4)	(5)
2006	622.0	603.8	18.2	22.4	40.6
2007	671.3	673.2	−1.9	29.1	27.2
2008	669.3	684.7	−15.4	35.0	19.6
2009	638.4	670.0	−31.6	30.4	−1.2
2010[†]	647.2	652.9	−5.7	28.8	23.1

NOTE: *The state balances reported here are the difference between state revenues in column 1 minus state expenditures in column 2. This measure differs from the "ending balance" reported in NGA and NASBO (June 2007, June 2008, June 2009, Tables A-1, A-2, and A-3) because it excludes all revenue "adjustments" and expenditure "adjustments." Such adjustments typically include the reallocation of revenues and spending obligations from a variety of "off-budget" funds—for example, revenues from tobacco settlement funds, pension obligation bonds, interest payments from bond sinking funds, and transfers into the current budget from state rainy day funds. See NGA and NASBO (June 2007, June 2008, June 2009, Tables A-1, A-2, and A-3 notes.) Finally, California, Colorado, Delaware, Georgia, Massachusetts, Minnesota, New Jersey, New Mexico, New York, and South Carolina report their state stabilization funds as part of each fiscal year's ending balance. Therefore, to provide an end-of-fiscal-year balance for all states, column 5 is the sum of columns 3 and 4. [†]The results for FY 2010 are projected numbers as of June 2009.

SOURCE: NGA and NASBO (June 2007, June 2008, June 2009, Tables A-1, A-2, and A-3).

efficient resident-based taxes, and running small current-account fiscal surpluses. For the most part, the federal government provides assistance for state services with arguably significant interstate spillovers and does so with appropriate price-based subsidies. By most measures, states were fulfilling their assigned role in our federal system of public finance in FY 2006.

But those were normal times. Today state governments are in deep fiscal distress. The question now arises: Should the guidelines for good state financing be relaxed when states face the threat of deep service cuts or large tax increases? If so, how does state assistance provided by the ARRA fit into such revised guidelines?

UNDERSTANDING TODAY'S FISCAL CRISIS

In January 2006, the national unemployment rate was 4.7 percent. By February 2009, the rate had more than doubled to 9.5 percent and the U.S. economy was in the midst of its deepest recession since the 1930s. The impact of the recession on state budgets has been significant. By the middle of FY 2009, 44 states were facing significant fiscal deficits totaling over $78 billion, or about $260/person. Mid-year deficits as a share of budgeted spending for FY 2009 equaled 12 percent. Only those states with significant "severance" taxes on their state production of oil, gas, and coal were immune to the deficit pressures. Since most state constitutions preclude making changes to tax rates during the fiscal year, these looming deficits meant significant cuts in state services. These fiscal pressures have continued into FY 2010. Was the recession alone to blame, or were there inherent weaknesses within the fiscal structure of state financing that only a deep recession could expose? Knowing the answer to this question will help us evaluate the policy responses of states, and ultimately the national government, to this crisis.

Table 1 summarizes the aggregate fiscal performance of the general fund for state governments since FY 2006.[19] In FY 2006, general funds were

[19] It should be noted that the levels of funding reported in Table 1 are limited to state general funds, whereas the level of funding reported in the "Efficient State Budgeting in Normal Times" section for FY 2006 includes all current-account spending.

comfortably in balance. All state revenues—including aid from the federal government—exceeded state spending by the positive balance of $18.2 billion (Table 1, column 3). This balance can be allocated to a variety of uses in state "capital accounts," such as paying down long-term debt, investing in capital improvements, or adding to stabilization (rainy day) funds. Some states adopted a variation of the savings strategy by "rolling over" the surplus from FY 2006 into the new budget planned for FY 2007.[20] The aggregate fiscal position of all state governments at the end of FY 2006 is the sum of their surpluses at the end of that year, $18.2 billion, plus the accumulated savings from prior years now in their stabilization funds, $22.4 billion (Table 1, column 4). In FY 2006, the total fiscal balance for states was $40.6 billion, or $136/person (Table 1, column 5).

The recession officially began in December 2007, but states did not begin to feel its full impact on overall fiscal balances until FY 2008. FY 2007 ended with budgets effectively in balance. There was a small aggregate deficit of $1.9 billion (Table 1, column 3) that was more than covered by accumulated prior surpluses of $29.1 billion in state stabilization funds (Table 1, column 4). By the end of FY 2008, however, the national unemployment rate had risen to 5.5 percent (the S&P 500 index had fallen from its peak of 1,549 in October 2007 to 1,280 by June 2008). States were beginning to feel significant pressure on their budgets. State revenues fell slightly from FY 2007 (–$2 billion), but state spending rose by $11.5 billion, particularly state spending for redistributive services. The net effect was to increase annual state deficits by $13.5 billion, from –$1.9 billion in FY 2007 to a more significant –$15.4 billion by the end of FY 2008 (Table 1, column 3). Fortunately, state stabilization funds of $35 billion were still sufficient to cover this gap and the overall fiscal balance for all states was $19.6 billion (Table 1, column 5).

Not so by the end of FY 2009. States had begun to make significant spending adjustments in anticipation of continued falling revenues, but those

adjustments were not enough to prevent an almost doubling of the deficit of general funds. From FY 2008 to the end of FY 2009, aggregate state revenues fell by $30.9 billion (Table 1, column 1), but state spending was reduced by only $14.7 billion (Table 1, column 2). The net effect was to increase the aggregate deficit, from –$15.4 billion at the end of FY 2008 to –$31.6 billion at the end of FY 2009 (Table 1, column 3). This deficit fully exhausted the $30.4 billion of accumulated savings in the state stabilization funds (Table 1, column 4), leaving an aggregate deficit of –$1.2 billion.[21] Going forward into FY 2010, states are planning for continued spending cuts and increases in state revenues. Still, for FY 2010, these adjustments will leave a planned general fund deficit of $5.7 billion for all states.[22]

Table 2 seeks likely correlates in state economies, budgeting, and/or politics that might help explain the large FY 2009 deficits. The dependent variable is the reported mid-year anticipated deficits in state budgets as of February 2009, called state budget gaps. This measure removes the mid-year adjustments to spending and revenues that states were able to make before the end of FY 2009 and therefore provides an estimate of the "structural" gap created by the fiscal shock of the recession.[23]

Column 1 of Table 2 reports the partial correlations of attributes of state economies with the size of each state's mid-year budget gap.[24] The most important correlate with the state budget gap is

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[20] This is simply an accounting step. Rolled-over surplus is placed in an interest-bearing account until it is spent in the next fiscal year, just as the state would do if the funds were placed in a separate stabilization fund. The possible virtue of an explicit stabilization fund is its transparency to citizens.

[21] See the boxed insert.

[22] Note that states anticipate an aggregate level of 2010 state stabilization funds of $28.8 billion! But, from where? The previous year shows an overall balance of –$1.2 billion, so it cannot be from prior savings. And they are estimating revenues will be less than spending for FY 2010. There must be an "outside source" of money that states anticipate that is not included in their usual revenue projections. Could it be from one-time federal assistance through the ARRA of 2009? The Act plans to allocate $90 to $110 billion to states over FYs 2009 and 2010. It appears states plan to allocate approximately $28.8 billion of those funds to replenishing their rainy day funds, suggesting that about $0.30 of every ARRA dollar will be saved for a later fiscal crisis.

[23] The mid-year adjustments were significant. The reported aggregate budget gaps as of February 2009 averaged –$78.6 billion, or –$257/person. By the end of FY 2009, the aggregate deficit was –$31.6 billion (see Table 1, column 5). States were able to trim their mid-year anticipated deficits by more than half.

[24] Since the results here are for a one-year cross-sectional regression of all 50 states, one needs to be cautious about using the word "causal." I repeated the analysis in Table 2 omitting California and then Alaska and Texas and the results are nearly the same.

Table 2

Determinants of 2009 State Budget Gaps

Average budget gap = $257/person [SD = 233]	Budget gap (1)	Budget gap (2)	Budget gap (3)	Budget gap (4)	Budget gap (5)	Budget gap (6)
Constant	3.03 (113)	–131.2 (155.8)	190.9 (179.5)	–290.02 (202.3)	–29.06 (214.9)	–183.5 (131.8)
State unemployment February 2009 [SD = 2.03]	55.61 (14.60)*	45.09 (14.67)*	38.68 (18.18)*	48.70 (15.50)*	41.51 (15.66)*	44.81 (14.56)*
State population [SD = 6,672]	0.005 (0.004)	0.010 (0.004)*	0.008 (0.005)	0.010 (0.005)*	0.010 (0.005)*	0.010 (0.004)*
Percent manufacturing [SD = 0.065]	–1,599 (422.7)*	–883.3 (500.7)*	–1,353.4 (532.4)*	–1,126.1 (504.8)*	–901.3 (496.3)*	–977.1 (475.5)*
State budget 2005 [SD = $1,685]	—	0.045 (0.019)*	—	0.092 (0.044)*	0.039 (0.029)	0.046 (0.019)*
Share of budget, Medicaid 2005	—	–294.0 (459.9)	—	—	—	—
Federal aid 2005	—	—	–0.076 (0.095)	—	—	—
Cash/securities 2005	—	—	11.30 (22.06)	—	—	—
Senate chairman	—	—	–56.51 (75.81)	—	—	—
CV, state revenues 2005	—	—	—	–387.4 (1,910)	—	—
CV, state expenditures 2005	—	—	—	213.1 (2,067)	—	—
State Senate seats	—	—	—	—	–1.53 (2.73)	—
State House seats	—	—	—	—	–0.132 (0.500)	—
Democratic governor	—	—	—	—	–69.36 (54.65)	—
R^2(Adj)	0.35	0.40	0.27	0.31	0.29	0.41

NOTE: *Significant at 5 percent or lower. Standard errors are in parentheses. SD, standard deviation. CV, coefficient of variation. All regressions contain 50 state observations. The variable "Senate chairman" = 1 if a particular state's senator holds either the chairmanship or is the ranking minority member of one of the following Senate fiscal committees: Appropriations, Banking and Urban Affairs, Budget, Commerce and Transportation, Environment and Public Works, or Finance.

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LOOKING BEHIND THE AGGREGATE DEFICIT

The aggregate deficit for all states reached –$1.2 billion in FY 2009. This aggregate total conceals a deeper and wider problem, however. In the aggregates are the states with zero or small deficits in FY 2009, in particular, the resource-rich states of Alaska, Montana, Nebraska, North Dakota, Texas, West Virginia, and Wyoming. Computation of column 5 of Table 1 for all states *excluding* Alaska and Texas reveals that at the end of FY 2009 the other 48 states had a deficit in their general funds of –$30.6 billion and accumulated savings in their stabilization funds of only $16.9 billion. Thus, the remaining 48 states had an overall fiscal balance of –$13.7 billion, or about –$50/person.

It is reasonable to ask: How were these states able to cover the remaining $13.7 billion in state spending? The answer has been to sell state assets, move monies from state funds such as the Tobacco Settlement Fund that had been earmarked for future spending, and to play the game of allocating May and June 2009 tax revenues committed to FY 2010 to pay for FY 2009 spending. Interestingly, the planned level of the state stabilization funds at the end of FY 2010 are still significantly positive, at $28.8 billion, even though FY 2010 shows an anticipated general funds deficit of –$5.7 billion. How can that be? The answer is that states did not fully exhaust their available FY 2009 stabilization funds to cover their FY 2009 deficits. In fact, they used only $1.6 billion for that purpose (FY 2009 Fund – FY 2010 Fund = $30.4B – $28.8B; Table 1, column 7). This means that most of the FY 2009 deficit had to be covered by reallocating funds not included in general fund accounting. How this could be done is detailed in NGA and NASBO (June 2009, Table A-2 notes).

Finally, California is always worthy of a special look. Its FY 2009 general fund deficit was –$4.7 billion. The state had accumulated $2.3 billion in prior general fund savings—California uses the rollover approach to account for state savings—for a net end-of-FY 2009 position of –$2.4 billion, or –$66/person (NGA and NASBO, June 2009, Table A-2). Interesting, too, is that California is the one state with significant deficits that did not detail in NGA and NASBO (June 2009, Table A-2) how they planned to fill their revenue gap from nongeneral fund sources.

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the state unemployment rate as of February 2009. The mean unemployment rate is 8 percent, with a standard deviation (SD) of roughly 2 percent within the sample. States with an unemployment rate 1 SD higher than average (10 percent) will have a budget gap that is $222/person more than a comparable state with an unemployment rate 1 SD lower than average (6 percent): unemployment × 55.61 = 4.0 × 55.61 = $222.44/person. States with larger populations also have a larger per capita deficit gap. Interestingly, it is not the states with larger manufacturing sectors that have the biggest budget gaps; the percent of state workers in manufacturing had a negative effect on anticipated state deficits.

Columns 2 to 4 of Table 2 add state fiscal variables to the analysis to explore the possible impact of the structure of state budgeting on the FY 2009 budget gap. All fiscal variables are from FY 2005, though measured in FY 2009 dollars. The size of the aggregate state budget in FY 2005 is important, but the share of that budget allocated to the major redistribution program—Medicaid—has no significant effect on the budget gap (Table 2, column 2). There is no evidence that state expectations of "outside" funding encouraged a larger budget gap in FY 2009. Neither federal aid in FY 2005, large holdings of cash and securities in a rainy day fund in FY 2005, nor having a Senate budgetary chairman from your state is correlated with the "surprise" deficits of FY 2009 (Table 2, column 3).

Column 4 of Table 2 reports test results for the general presence of "California Behavior." Over the past 10 years, California budgets have relied

heavily on capital gains taxation for the financing of state services and have increased state spending with increases in these tax revenues. Unfortunately, as revenues have declined, the state legislature has been unable to agree on comparable cuts in state spending. The result has been large state deficits during economic downturns.[25] Perhaps the use of high-variance revenues and the adoption of high-variance spending programs leads, as it has in California, to larger budget gaps. Column 4 of Table 2 tests this proposition, by adding the coefficient of variation of state revenues and spending for the 20 years prior to FY 2005 to the core regression. Fortunately, California's budget behavior does not generalize; measures of revenue and spending volatility are uncorrelated with the current budget gaps across all states.

Column 5 of Table 2 examines whether state political institutions are correlated with the size of the 2009 state budget gap. There is no evidence here that larger state legislative bodies or Democratic governors correlate with larger state budget gaps in FY 2009. The political economy literature has found larger state legislatures do spend more, but at least for FY 2009 it appears they also committed to higher taxes.[26] Democratic governors may also spend more, but again in FY 2009, they seemed to have taxed more too.

In the end, the most important correlate with the February 2009 budget gaps is the national recession, coupled with hopeful forecasting by the states as to future state revenues and redistributive spending. The national unemployment rate on June 30, 2008, was 5.5 percent. One year later at the end of FY 2009, it was 9.5 percent. If 2009 budgets had been based on projecting forward the 2008 unemployment rate, then the actual 4 percent increase would have indicated a $180/person to $222/person average budget gap,[27] which accounts for almost all of the variation in observed mid-year deficits seen in the data. The good news from this analysis is that the state fiscal crises of 2009 appear not to be linked to any obvious structural or institutional failures in state finances. "It's the economy, stupid."

THE FEDERAL RESPONSE

As much as states are meant to facilitate efficient resource allocations between local governments in a well-designed federal system of public finance, so too is the national government meant to intervene when there are economic spillovers or allocative failures between the states. The current recession is arguably such a moment. The recession has threatened the ability of states to provide core services, particularly redistributive services, to their constituents. Further, as small open economies in a large economic union, state governments may be very limited in their ability to use economic stimulus strategies to restore state employment and growth to their pre-recession levels. Free trade and factor mobility between states mean any state's fiscal stimulus will be shared by citizens nationally, at least in the long run.[28] Both for fiscal insurance for core state services and to stimulate the national economy, federal government intervention may be appropriate.

Congress responded with the passage of the ARRA on February 17, 2009. The stated purposes of the legislation are to stimulate the national economy through $288 billion in tax cuts and $499 billion in new spending and to protect state and local public services by sending $223 billion of the new spending to the states for support of core state services. This $223 billion is to be disbursed over the three fiscal years beginning in FY 2009 and ending in FY 2011, thought to be sufficient time for state economies to recover from the recession. The total three-year allocation of $761/person nearly equals three years of the mid-year FY 2009 budget gap of $257/person. In the aggregate, ARRA funding appears to be sufficient to protect the level of

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[25] Sheffrin (2004) provides a detailed and compelling analysis of California's budget "debacle"—his word, not mine—from this perspective.

[26] On the positive effects of the size of state legislatures on state spending, see Gilligan and Matsusaka (1995).

[27] That is, $4.0 \times 44.81 = \$179.24$/person (see Table 2, column 6) and $4.0 \times 55.61 = \$222.44$/person (see Table 2, column 1).

[28] Gramlich (1987) estimates that at most $0.10 of every dollar of increased state fiscal stimulus, say in the form of increased state deficit spending, remains within the state to stimulate its economy. Even if the state economy does improve, Blanchard and Katz (1992) provide evidence that workers from other states will eventually move into the growing state and erode the economic gains for current residents.

Table 3

Determinants of 2009 ARRA Fiscal Assistance

	Total aid (1)	Total aid (2)	Stability aid (3)	Medicaid aid (4)	Highway aid (5)	Other aid (6)	Total aid (7)
State average per capita aid	$761 (171)	$761 (171)	$157 (6)	$247 (96)	$117 (55)	$240 (75)	$761 (171)
Constant	695.9 (34.09)**	830.1 (93.14)**	161.3 (4.02)**	43.96 (45.87)	59.20 (27.18)*	238.1 (33.66)**	415.2 (88.75)**
State unemployment February 2009	—	–0.719 (0.513)	–0.719 (0.513)	–3.94 (5.39)	0.682 (2.98)	–1.79 (4.31)	–7.72 (8.99)
Budget gap 2009	0.253 (0.098)**	0.321 (0.107)**	0.002 (0.004)	0.137 (0.044)**	0.052 (0.025)**	0.045 (0.035)	0.232 (0.075)**
Medicaid expenses 2005	—	—	—	0.261 (0.036)**	—	—	0.392 (0.057)**
Federal highways 2005	—	—	—	—	3.43 (0.50)**	—	3.95 (1.49)**
State population	—	—	0.0001 (0.0001)	0.0030 (0.0015)**	–0.0024 (0.001)**	–0.0021 (0.0011)*	–0.0004 (0.002)
Senate chairman	—	—	2.81 (1.99)	–27.10 (20.96)	23.53 (11.10)**	32.27 (16.69)**	16.69 (33.86)
Close Obama vote	—	—	–0.506 (2.75)	–11.60 (28.61)	13.96 (15.22)	–6.08 (23.01)	2.12 (45.68)
R^2(Adj)	0.10	0.12	0.06	0.59	0.67	0.10	0.55

NOTE: Standard errors are in parentheses. *Significant at 10 percent or lower. **Significant at 5 percent or lower. All regressions contain 50 state observations. The variable "Senate chairman" = 1 if a particular state's senator holds either the chairmanship or is the ranking minority member of one of the following Senate fiscal committees: Appropriations, Banking and Urban Affairs, Budget, Commerce and Transportation, Environment and Public Works, or Finance. The variable "Close Obama vote" = 1 if President Obama's vote share was within the threshold 0.50 to 0.52 and is 0 otherwise.

spending states had planned in the spring of 2008 for FY 2009, before the full force of the economic decline was evident. As fiscal insurance, therefore, the overall level of federal funding is sufficient to close state budget gaps. Table 3 shows how the $223 billion of state assistance is to be allocated across states.

How well does ARRA state funding meet its twin objectives of protecting core state services and responding to states in economic distress? Its performance is mixed. If the objective of ARRA funding is to fully protect state services in each distressed state, then we should expect a simple regression of each state's ARRA assistance against its budget gap to have an intercept close to 0 and a slope near 1.0—that is, be a 45-degree line. In fact, the intercept is $695/person and is statistically

significant and the slope is only 0.25 and statistically different from both 0 and 1.0 (see Table 3, column 1). There is fiscal insurance, but it is not full coverage.

If ARRA assistance is meant to be a combination of targeted fiscal insurance and an economic stimulus for declining states, then we should expect significant positive coefficients on the levels of state budget gaps and state unemployment rates in a total ARRA funding equation (see Table 3, column 2). We continue to observe partial insurance coverage but no observable effort to match ARRA funding to state unemployment rates. With ARRA funding partitioned into its four main spending categories—(i) stability aid to protect state jobs (Table 3, column 3), (ii) Medicaid aid to supplement usual federal Medicaid funding (Table 3,

column 4), (iii) highway aid meant for "shovel-ready" construction projects (Table 3, column 5), and (iv) a collection of old and new programs in "other aid" (Table 3, column 6)—we regress each aid category on the state unemployment rate, state budget gap, and category-specific determinants and find no effort to match ARRA funding to high-unemployment states and only modest success at closing state budget gaps. If not full fiscal insurance or a targeted economic stimulus, what then is ARRA funding to states seeking to do?

The evidence in Table 3 suggests two goals: (i) stimulate the national economy using states as agents for spending federal money and (ii) pass an aggregate economic stimulus package as quickly as possible.

To get money into the national economy, the federal government must use existing government agencies and government programs. States are effectively federal "agencies" for spending federal money. Education aid to states (the most important component of ARRA assistance called "stability aid"), Medicaid funding, and highway construction grants are three prominent federal programs. Together these three spending categories account for just over two-thirds of all state ARRA funding.

To ensure quick passage of a stimulus program, the chosen political strategy appears to have been to (i) give all states some funding, (ii) not open new, or revisit old, distributional conflicts between the states, and, finally, (iii) give a bit extra to the states represented by the chairs and senior members of the important budgetary committees. Passage of ARRA took less than one month from its introduction as H.R. 1 on January 26, 2009. The House approved the final bill by a vote of 246 to 183 (with no Republican support), and the Senate voted 60 to 38 (with 3 Republican "Yea" votes). How were the funds allocated? First, every state received aid. The results in Table 3 reveal that stability aid works as a simple per capita grant, worth on average $160/person (plus or minus a little bit; see Table 3, column 3). Second, ARRA used existing federal programs and their distribution formulas to avoid an unstable redistribution game between all legislators. ARRA selected one program that favored liberal, large, and high-poverty urban states—Medicaid aid (see Table 3, column 4)—and another

that favored conservative, small, rural states—highway aid (see Table 3, column 5). Finally, ARRA selected many small programs, and created some new ones in the category "other aid," for specific groups of interest to committee members, paying particularly close attention to states with senators who run the major budget committees (see Table 3, column 6).[29]

There is no evidence that presidential politics was decisive in the allocation of ARRA funding. In particular, states that provided Obama with his presidential election margin—Florida, Georgia, Indiana, North Carolina, and Ohio—did not receive additional ARRA support.

Viewing total ARRA funding as a single federal policy, it is best described as a three-year formula grant providing temporary fiscal relief from rising Medicaid costs and short-term fiscal stress with a few dollars for highway construction and a lot of lump-sum aid per capita in the guise of expanded and new program initiatives (see Table 3, column 7). The average state will receive $290/person for Medicaid support (0.392 × average 2005 Medicaid expense = 0.392 × $741/person) plus $60/person for relief for fiscal distress (0.232 × average 2009 budget gap = 0.232 × $257/person) plus $49/person for highway construction (3.95 × average 2005 highway miles = 3.95 × 12.33 miles/person) plus a per

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[29] That congressional politics is an important determinant of ARRA spending should come as no surprise. This has been the "truth" of federal aid to state and local governments since the 1950s (see Inman, 1988). Here, the importance of "other aid" to the passage of ARRA is evident from a simple regression of U.S. Senate support by state (1 if both senators supported the bill, 0 if senator support is split, and −1 if both senators opposed the bill) on three variables: Obama (1 if President Obama won the state's popular vote and 0 otherwise), Pop (state population), and OthAid (other aid per person allocated to the state).

$$\text{Senate support} = -1.22 + 1.15 \times \text{Obama} - 0.00001 \times \text{Pop} + 0.004\,\text{OthAid} \quad R^2(\text{Adj}) = 0.48$$
$$\qquad\qquad (0.44)\ (0.17)\qquad\quad (0.00001)\qquad\quad (0.002)$$

All regression coefficients except that on Pop are significant at the 5 percent level or lower. To interpret the results, notice that a non-Obama state (Obama = 0) receiving no OthAid would be unambiguously opposed to the legislation—that is, Senate support would equal −1. An Obama state receiving no OthAid would divide its Senate votes—that is, Senate support would equal 0. Allocating OthAid at its mean level of $240/person is sufficient, however, to turn Senate support in an original non-Obama state from no support to a split vote and in an Obama state from a split vote to full support: 0.004 × OthAid = 0.004 × 240 = 0.96. Finally, to test whether OthAid helped determine Senate support for ARRA, I ran the same regression as above but replaced OthAid with the state's allocation of stability aid, then Medicaid aid, and then highway aid. None of the other aid categories had a significant effect on Senate support for ARRA.

capita grant of $415/person. Together these four components equal $814/person, accounting for all funding to be allocated by ARRA.

CONCLUSION

Today's deep recession has imposed significant fiscal hardships on our state governments. States have adjusted, but not without cuts in government spending and significant federal assistance through ARRA. As fiscal insurance for troubled state budgets, ARRA aid is relatively inefficient. The program provides a large per capita grant to all states, troubled or not, while closing at best $0.23 per dollar of each state's recession-induced budget shortfall. ARRA's large component of per capita assistance is understandable, perhaps, since ARRA had a second objective of stimulating as quickly as possible the aggregate economy with a large infusion of federal monies. To achieve the stimulus objective it was necessary to use existing federal programs, and many of the largest (nondefense) federal programs—school aid, personal transfers, and construction—are administered by state governments. To ensure ARRA would pass quickly, congressional politics seems to have required that all states get significant funding. We have muddled through, but perhaps there is a better way.

What is needed in times of deep recessions is protection for state budgets and a quick fiscal stimulus for the macroeconomy. One alternative is a permanent federal program of fiscal insurance for state budgets that is triggered by a high unemployment rate for either an individual state or the nation. Such a program, however, is likely to create adverse incentives for at least four important state decisions: (i) Just as households have reduced precautionary savings in response to federal income insurance (welfare and Medicaid), so too might we expect states to reduce their contributions to their rainy day funds. (ii) With such insurance, states may prefer high-variance tax instruments. Germany has a variant of fiscal insurance for lower-tier governments, and there is strong evidence that these governments have moved their tax structures toward more-volatile business taxes and away from more-stable residential taxes.[30] Third, states may lock in spending programs, either formally by contracts or informally by political agreements, that are economically attractive when private incomes are high but no longer economically justifiable when private incomes are low. Finally, if tied to state unemployment rates, such fiscal insurance would act as a deterrent to the efficient location of economic activity. Workers and capital may be discouraged from moving out of declining industries in declining states, and states may be encouraged to more aggressively pursue cyclically sensitive industries.

Rather than federal fiscal insurance, a better strategy would be to build on the optimal structure of state government finances in normal times. This approach begins by reconfirming the federal government's commitment to not bail out state governments in times of deep recessions. The "no bailout pledge" places the burden of insuring against bad economic shocks where it belongs, in the hands of individual states and their citizens. Insurance can be provided as it is now, by states self-insuring through budget-stabilization funds. An aggregate fiscal stimulus may still be needed in deep recessions, but the national government has its own tax and transfer policies available for this purpose. The evidence is convincing that these instruments can respond more quickly and are more powerful tools than government spending as a means for jump-starting a stalled national economy.[31] This approach leaves state governments to do what they do well—provide the services their citizens demand at competitive tax rates.

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[30] See Buettner (2007).

[31] See Romer and Romer (forthcoming) and Johnson, Parker, and Souleles (2006).

REFERENCES

Barro, Robert. "On the Determination of the Public Debt." *Journal of Political Economy*, October 1979, *87*(5), pp. 940-71.

Blanchard, Olivier and Katz, Lawrence. "Regional Evolutions." *Brookings Papers on Economic Activity*, Spring 1992, *23*(1), pp. 1-76.

Bohn, Henning and Inman, Robert. "Balanced Budget Rules and Public Deficits: Evidence from U.S. States." *Carnegie-Rochester Conference Series on Public Policy*, December 1996, *45*, pp. 13-76.

Buettner, Thiess. "Equalization Transfers and Dynamic Fiscal Adjustment: Results for German Municipalities and the U.S.-German Comparison." IFIR Working Paper No. 2007-07, Institute for Federalism and Intergovernmental Relations, October 2007; www.ifigr.org/publication/ifir_working_papers/IFIR-WP-2007-07.pdf.

Gilligan, Thomas and Matsusaka, John. "Deviations from Constituent Interests: The Role of Legislative Structure and Political Parties in the States." *Economic Inquiry*, July 1995, *33*(3), pp. 383-401.

Gordon, Roger. "An Optimal Tax Approach to Fiscal Federalism." *Quarterly Journal of Economics*, November 1983, *98*(4), pp. 567-86.

Gramlich, Edward. "Subnational Fiscal Policy," in *Perspectives on Local Public Finance and Policy: A Research Annual*. Vol. 3. Greenwich, CT: JAI Press, 1987, pp. 3-27.

Hou, Yilin and Smith, Daniel. "A Framework for Understanding State Balanced Budget Requirement Systems: Reexamining Distinctive Features and an Operational Definition." *Public Budgeting and Finance*, Fall 2006, *26*(3), pp. 22-45.

Inman, Robert. "Public Employee Pensions and the Local Labor Budget." *Journal of Public Economics*, October 1982, *19*(1), pp. 49-71.

Inman, Robert. "Federal Assistance and Local Services in the United States: The Evolution of a New Federal Fiscal Authority," in Harvey Rosen, ed., *Fiscal Federalism: Quantitative Studies*. Chicago: University of Chicago Press, 1988, pp. 33-74.

Inman, Robert. "Do Balanced Budget Rules Work? U.S. Experience and Possible Lessons for the EMU," in Horst Siebert, ed., *Quo Vadis Europe?* Tübingen: J.C.B. Mohr, 1997, pp. 307-32.

Inman, Robert. "On Designing Intergovernmental Transfers with an Application in the New South Africa," in Arvind Panagariya, Paul Portney, and Robert Schwab, eds., *Environmental and Public Economics: Essays in Honor of Wallace Oates*. Northampton, MA: Edward Elgar Publishing, 2002, pp. 222-52.

Inman, Robert. "Transfers and Bailouts: Enforcing Local Fiscal Discipline with Lessons from U.S. Federalism," in Jonathan Rodden, Gunnar Eskeland, and Jennie Litvack, eds., *Fiscal Decentralization and the Challenge of Hard Budget Constraints*. Cambridge, MA: MIT Press, 2003, pp. 35-83.

Inman, Robert. "Federalism's Values and the Value of Federalism." *CESifo Economic Studies*, December 2007, *53*(4), pp. 522-60.

Inman, Robert. "The Flypaper Effect." NBER Working Paper No. 14579, National Bureau of Economic Research, December 2008; www.nber.org/papers/w14579.pdf.

Inman, Robert and Rubinfeld, Daniel. "Designing Tax Policy in Federalist Economies: An Overview." *Journal of Public Economics*, June 1996, *60*(3), pp. 307-34.

Johnson, David; Parker, John and Souleles, Nicholas. "Household Expenditure and Income Tax Rebates in 2001." *American Economic Review*, December 2006, *96*(5), pp. 1589-610.

Krelove, Russell. "Competitive Tax Theory in Open Economies: Constrained Inefficiency and a Pigovian Remedy." *Journal of Public Economics*, August 1992, *48*(3), pp. 361-75.

Mieszkowski, Peter. "The Property Tax: An Excise Tax or a Profits Tax?" *Journal of Public Economics*, April 1972, *1*(1), pp. 73-96.

National Governors Association and National Association of State Budget Officers. *The Fiscal Survey of States*. June 2007; www.nga.org/Files/pdf/Fss0706.PDF. June 2008; www.nga.org/Files/pdf/FSS0806.PDF. June 2009; www.nga.org/Files/pdf/FSS0906.PDF.

Rangel, Antonio. "How to Protect Future Generations Using Tax-Base Restrictions." *American Economic Review*, March 2005, *95*(1), pp. 314-46.

Rivlin, Alice. *Reviving the American Dream: The Economy, the States and the Federal Government*. Washington, DC: Brookings Institution Press, 1992.

Rodden, Jonathan; Eskeland, Gunnar and Litvack, Jennifer. *Fiscal Decentralization and the Challenge of Hard Budget Constraints*. Cambridge, MA: MIT Press, 2003.

Romer, Christine and Romer, David. "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks." University of California–Berkeley, April 2009; http://emlab.berkeley.edu/users/dromer/papers/RomerandRomer.pdf (forthcoming in *American Economic Review*).

Sheffrin, Steven. "State Budget Deficit Dynamics and the California Debacle." *Journal of Economic Perspectives*, Spring 2004, *18*(2), pp. 205-26.

Shefter, Martin. *Political Crisis/Fiscal Crisis: Collapse and Revival of New York City*. New York: Columbia University Press, 1992.

U.S. Census Bureau. "Table 429. State and Local Governments—Total Revenue and Expenditures by State: 2000 to 2006," in *The 2010 Statistical Abstract of the United States*. Washington, DC: U.S. Census Bureau, 2009; www.census.gov/prod/2009pubs/10statab/stlocgov.pdf.

Wallis, John and Kim, Namshuk. "The Market for American State Government Bonds in Britain and the United States, 1830-1843." *Economic History Review*, November 2005, *58*(4), pp. 736-64.

Wildasin, David. "Interjurisdictional Capital Mobility: Fiscal Externality and a Corrective Subsidy." *Journal of Urban Economics*, March 1989, *25*(2), pp. 193-212.

Wildasin, David. (2000), "Labor Market Integration, Investment in Risky Human Capital, and Fiscal Competition." *American Economic Review*, March 2000, *90*(1), pp. 73-95.