STATE AND LOCAL REVENUE YIELD AND STABILITY IN A GREAT RECESSION: THE VIRTUES OF CYCLICAL VERSUS SECULAR ADEQUACY AND THE NECESSITY OF POLICY RESPONSES

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THE GREAT RECESSION THAT BEGAN IN DECEMBER 2007 has made for difficult times for American state and local governments, as with most all entities and individuals. From its start in the fourth quarter 2007 through the second quarter of 2009, real gross domestic product fell by 2.29 percent. In that period, total personal income increased by 1.26 percent, but the implicit deflator for personal consumption expenditure rose by 1.7 percent, meaning that this higher personal income had somewhat lower purchasing power (U. S. Department of Commerce, Bureau of Economic Analysis, n.d.). This economic decline had its impact on the tax resources of all governments and this impact is particularly important for subnational governments. While diminished tax collections may help stabilize the national economy, state and local governments lack the easy access to debt markets that the federal government enjoys and cannot accommodate deficits that may accompany reduced revenue as easily as the national government can. Reduced revenue will usually bring reduced spending and reduced government services, just when receipt of state and local services is particularly important for the recession-strapped general public. States and localities are particularly cautious because they fear that growing debt may endanger their credit rating and make access to debt quickly more expensive. Furthermore, these governments frequently operate within balanced budget requirements that, although subject to some manipulation by cagy lawmakers, require them to operate within the revenues that they collect. Diminished revenue resources present a difficult fiscal issue for state and local governments and the economic decline previously noted has translated into an adverse revenue impact for these governments.

State and local governments levy taxes on several different bases, with the result that the subnational revenue systems are considerably more diverse than that of the federal government. While the federal system is dominated by taxes on incomes (individual, corporate, and payroll), states and localities create systems from taxes on income, sales, and property in various combinations. Revenues from these bases, although all likely to be impacted by economic decline, are not all likely to be impacted in the same way and to the same magnitude. Hence it is useful to examine the revenue patterns experienced by states and localities and by particular tax bases employed by them.

THE OVERALL PATTERN OF STATE AND LOCAL TAX COLLECTION BEHAVIOR

Important patterns are apparent from an examination of national aggregate data on quarterly tax collections by state and local governments for the period from the start of 1988 through June 2009.[1] Those data encompass the experience of recessions from July 1990 to March 1991and from March 2001 to November 2001, as well as for the current recession that began in December 2007. States and localities are examined separately because, in aggregate, they rely on different tax sources and, although localities are commonly regarded as creatures of the states in which they are located, local governments are normally expected to operate within their own finite fiscal resources and cannot expect that their states will accommodate any prolonged spending in excess of revenues. Combined state and local tax collections would not provide much insight into the finances of the American subnational government sector.

A useful view of tax collection patterns appears in Figures 1 and 2, graphs of national total state and local tax collections from the fourth quarter of 1988 through the second quarter of 2009. In order to remove the impact of seasonal patterns, each quarterly plot is annualized; in other words, the data are reported for the full twelve months ending in that quarter. The plots are for total collections for states and for localities and for major taxes levied by each (state: individual income, corporate income, and general sales; local: individual income, general sales, and property). As would be expected, the general trend over the years is upward for all the taxes. For states, the average

Figure 1: **Annualized State Tax Collections by Quarter, IV:1989 - II: 2009 Total, Individual Income, Corporation Income, and General Sales ($ millions)**

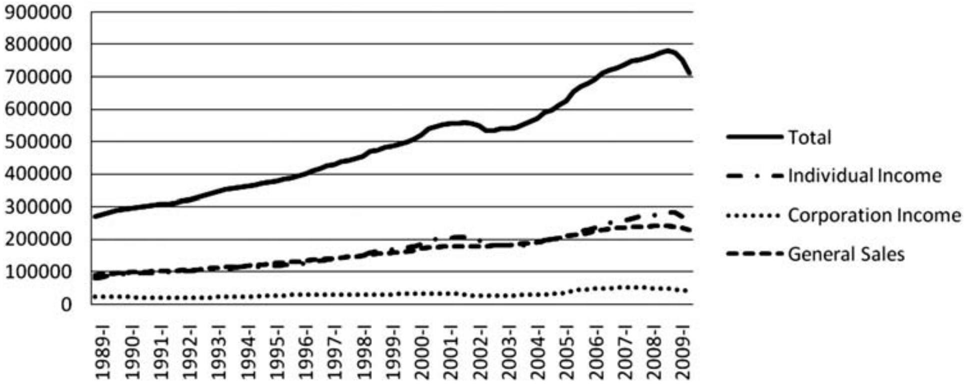
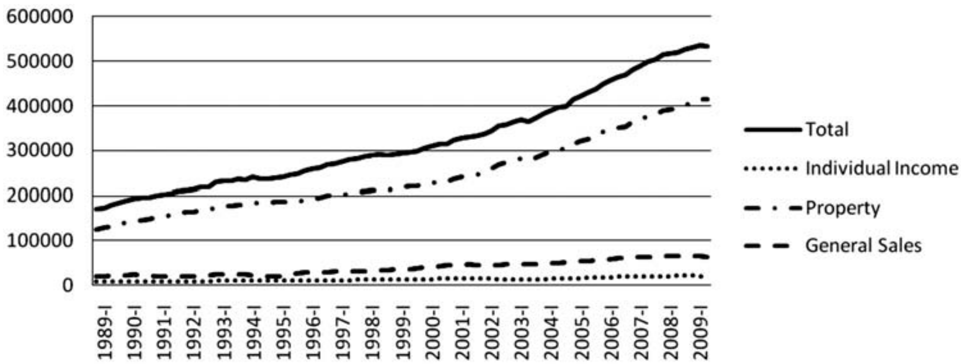


Figure 2: **Annualized Local Tax Collections by Quarter, IV:1988 - II:2009. Total, Individual Income, Property, and General Sales ($ millions)**



annual rate of change for total taxes is 4.74%; for individual income taxes, 5.38 percent; for corporate income taxes, 3.19 percent; and for general sales taxes, 4.57 percent. For localities, the rate for total taxes is 5.59 percent; for individual income taxes, 3.63 percent; for general sales taxes, 5.70 percent; and for property taxes, 5.88 percent. However, the figures make clear that these rates of change over the full period did not result from the same year-to-year profiles. While the local tax patterns do, indeed, show a generally consistent upward path for total and component taxes (with a noticeable dip appearing in the current recession at the end of the data plot), that is not the case for state taxes. Total state tax collections and individual income tax collections were both significantly impacted by the 2001 recession, as clearly shown in Figure 1, and the recession that began in 2007 has had a major impact on total state tax collections and collections of each of the separate state taxes. The impact of the recession in the 1990s is less clear and impacts on local taxes of the three recessions are hardly apparent at all. These figures show the overall growth of state and local tax collections over the long period, the somewhat greater sensitivity of state taxes to recessions, and the impact on both state and local taxes of the current recession.

Table 1 examines the behavior of the major state and local taxes during the recession that began in December 2007. Data in that table report collec-

Table 1
Comparison of State and Local Tax Collections for Twelve Months Ending IV-2007 and II-2009

	IV-2007	*II-2009*	*% Change*
State Tax Collections			
All Taxes	759,898	712,528	-6.2%
Individual Income	271,843	243,871	-10.3%
Corporate Income	50,563	43,731	-13.5%
General Sales	240,477	229,477	-4.6%
Property	12,705	12,825	0.9%
Local Tax Collections			
All Taxes	514,892	533,544	3.6%
Individual Income	20,015	18,628	-6.9%
Corporate Income	9,022	6,151	-31.8%
General Sales	64,728	63,040	-2.6%
Property	390,381	414,971	6.3%

Source: U. S. Census Bureau, Governments Division, various years.

tions in total as well as for the major individual taxes for the years ending in the quarters in which the recession began (IV:2007) and for the year ending in the most recent quarter for which data are available (II:2009, possibly the end quarter of the recession). As before, this annualization removes the seasonality that otherwise complicates quarterly comparisons.

This table shows two important patterns. First, the recession has, as would be expected, had an important negative impact on subnational tax revenues. In this span of six quarters, state tax collections are lower by 6.2 percent. That contrasts with an average annual increase of 4.74 percent for the full period (IV:1988 to II:2009), so these recession quarters will clearly shock state finances. However, local tax collections actually increased by 6.3 percent in the recession period, compared with an average annual increase of 5.59 percent for the full period. It is apparent from these data that state finances in aggregate, at least so far, have been hit harder by the recession than have those of localities.

Second, individual taxes have been affected by the recession to significantly different degrees. Revenue from the corporate income tax is dramatically lower, by 13.5 percent for states and by 31.8 percent for localities, offering stark evidence of the sensitivity to economic prosperity of corporate profits. However, this decline, while contributing to difficult finances, is of less significance than others because of the limited role that corporate income tax collections now play in subnational government finances. The decline in individual income tax collections is critically significant in both relative and absolute terms for states – collections fell by 10.3 percent, providing almost 60 percent of total state tax decline. There was also a 6.9 percent decline in local individual income tax collections, but individual income tax revenues are of less consequence to total local revenues. General sales tax revenues also declined significantly – 4.6 percent for states and 2.6 percent for localities – and the absolute impact was particularly important for states because of the major role that general sales taxes play in state finances.[2] Lost sales tax revenue contributed 23 percent of the total state tax decline. The only bright spot among the major taxes is the property tax, where revenues actually increased by 6.3 percent for localities and by 0.9 percent for states. This is particularly significant for localities because of the continuing importance of property taxes for local finance, still more than 75 percent of total local tax collections. Property tax stability provided the basis for the modest total tax collections increase for local governments during the recession (3.5 percent).

In sum, local tax collections have not been as severely distressed by the recession as have state tax collections. The difference is heavily driven by the relative stability of the local property tax. Individual local governments which have moved away from property tax as a tax source could be expected to have experienced greater tax distress than those who continue with the property tax as their fiscal foundation. The state government sector lacks such a stable foundation tax and its overall tax declines have, accordingly, been severe.

This conclusion regarding property tax stability, however, requires some caution. Because property taxes are often due some months after they have been levied and levied on a lagged property value base, the full recession impact on property tax collections may still be ahead. Hoene and Pagano (2009, p. 3) make the point: "Due to property tax assessment cycles, it often takes several years for city property tax revenues to accurately reflect the totality of changes in housing values." However, where the property tax rate is flexible and set annually during the budget process, it is likely that property tax collections will remain more stable because statutory tax rates will be adjusted to accommodate declines in the tax base. In this instance, actual revenues will be more stable than the base, rate adjustments making up for any reductions in property values. Instability would then come from higher delinquency rates and these typically have been extremely low, particularly for residential properties. It is not clear to what extent the current recession has brought delinquency rates that are high enough to have an impact; the data do not show that impact yet. Some of the property tax pattern may even be the outcome of states pushing more responsibility down to local governments or reducing transfer payments to them in the face of declining state tax revenues. That helps reduce state fiscal problems but forces localities to deal with them, including by heavier use of the stable property tax.

STATE TAXES IN THE RECESSION

Data available from the Governments Division of the U. S. Bureau of Census make it possible to examine how the recession has impacted individual state tax revenues and individual taxes levied by those states.[3] As shown earlier, state tax revenues have been dramatically impacted by the recession in the aggregate. The individual state data show, however, that not all states have been hit to the same degree and not all taxes have been impacted in the same fashion. Table 2 reports this recession impact by comparing collection data from the year ending at the start of the recession (IV:2007) with collections for the year ending in the most recent quarter (II:2009) for which data are available (and potentially at the end of the recession). Reported there are total collections, general sales and gross receipts taxes, individual income taxes, and corporate income taxes. In the table, the states are divided into the eight BEA economic regions.

Several points are apparent in this display. First, the average state decline in total tax collections is significant – 4.1 percent mean and 5.4 percent median. In an environment of increasing service demands and higher prices, this means that typical states will experience fiscal stress. However, a number of states have experienced declines of 10 percent or higher, including Delaware, New Jersey, Florida, Georgia, North Carolina, South Carolina, Virginia, Idaho, Utah, and California, and a revenue collapse of this magnitude is certain to create difficulties. Because of special economic circumstances, a few states have done quite well, however, but far more states have shown declines than have shown increases. The aggregate pattern is bad, but at the individual state level, there are considerable differences in how the recession has hit total state revenue.

Second, the major taxes characteristically levied by state governments have not shown the same degree of change (decline). The greatest typical decline is with the state corporate income taxes, with a mean decline of 20.4 percent and a median decline of 21.2 percent. The general phase-out of corporate income taxes in state revenue systems has been noted in the literature (Fox and Luna, 2002; Cornia, Edmiston, Sjoquist, and Wallace, 2005), but these changes are considerably more precipitous than the changes from a phase-out. This pattern emphasizes the fact that governments needing a particularly stable tax source would do well to avoid reliance on a corporate income tax. The next largest decline percentages are for the individual income tax, with a mean decline of 8.5 percent and a median decline of 8.0 percent. Again, there are considerable differences among the states with particularly large declines in Arizona and New Mexico. The general sales tax shows the lowest declines, a mean of 2.9 percent and a median of 4.85 percent. Some states show considerable increases for this tax because of rate increases during the recession. For instance, the sales tax rate in Indiana increased from 6 to 7 percent in April 2008, the major force behind the increase reported there, and other states, like Michigan, broadened

Table 2
State Tax Change in the Recession: Year Ending II - 2009 from Year Ending IV - 2007

REGION / STATE	*Total*	*General Sales and Gross Receipts*	*Individual Income*	*Corporate Income*
NEW ENGLAND				
CONNECTICUT	-0.088	-0.051	-0.108	-0.306
MAINE	0.055	0.014	0.106	-0.122
MASSACHUSETTS	-0.075	-0.065	-0.096	-0.077
NEW HAMPSHIRE	-0.076	nt	-0.13	-0.207
RHODE ISLAND	-0.085	-0.06	-0.12	-0.376
VERMONT	-0.045	-0.047	-0.117	-0.033
Mean	-0.052	-0.042	-0.078	-0.187
Median	-0.076	-0.051	-0.113	-0.165
MIDEAST				
DC	-0.012	0.049	-0.115	-0.016
DELAWARE	-0.103	nt	-0.096	-0.321
MARYLAND	0.022	0.092	-0.044	0.197
NEW JERSEY	-0.106	-0.068	-0.132	-0.212
NEW YORK	-0.058	-0.033	-0.08	-0.069
PENNSYLVANIA	-0.053	-0.037	-0.047	-0.224
Mean	-0.052	0.001	-0.086	-0.108
Median	-0.056	-0.033	-0.088	-0.141
GREAT LAKES				
ILLINOIS	-0.05	-0.05	-0.055	-0.071
INDIANA	0.004	0.122	-0.08	-0.139
MICHIGAN	0.003	0.216	-0.044	-0.077
OHIO	-0.013	-0.066	-0.075	-0.063
WISCONSIN	-0.079	-0.118	-0.114	-0.275
Mean	-0.027	0.0208	-0.0736	-0.125
Median	-0.013	-0.05	-0.075	-0.077
PLAINS				
IOWA	0.043	0.194	-0.015	-0.196
KANSAS	-0.058	-0.013	-0.042	-0.315
MINNESOTA	-0.045	-0.035	-0.063	-0.286
MISSOURI	-0.051	-0.086	-0.044	-0.28
NEBRASKA	-0.062	-0.009	-0.068	-0.118
NORTH DAKOTA	0.222	0.176	0.135	-0.15
SOUTH DAKOTA	0.009	0.014	nt	-0.357
Mean	0.008	0.034	-0.016	-0.243
Median	-0.045	-0.009	-0.043	-0.280
SOUTHEAST				
ALABAMA	-0.031	-0.058	-0.053	-0.05
ARKANSAS	-0.004	-0.034	-0.008	-0.109
FLORIDA	-0.136	-0.117	nt	-0.214
GEORGIA	-0.134	-0.093	-0.142	-0.355

Table 2 (Continued)
State Tax Change in the Recession: Year Ending II - 2009 from Year Ending IV - 2007

REGION / STATE	*Total*	*General Sales and Gross Receipts*	*Individual Income*	*Corporate Income*
KENTUCKY	0	0.001	0.048	-0.499
LOUISIANA	-0.054	-0.04	-0.073	-0.2
MISSISSIPPPI	-0.036	-0.034	-0.025	-0.142
NORTH CAROLINA	-0.104	-0.063	-0.123	-0.346
SOUTH CAROLINA	-0.152	-0.142	-0.194	-0.261
TENNESSEE	-0.082	-0.073	-0.111	-0.234
VIRGINIA	-0.101	-0.06	-0.086	-0.159
WEST VIRGINIA	0.005	-0.021	0.088	-0.209
Mean	-0.069	-0.061	-0.062	-0.232
Median	-0.068	-0.059	-0.073	-0.212
SOUTHWEST				
ARIZONA	-0.15	-0.112	-0.371	-0.349
NEW MEXICO	-0.094	-0.017	-0.427	-0.4
OKLAHOMA	-0.028	0.053	-0.08	-0.331
TEXAS	0.025	0.036	nt	nt
Mean	-0.062	-0.010	-0.293	-0.36
Median	-0.061	0.010	-0.371	-0.349
ROCKY MOUNTAIN				
COLORADO	-0.087	-0.085	-0.119	-0.364
IDAHO	-0.143	-0.123	-0.199	-0.232
MONTANA	-0.014	nt	-0.069	0
UTAH	-0.122	-0.121	-0.177	-0.129
WYOMING	0.197	0.045	nt	nt
Mean	-0.034	-0.071	-0.141	-0.181
Median	-0.087	-0.103	-0.148	-0.181
FAR WEST				
ALASKA	0.092	nt	nt	-0.494
CALIFORNIA	-0.104	-0.104	-0.181	0.188
HAWAII	-0.093	-0.062	-0.153	-0.219
NEVADA	-0.063	-0.156	nt	nt
OREGON	0.082	nt	0.175	-0.404
WASHINGTON	-0.067	-0.07	nt	nt
Mean	-0.026	-0.098	-0.053	-0.232
Median	-0.065	-0.087	-0.153	-0.311
NATIONAL				
Mean	**-0.041**	**-0.029**	**-0.085**	**-0.204**
Median	**-0.054**	**-0.0485**	**-0.08**	**-0.212**
Maximum	**0.222**	**0.216**	**0.175**	**0.197**
Minimum	**-0.152**	**-0.156**	**-0.427**	**-0.499**

nt: no tax

Source: U. S. Census Bureau, Governments Division, various years.

the coverage of the tax in the period. But there are few situations of healthy tax collection increases among the states.

Finally, not all regions of the nation appear to have been hit by the recession to the same extent. Mean change in total state tax collections of states in the Southeast, New England, and Mideast BEA regions are over -5 percent, while less than 3 percent in the Plains and Far West regions. But even within the less-impacted regions, some states experienced dramatic declines (as with California, over 10 percent decline, or Hawaii, over 9 percent decline). The point is that, while the general impact on state tax revenues has been dramatic and has made for difficult fiscal choices by states, not all regions have been hit as hard as the typical; and, within regions, some states have managed to fare better than others, sometimes because they have changed their tax structures to generate more revenue and sometimes because their basic economies happen to be somewhat less vulnerable to the national recession. The cross-state patterns make it clear that tax collections have not been impacted to the same degree by the national fiscal recession.

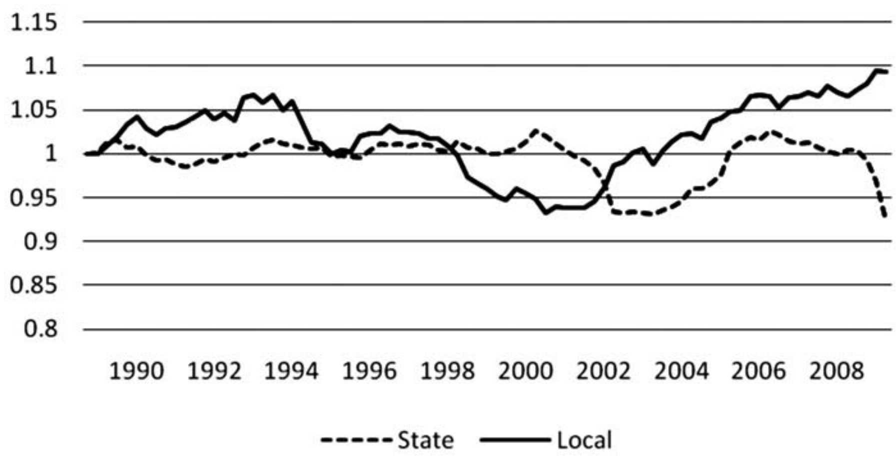
THE SECULAR TREND

Figure 3 shows how states and localities have placed tax demands on their state economies in the past 20 years. The figure traces out tax collections as a share of personal income, looking at annualized data for each quarter from IV:1998 through II:2009, and adjusting each observation by dividing it by the share for 1988. This allows easier comparisons of tax effort by states and localities over time and this is important because the patterns are not the same.

Local effort can be divided into three general eras. The first, to roughly 1993 is one of modest increase in effort; the second, from then to roughly 2001 is one of decline in effort; and the third, from 2001 through the present is one of considerable increase. Local effort in 2009 is, after these three different eras, around 10 percent greater than it was in 1988. Effective local tax burden has ultimately increased over these last two decades. This increased effort is certainly a contributing factor to the pattern of local collections described in earlier sections.

The pattern of state effort is considerably different and somewhat more difficult to characterize. Through roughly 2000, state effort was relatively stable, some fluctuations up and some fluctuations down, but not much difference from the share in 1988. At that point, effort fell through roughly 2003 (by around 5 percent), and then rose to slightly over the 1988 level until 2006. Effort then fell somewhat until 2008, at which point effort fell dramatically (almost 10 percent within the year). Effective state effort has fallen by almost 10 percent over the two decades, although in an erratic overall pattern. It would be wrong to conclude that states are asking

Figure 3: **Annualized State and Local Tax Collections as Share of Personal Income (Relative to 1988 Share)**



their taxpayers to accept higher tax burdens to cover their service costs.

CONCLUSION/DISCUSSION

The Great Recession clearly put American subnational governments under considerable fiscal stress. Comfortable revenue growth patterns got interrupted and collections from some important state and local taxes actually declined in absolute terms. Evidence presented here makes clear a number of these important patterns. First, it is clear that total state tax collections were more adversely impacted by the recession than were total local tax collections. While state collections had experienced considerable impacts from the other recessions of the past two decades, this recession had a particularly dramatic negative impact. Most of the lost revenue was from individual income and general sales taxes. Local tax collections, by contrast, actually increased through this recent recession, experiencing only a modest decline in the most recent quarters. The subnational tax impact of the recession has been primarily felt by state governments.

Second, the investigation of national quarterly data on subnational tax categories shows that not all taxes have been similarly hit by the recession. The greatest impacts have been on the corporate income taxes, individual income taxes, and general sales taxes. Property tax revenue has actually increased, thus constituting the basis for the behavior of local tax collections previously noted. Governments looking for stability in their revenue systems need look no further than the property tax. It is not an exotic revenue source but the evidence shows it not to be characterized by the deep recession plunge associated with other major taxes. The instability of other taxes does not cancel out in state revenue systems, because all the major taxes seem to be unstable in the same direction at the same time, thus destroying any potential advantage from diversification.

Third, while revenue conditions are generally difficult for states as a whole, some state tax systems and state taxes have managed the recession much better than have others. Indeed, some – but not many – states show increased tax revenue during the recession, often the product of higher statutory rates or broadened tax bases. Some economies have also been more insulated from the recession because of natural resource endowments (e.g., Alaska), and state tax revenues have thus been preserved. Overall, however, individual states show considerable declines in their tax resources.

The patterns shown in this article make the subnational tax impact of the Great Recession painfully apparent. States who seek to balance their budgets will be compelled to reduce spending because of these revenue patterns. They will be unable to avoid adding this contractionary impact to the national economy as they strive to be fiscally responsible.

Acknowledgment

The authors were assisted by Cheol Liu in data collection and management.

Notes

1 Data for this investigation are those collected and disseminated by the Governments Division of the U.S. Census Bureau (various years).

2 Of course, the sales tax declines have been devastating for municipalities highly dependent on this tax, as are several cities in Arizona. Small area declines in business activity, as when a major retailer or regional automobile dealer closes, can have a particularly dramatic impact on cities that have no stable revenue source as a fiscal backup. A locality has a smaller economy than does a state and particular businesses may constitute a greater share of the total economic base than would be likely for a state. The demise of a large car dealership or furniture store, for instance, can devastate a sales tax dependent locality. Such an event would not likely be of such significance for a state.

3 Data are, unfortunately, not available for a similar analysis at the local level.

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