Local Government Finances During and After the Great Recession

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Abstract

The 2007-2009 recession had a large and long-lasting impact on local government finances in the United States. This paper describes these impacts using existing research and a variety of data sources. Through 2011, the latest year with comprehensive data, real per capita revenues had declined 3.3 percent from 2007 levels. However, more recent data suggest that revenues hit bottom in 2012, when they were 5 to 6 percent below pre-recession levels. Revenue declines lagged economic changes by about three years, largely because federal stimulus funds postponed large cuts in state aid and property taxes did not start declining until 2010. Falling interest earnings were a major cause of revenue declines, partially due to localities tapping their reserves, but very low interest rates also played a big role. The paper also looks at local government spending, which had fallen more than revenues relative to pre-recession highs by 2011, with the cuts disproportionately affecting K-12 education. The effects of the Great Recession varied widely across cities. An analysis of revenue changes between 2008-2011 for 112 Fiscally Standardized Cities finds that differences in the local economic impact of the recession were about six times more important than differences in revenue structure for explaining variations in revenue declines. The paper also discusses future challenges facing local governments.

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Local Government Finances During and After the Great Recession

By most measures, the Great Recession of 2007-2009 was the most severe economic downturn the United States has experienced since the 1930s—nearly 9 million Americans lost their jobs, median household income fell 8 percent once adjusted for inflation, and housing prices fell nearly 20 percent nationally.[1] These economic shocks had major impacts on local government finances. Most notably, the two main revenue sources for local governments declined simultaneously for the first time since 1980 (Pew Charitable Trusts 2012), as steep declines in state tax revenues led to cuts in state aid for local governments and falling housing prices led to drops in property taxes. Meanwhile, many localities also faced growing demand for their services due to higher numbers of poor and unemployed residents living in their jurisdictions.

These fiscal pressures facing local governments can have serious consequences. Local governments provide many key public services that affect everyday life for their residents, including K-12 education, police and fire protection, sewers and waste management, parks, public transit, public housing, and much more. They also build and maintain a large share of the nation's public infrastructure. Local governments that cannot provide quality public services at competitive tax rates will have difficulty attracting and retaining residents and businesses, and in the worst case, could face a downward spiral of population declines and disinvestment. Fiscal pressures also affect the labor market as local governments are major employers, providing about one in ten jobs in the United States. During the aftermath of the Great Recession, hundreds of thousands of local government employees lost their jobs, which not only affected their own households but also held back the broader economic recovery following the recession.

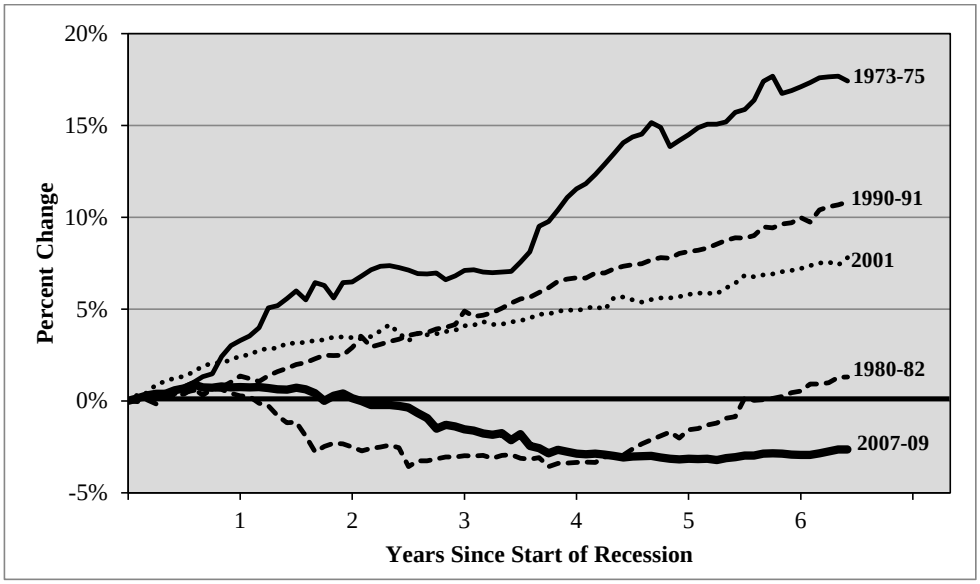
This paper uses a variety of data sources and summarizes existing research to describe how the Great Recession has affected local governments. The first section compares the effects of the past five recessions, and shows that the impact of Great Recession on local governments was far greater than any other recent downturn except for the 1980-1982 recession. The second section looks at revenue trends, with the latest data suggesting that real per capita local government revenues hit bottom in fiscal year 2012 (FY12), when they were 5 to 6 percent below pre-recession levels. That means the trough in local revenues did not occur until three years after the recession officially ended, with the delay due to the fact that federal stimulus funds propped up state aid during the 2009-2011 period and it took about three years before changes in housing prices affected property taxes. The third section examines local government spending, which had fallen more than revenues relative to pre-recession highs by 2011, with the cuts disproportionately affecting K-12 education. The fourth section shows that the effects of the Great Recession varied widely across cities, with an analysis finding that these variations were largely caused by differences in how the recession impacted local housing prices and incomes, not by differences in revenue structure. The fifth section discusses some future challenges facing local governments, including increasing pension and healthcare costs for public sector workers and retirees, and the likelihood of decreased state and federal aid. The final section concludes by summarizing the impact of the Great Recession on local government finances.

[1] Data from Federal Reserve Economic Data series. Total nonfarm employment, seasonally adjusted (PAYEMS); Real median household income (MEHOINUSA672N); All-Transactions House Price Index for the United States (USSTHPI).

The Great Recession Compared to Prior Recessions

The Great Recession has had much a larger impact on the local government sector than almost all other recent recessions, with the only comparable decline during the double-dip recession of 1980-1982. One way to measure this impact is to observe trends in local government employment (see Figure 1). These trends have a significant effect on the overall employment picture because the local government sector is very labor intensive. It accounted for 10.5 percent of total U.S. employment at the start of the Great Recession versus 2.0 and 3.7 percent for the federal and state governments respectively.[2]

Figure 1: Local Government Employment in Past Five Recessions (% Change from Start of Recession)



Source: U.S. Bureau of Labor Statistics, Current Employment Statistics, Seasonally Adjusted.

Note: Recession Dates are from the National Bureau of Economic Research.

Historically, local government employment held up fairly well during recessions and did not decline at all during the recessions of 1973-1975, 1990-1991, or 2001. In contrast, local government employment rates fell 3.2 percent following the Great Recession, similar only to the 3.6 percent drop during the 1980-1982 recession. While the level of contraction was similar during these two recessions, the timing differed significantly. Local government employment began to fall rapidly in late 1980, bottomed out in late 1983 almost four years after the start of the recession, but then quickly recovered and reached pre-recession levels after five and a half years. In contrast, the American Recovery and Reinvestment Act (ARRA) helped prop up

[2] U.S. Bureau of Labor Statistics, Current Employment Statistics, Seasonally Adjusted, December 2007.

employment during the first two years after the Great Recession. However, local employment did not hit bottom until five years after the recession began, and six and a half years after the start of the recession it is still 2.6 percent below pre-recession levels, meaning there are 382,000 fewer jobs in this sector.

The drops in local government employment levels have been a major drag on economic recovery following the Great Recession. Harris and Shadunsky (2013) use a macroeconomic framework to measure the state and local government sector's contribution to GDP, which means they include spending on consumption and investment but exclude transfers and interest payments. In the past four decades, state and local governments have contributed to economic growth every year except for 1981, and three years following the Great Recession. Three years after a recession's trough, the state-local sector's contribution to real GDP had grown 6 percent, on average, during the prior five recoveries and had never been negative. At that stage following the Great Recession, state-local consumption and investment had actually fallen 4 percent.

Local Government Revenues During the Great Recession

This section investigates how local government revenues performed during the Great Recession by looking at five broad revenue categories. Table 1 shows the revenue composition for the local government sector in FY07 before the recession began. The two most important categories are

Table 1: Local Government General Revenues (FY07)

Percent	Revenue Category
37.5%	**Intergovernmental Revenue**
33.2	State Aid
4.3	Federal Aid
28.0	**Property Tax**
11.1	**Non-Property Taxes**
4.6	General Sales Tax
2.4	Income Tax
3.2	Excise Taxes, Licenses, and Other Taxes
15.6	**User Charges**
7.8	**Miscellaneous**
3.3	Interest Earnings
4.4	Other

Source: Tax Policy Center (2014).

state and federal aid (37.5 percent of general revenues) and property taxes (28.0 percent), which together account for about two-thirds of local government general revenues. The other three categories are non-property taxes (11.1 percent), including general sales, income, and other taxes; charges (15.6 percent); and miscellaneous revenue (7.8 percent). Unless otherwise noted,

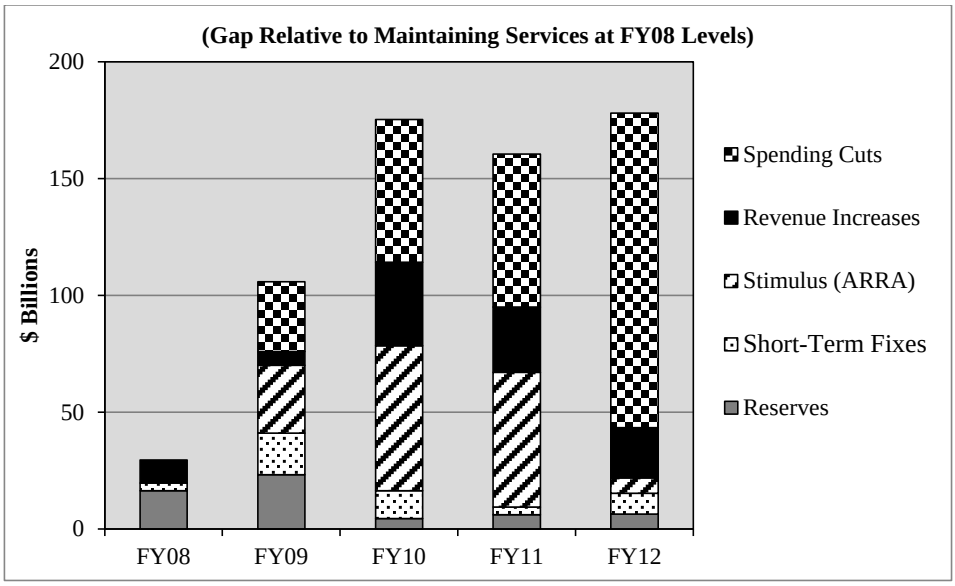
all revenue and expenditure numbers in this paper have been adjusted for inflation and population growth to allow for more meaningful comparisons over time.

State and Federal Aid

In FY09 and FY10, states faced the largest declines in tax revenues, by far, since at least the late 1970s. Real per capita state tax revenues fell 13.4 percent from FY07 to FY10, and while revenues then steadily recovered, in FY13 they were still 4.7 percent below their FY07 peak (U.S. Census Bureau 2014). However, cuts in state spending were postponed for several years because ARRA provided states with about $150 billion in federal stimulus aid during the three years FY09-FY11, which meant that the largest cuts occurred in FY12, once most federal aid was gone (McNichol 2012). That means growth in state revenues in FY12 and FY13 largely just offset steep drops in federal aid, and states also needed to replenish reserves, start new capital projects, and restore funds for programs cut during the recession (NASBO 2013a). Thus, despite the federal stimulus, many local governments faced significant drops in intergovernmental aid during and after the recession, and K-12 education—often protected from cuts in the past—was not spared.

McNichol (2012) used a variety of data sources to provide an overall picture of how states responded to budget gaps during the Great Recession. For the five year period of FY08-FY12, she estimates that states collectively faced a $595 billion budget gap relative to a current services baseline in which state FY08 spending increased in following years by the historical growth rate in real spending (2.6 percent per year). Figure 2 shows how the mix of policies used to close state budget gaps evolved over those five years. States drew from their reserves and Rainy Day Funds early on in FY08 and FY09, but had little remaining for FY10-FY12. Short-term fixes were also relied on more heavily early, particularly in FY09 and FY10. However, the efficacy of these strategies waned over time and provided little for FY11-FY12. Federal stimulus accounted for one-third of states' gap closing measures for the FY09-FY11 period, but less than 4 percent in FY12. Revenue increases played an important role in closing budget gaps and included higher tax rates and fees, eliminating exemptions and deductions, and expanding the tax base. Many tax increases were temporary, however, so while revenue increases helped fill 19 percent of budget gaps in FY10 and FY11, they fell off in FY12 and provided only $21.4 billion in revenue compared to $35.7 billion in FY10. As a result of these trends, reliance on spending cuts to fill budget gaps grew over the course of the FY08-FY12 period, and they were relied on especially heavily in FY12. They accounted for 35 percent of gap closing measures for FY09-FY11—similar to the role played by ARRA—but 76 percent in FY12. These spending cuts have had a significant impact on aid for local governments.

Figure 2: Measures Used to Close State Budget Gaps



Source: McNichol (2012, 12).

In addition, the National Association of State Budget Officers (2013a) reports that spreading the burden of budget cuts across program areas has become more difficult, because many parts of the budget cannot be cut due to entitlements, legal mandates, and programs supported by dedicated revenue streams. As a result, spending cuts during the Great Recession disproportionately hit public assistance, higher education, and local aid. The magnitude of cuts required and the fact that many states faced unprecedented mid-year budget gaps meant it was necessary to "implement massive budget cuts across program areas often considered politically sacrosanct, such as elementary and secondary school aid" (NASBO 2013a, 29).

Propped up by the federal stimulus, combined state and federal aid to local governments was basically flat through FY10, but then fell in FY11 when it was 2.1 percent lower than FY07 levels (see table 2). While comprehensive data are not available for FY12, existing data suggest that state and federal aid fell considerably. With most stimulus funds gone, state spending from federal funds fell $51.5 billion from FY11 to FY12, a drop equal to 3.2 percent of total state spending in FY11. Thus, despite modest growth in spending supported by state funds, total state spending fell by $26.9 billion in FY12, the first year with a nominal decline in state spending since at least 1987 (NASBO 2013b). Real per capita state spending grew 2.1 percent in FY13 but was still lower than it had been in FY11, given the 4.3 percent drop in FY12.[3]

[3] Total state spending data from NASBO (2013b, 96) was adjusted for inflation using the seasonally adjusted CPI-U for January of each year, and for population growth using the Total Population of the U.S. for January of each year.

The end of stimulus aid also affected federal aid that goes directly to localities. On a real per capita basis, total federal grants to state and local governments fell 12.4 percent in FY12 and another 2.1 percent in FY13 (Office of Management and Budget).[4] The end of the federal stimulus means that real per capita state and federal aid to local governments likely bottomed out in FY12 despite the fact that state and federal revenues hit their low-points in FY10 and FY09 respectively.

Table 2: Real Per Capita Local Government Revenues (Percent Change from FY2007)

	FY08	FY09	FY10	FY11
General Revenue	***-0.6%***	***0.4%***	***-1.3%***	***-3.3%***
Intergovernmental Revenue	**-0.9**	**0.5**	**-0.2**	**-2.1**
State Aid	-0.5	0.2	-1.5	-4.0
Federal Aid	-3.8	2.4	10.1	12.0
Property Tax	**0.7**	**5.5**	**4.9**	**1.7**
Non-Property Taxes	**-2.6**	**-7.4**	**-12.8**	**-11.5**
General Sales Tax	-0.9	-3.1	-7.1	-6.3
Income Tax	1.7	-6.0	-12.9	-9.5
Excise Taxes, Licenses, and Other	-7.0	-13.1	-19.1	-18.6
User Charges	**0.7**	**4.6**	**5.5**	**5.0**
Miscellaneous Revenue	**-3.7**	**-15.7**	**-26.1**	**-31.7**
Interest Earnings	-0.6	-25.5	-46.0	-53.4
Other Misc.	-6.1	-8.4	-11.2	-15.4

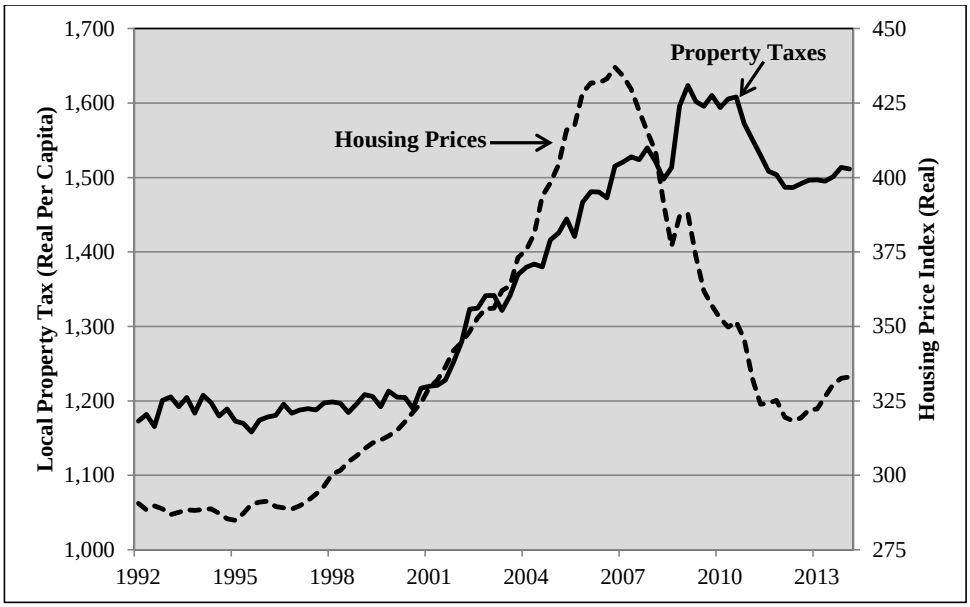
Source: Tax Policy Center (2014).

Property Taxes

Property tax revenues held up fairly well during the Great Recession given the unprecedented collapse in home values, but local governments did experience significant declines during 2010-2012 for the first time since the tax revolts of the late 70s and early 80s. Figure 3 highlights two key facts about property taxes during the housing bust. First, the fall in property taxes lagged the drop in housing prices by nearly four years—while inflation-adjusted housing prices peaked during the fourth quarter of 2006, real per capita local property taxes hovered near all-time highs through the third quarter of 2010. Second, the drop in property taxes was modest compared to the plunge in housing prices—falling 8.5 percent and 27.1 percent, respectively, from peak to trough.

[4] Total federal grants to state and local governments reported by the Office of Management and Budget (multiple years) were adjusted in the same manner as total state spending. Note that the Census treats most federal aid to local governments that flows through states as state aid.

Figure 3: Property Taxes and Housing Prices During the Great Recession



Sources: U.S. Census Bureau (2014); U.S. All Transactions Index (Federal Housing Finance Agency) adjusted with CPI-U.

Note: Local property taxes prior to 2008:Q4 were adjusted upwards by 7.7 percent to account for changes in the Census Bureau's quarterly property tax survey, including sample selection, data editing, and imputation methods. This adjustment follows the approach taken in Dadayan (2012, 7) and Pew Charitable Trusts (2012, 25).

Research by the Pew Charitable Trusts (2013a) using data from Certified Annual Financial Reports (CAFRs) for municipal governments in 30 of the country's largest cities is consistent with national trends shown in Figure 3. Real property taxes grew in both FY08 and FY09 in most cities, but then fell in FY10, and again, in FY11 in two-thirds of the cities. For the five-years studied, property taxes were the only category of own-source revenues with median growth between 2007 and 2011, and two-thirds of cities had higher real property taxes in 2011 than in 2007.

The lag between changes in property values and when property tax revenues respond is primarily because property tax bills are based on assessments from prior years. Multi-year reassessment cycles, assessment limits, and phase-ins of higher assessments can also play a role. Because of differences in such administrative practices, the lag varies significantly across jurisdictions. Prior research suggests three years is an average lag length (Lutz 2008; Chernick, Langley, and Reschovsky 2012). The fact that property taxes peaked nearly four years following the peak in housing prices is consistent with this prior research. However, there was no lag between the time housing prices and property taxes each hit their trough; both bottomed out in early 2012. It is possible that features of the property tax system that caused the observed lag between changes in

housing prices and property taxes in the past do not have the same effect during periods of rapidly declining home values. Housing prices began increasing in 2013, but with the typical lag observed during periods of growing home values, it is possible that this growth will not be reflected in property tax collections until 2015 or 2016.

The limited responsiveness of property taxes to changes in property values is arguably one of its strengths since it provides local governments with a stable revenue source. This stability is due to, both, the fact that property values have historically been a fairly stable tax base and that local governments have a significant degree of rate-setting flexibility. It is much easier to adjust property tax rates than to change sales or income tax rates. Ross, Yan, and Johnson (2013) use 2005-2011 CAFR data for the municipal governments of the 35 largest U.S. cities and conclude that the property tax largely behaved as a residual revenue source, with cities able to adjust their property tax collections to maintain stability in the overall level of revenues. However, annual surveys of city governments show that the proportion raising property tax rates during the 2009-2013 period was practically identical to other years going back to the mid-1990s, with 20 to 25 percent of cities raising rates (National League of Cities 2001-2013). Regardless of the explanation, the data show that property taxes held up fairly well for most localities.

Other Taxes

For the local government sector as a whole, taxes other than property taxes are not a very large revenue source. Together, they accounted for 11.1 percent of pre-recession general revenues, with general sales taxes contributing 4.6 percent, income taxes 2.4 percent, and other taxes 3.2 percent (Table 1). However, looking at the average conceals wide variations in the importance of these taxes—many local governments do not use them at all, while those that do often derive a significant share of their total revenues from these sources. Large city governments in particular rely on these taxes more heavily. For example, 73 of 112 large U.S. cities used the general sales tax in FY07 raising 13.9 percent of general revenues on average from sales taxes; 22 of the 112 cities used the income tax, raising 22.3 percent of their revenues, on average.[5]

Table 2 shows changes in real per capita revenues for these three non-property taxes relative to FY07 levels for the local government sector as a whole. All three taxes declined significantly in FY09 and bottomed out in FY10: general sales taxes were 7 percent lower than FY07 levels, income taxes were 13 percent lower, and other non-property taxes were 19 percent lower.[6] Research by the Pew Charitable Trusts (2013a) on the municipal governments for 30 of the country's largest cities also shows that sales and income taxes reached their troughs in FY10, although the magnitude of declines for these two taxes were different for these big cities, with sales taxes (13 percent below FY07 levels) declining more than income taxes (8 percent lower).[7] Surveys of city finance officers also showed larger declines in sales taxes than in income taxes (National League of Cities 2013).

[5] Lincoln Institute of Land Policy. Fiscally Standardized Cities database. Data are for city governments, not FiSCs. http://www.lincolninst.edu/subcenters/fiscally-standardized-cities/

[6] In FY07, selective sales taxes accounted for 46 percent of other non-property taxes, license taxes 31 percent, and taxes not elsewhere classified were 23 percent. From FY07 to FY10, these taxes declined 3 percent, 23 percent, and 43 percent respectively.

[7] These estimates of inflation-adjusted tax revenues are based on calculations using figure 5 in Pew Charitable Trusts (2013b, 12).

Comprehensive data on local government taxes other than property taxes are currently only available through 2011. However, recent growth in state income, sales, and other non-property taxes suggests that these taxes likely rebounded for local governments in 2012 and 2013. On a real per capita basis, state tax revenues grew for all three sources from their 2010 troughs to 2013 with income taxes growing fastest (19.7 percent), followed by other non-property taxes (7.4 percent), and a slower recovery for sales taxes (2.4 percent) (U.S. Census Bureau 2014).[8] It appears that strong income tax growth in FY13 was driven, in large part, by temporary factors as high income taxpayers accelerated income and capital gains into the 2012 tax year to avoid scheduled increases in top rates for federal taxes on ordinary income and capital gains (Boyd and Dadayan 2013), but growth slowed in the first half of FY2014 (Dadayan and Boyd 2014a).

Charges

User charges were the most resilient revenue source for local governments during the Great Recession. Real per capita charges grew 4.9 percent in FY09 and have been steady since then, so that in FY11 charges were 5.1 percent above FY07 levels (see Table 2). The growth in revenues from charges during the worst of the Great Recession in FY09 does not appear to be the result of unusual policy actions by local governments. In surveys, the number of city governments reporting increased fee levels (42 percent on average) or increased number of fees (24 percent) during the 2009-2013 period was actually slightly lower than the proportion doing so during the 2001-2008 period (46 percent and 26 percent respectively) (National League of Cities 2001-2013). Rather, the resilience of charges is unsurprising, given the steady growth in charges in recent decades; real per capita charges grew 2.7 percent per year on average for the 1977-2011 period, without any particularly large year-to-year increases or decreases, and only four years with declines (Tax Policy Center 2014).

Miscellaneous Revenues and Reserves

Despite being a small share of local government budgets, sharp declines in miscellaneous revenues accounted for more than three-quarters of the overall drop in real per capita local government revenues between FY07 and FY11 (see Figure 4 on page 11). Interest earnings accounted for most of this decline, falling 53 percent over this time period (Table 2). Interest earnings also played a disproportionately large role in revenue declines for 30 of the country's largest cities. The Pew Charitable Trusts (2013a) found that nontax revenue—a category consisting primarily of investment income—was the primary cause of revenue losses for nine of the cities, far more than any other category of own source revenues.

Part of the reason for this decline was that localities drew down their reserves to avoid making larger spending cuts during the recession. City ending balances fell 6.2 percentage points in FY09, and another 1.7 points in FY10, which is when they bottomed out at 16.5 percent of general fund expenditures (Pagano and McFarland 2013). Similarly, the Pew Charitable Trusts (2013a) found that all 30 large U.S. cities it studied drew from reserves during the Great

[8] Income taxes are individual income and corporate income taxes combined, sales taxes include gross receipts, and other taxes are all other taxes except for property taxes.

Recession, and Ross, Yan, and Johnson (2013) concluded that the 35 largest U.S. cities reduced net assets in a form of deficit spending.

However, many smaller local governments with large reserves did not actually draw from them during the recession. For example, an analysis of over 6,000 local government financial reports found that average unreserved general fund balances fell from 37 percent in FY07, to 29 percent in FY09, and then recovered to 31 percent in FY11. However, the averages do not reflect the experience of most localities. While about one in four drew down most or all of their reserve funds, the great majority cut spending instead (Marlowe 2013).

This reluctance to draw from reserves contrasts sharply with the behavior of state governments during the Great Recession, and also, reflects broader differences in how states and local governments use reserves. Local reserves are much larger than state reserves on average but vary much more widely, and unlike states, local governments normally do not have formal policies for building and drawing from Rainy Day Funds (Marlowe 2013).

A big part of the explanation for declining interest earnings lies with the very low interest rates that prevailed after the Great Recession. Local governments are generally required to hold their idle cash in very safe and liquid investments, such as U.S. Treasury Bills, and often use money market mutual funds or local government investment pools that hold similar investments. The low interest rate environment has made it practically impossible to find significant yield on these types of investments. For example, the secondary market rate for 3-month Treasury Bills fell steadily from 5.03 percent in February 2007 to 0.19 percent in November 2008, stayed below 0.2 percent through early 2011, and has since stayed below 0.1 percent.[9] In early 2014, gross investment returns were around 0.2 percent on prime local government investment pools (Wright 2014).

The impact of declining interest earnings on operating budgets depends on how cities use their reserves. The immediate impact will be limited in cities that use compounding interest earnings to build up their reserves. However, many local governments are happy with the level of their reserves and that growing them further could create political pressure to spend them down. Thus, those localities could regularly use interest earnings to fund current operations.[10]

Tying it All Together

Real per capita local government general revenues fell 1.7 percent in FY10 and another 2.0 percent in FY11, the first declines since the tax revolts of the late 70s and early 80s (Tax Policy Center 2014). The latest comprehensive data on local revenues is FY11, but localities continued to experience significant fiscal pressures for several more years. Figure 4 (see next page) uses the comprehensive data through FY11, and estimates revenues in FY12 and FY13 using several data sources and the following assumptions:

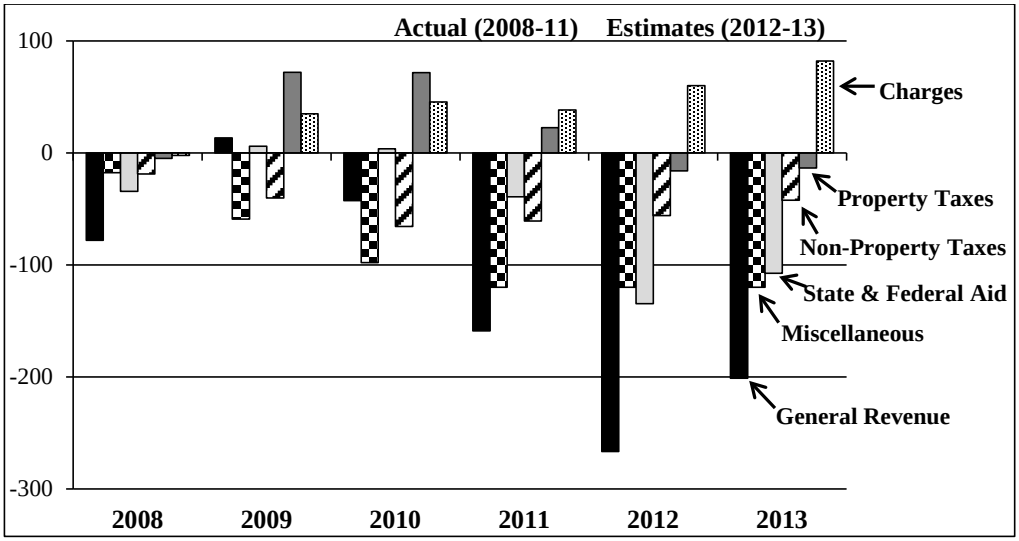
- *Property taxes* have up-to-date information from the U.S. Census Bureau (2014).

[9] Board of Governors of the Federal Reserve System, H.15 Selected Interest Rates. Data downloaded from Federal Reserve Economic Data, Series TB3MS.
[10] Email on 4/7/2014 from Justin Marlowe, Associate Professor of Public Affairs at the University of Washington..

- *State aid* matched changes in total state spending reported by NASBO (2013b).
- *Federal aid* matched changes in total federal grants to state and local governments reported by the Office of Management and Budget (multiple years).
- *Non-property taxes* for local governments matched changes in state taxes reported by the U.S. Census Bureau (2014), with the estimates done separately for sales and gross receipts, income, and other taxes to account for differences in reliance on these taxes at the state versus local level.
- *Charges* are assumed to grow at their historical growth rate of 2.7 percent, reflecting the typical stability of this revenue source.
- *Miscellaneous revenues* are assumed to have stayed flat in real per capita terms, reflecting the continuation of very low interest rates through 2013.

Figure 4 shows changes in real per capita revenues for each of these categories relative to their pre-recession levels in FY07.

Figure 4: Changes in Real Per Capita Local Government Revenues Compared to FY07



Notes and Sources: Data for 2007-11 are from the U.S. Census Bureau (2013). The 2012-13 estimates use a variety of data sources, with annual percentage changes for 2011-13 calculated using these sources adjusted for inflation and population growth, and those percentage changes then applied to 2011 revenues for each revenue category. Property tax data for 2012-13 are from U.S. Census Bureau (2014). State aid data for 2012-13 are based on state spending data from NASBO (2013, 96). Non-property taxes for 2012-13 are based on changes for these taxes for state governments, using the U.S. Census Bureau (2014). Estimates for 2012-13 for the other revenue categories use assumed growth rates described in the text.

Overall, general revenues are projected to have bottomed out in FY12, when they are estimated to be 5.5 percent less than FY07 levels. General revenues likely grew in FY13, but remained at levels about 4 percent lower than before the Great Recession. A 2012 trough is consistent with

several other data sources. For example, surveys of city finance officers found that inflation-adjusted general fund revenues fell 0.9 percent in FY12, and were basically flat in FY13 with 0.1 percent growth (Pagano and McFarland 2013). Local government employment did not hit its nadir until March 2013, towards the end of the 2013 fiscal year for most governments (see Figure 1).

Finally, a review of city budget documents for center cities of the nation's 30 largest metropolitan areas found that 19 cities had declines in inflation-adjusted general fund revenues in FY12, with an average drop of 1.7 percent (see Appendix Table 1). In contrast, average revenues grew 0.7 percent in FY13, with declines in only 11 of the cities. If the average FY12 decline for these cities was added to the 3.3 percent decline for local governments between FY07 and FY11, revenues in FY12 would be 5.0 percent below FY07 levels. Some caution should be used when studying Appendix Table 1, because the data are solely for the general fund budget for city governments. Caution is needed since the share of total spending supported by the general fund varies widely across cities, as does the share of local public services provided by overlying counties and school districts. With that said, the table is consistent with other data points. Tying together these data sources suggests that real per capita local government general revenues in FY12 were about 5 to 6 percent lower than pre-recession levels.

This means that local government revenues hit bottom about three years after the Great Recession officially ended in June 2009. This lag is driven by changes in intergovernmental aid and property taxes, which together fund almost two-thirds of local governments' budgets. The end of most federal stimulus aid meant that state and federal aid to local governments likely declined steeply between FY11 and FY12, with a projected decline of 4.3 percent for state aid.

Similarly, the lag between changes in housing prices and subsequent changes in property taxes meant that property taxes did not hit their trough until FY12, when they were 2.7 percent below FY07 levels. Before their declines in FY11 and FY12, strong growth in property taxes and stable intergovernmental aid meant general revenues held fairly steady through FY10.

For other categories, the biggest driver of revenue declines was miscellaneous revenue, which accounted for three-quarters of the drop in general revenues as of FY11, with this decline driven by a 53 percent drop in interest earnings. The immediate impact of this decline will vary, however, depending on whether or not localities regularly use interest earnings to fund operating budgets. Non-property taxes also declined considerably, dropping 12 percent from their 2007 peak; the impact of these declines will also vary across cities based on their reliance on these taxes. Recent data on state taxes suggest that non-property taxes have begun to recover for local governments, but they likely remain significantly below 2007 levels. Finally, charges were the most resilient revenue source during the Great Recession, although their growth was not nearly enough to offset declines in other revenue sources.

Local Government Spending During the Great Recession

Expenditures were notably more volatile than revenues during the Great Recession. In real per capita terms, general expenditures actually rose 4.7 percent from FY07 to FY09, whereas general revenues were basically flat (0.4 percent increase). However, after their FY09 peak, spending dropped much more sharply—falling 6.3 percent by FY11 versus 3.7 percent for revenues (Tax Policy Center 2014). These spending fluctuations can have detrimental consequences; it may mean governments are expanding, and then contracting, programs – hiring and then laying off staff. In hindsight, many local governments would have been better off avoiding spending increases in FY09 and using those funds to avoid large cuts in FY11.

One explanation for this volatility is the difficulty of projecting revenues for years with unexpected turning points in the economy, and the resulting mid-year budget gaps that many state governments faced in FY09 and FY10. State governments prepared their FY09 budgets in spring 2008, well before the financial crisis of September 2008 and the sharp drop in economic activity that fall. As a result, revenue forecasts for FY09 significantly overestimated actual revenues; with the median state tax forecast a 10.2 percent overestimate and 70 percent of states overestimating revenues by at least 5 percent (Pew Charitable Trusts and Rockefeller Institute of Government 2011). States were forced to make large mid-year budget cuts on top of gaps closed through the regular budget process. These cuts equaled 5.0 percent of state general fund revenues in FY09 and 2.9 percent in FY10 (NASBO 2009, 2010).

Local governments were directly affected by state budget cuts and many may have overestimated their own source revenues in FY09 as well. That meant that expenditures, which are based on expected revenues, significantly exceeded actual revenues in FY09. Many local governments used reserves to avoid mid-year budget cuts in FY09, a year during which cities' ending balances dropped 25 percent according to surveys of city finance officers (Pagano and McFarland 2013). However, localities then made significant spending cuts in FY10 and FY11 once they could respond to the lower revenue levels, and the magnitude of these cuts was much larger than would have been the case without the large spending increase in FY09.

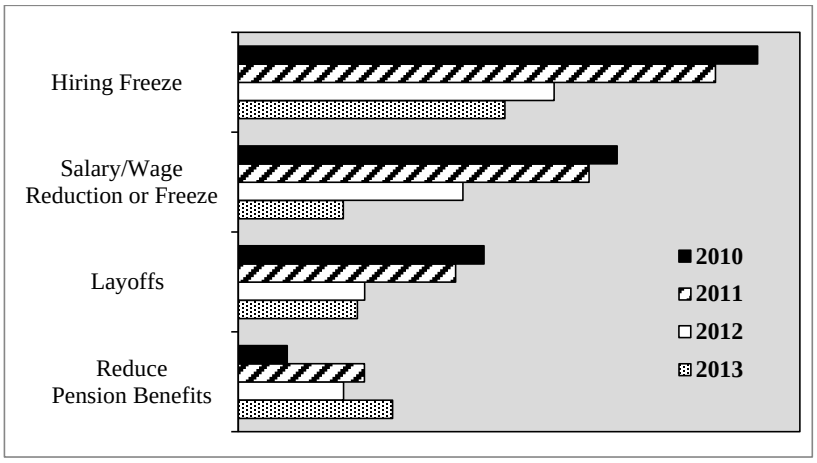
Labor costs account for a large share of local government budgets, so cutting personnel expenses was one of the main ways localities cut spending during the Great Recession. As discussed above, local government employment dropped sharply during this period, with the number of employees falling by 595,000 from the July 2008 peak to the March 2013 trough. The cuts were borne disproportionately by teachers and other school employees, with education employment falling 4.4 percent versus a 3.7 percent drop for non-education employment.[11] Compared to the 1980-1982 recession, the Great Recession saw much larger declines in education employment, but smaller declines in non-education employment (Dadayan and Boyd 2014b).

Figure 5 (see next page) shows specific personnel-related cuts made by city governments during the 2010-2013 period. The most common action taken by these cities was to put in place a hiring freeze (74 percent of cities did so in 2010), followed by salary/wage reductions or freezes (54 percent), and layoffs (35 percent). The percent of cities using these three personnel cuts declined somewhat in 2011, and was significantly lower in 2012 and 2013. The one notable exception to

[11] U.S. Bureau of Labor Statistics, Current Employment Statistics, Seasonally Adjusted.

declining use of personnel cuts was the percentage of cities reducing pension benefits, which grew from 7 percent in 2010 to 22 percent in 2013.

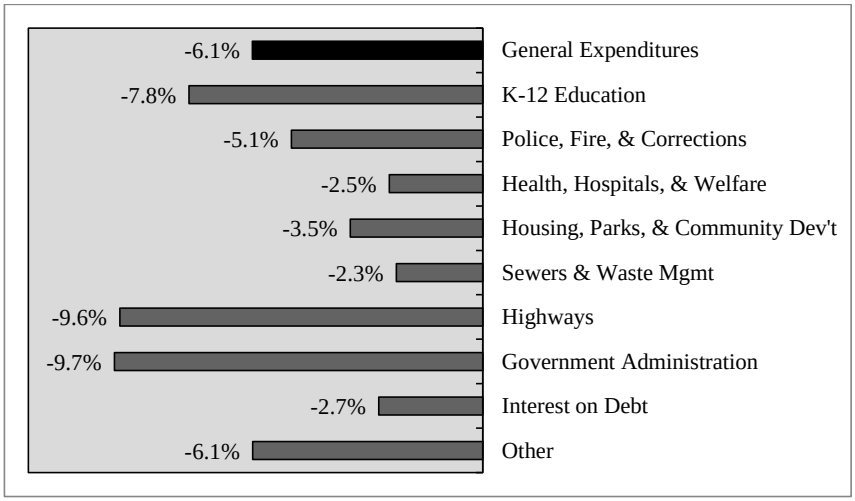
Figure 5: Percent of City Governments Reporting Personnel-Related Spending Cuts



Source: Pagano and McFarland (2013).

Figure 6 looks at spending cuts for nine categories of expenditures. Overall, real per capita

Figure 6: Local Government General Expenditures (% Change FY09-FY11)



Source: U.S. Census Bureau (2013).

local government direct general expenditures declined 6.1 percent between FY09 and FY11.[12] While all nine categories experienced declines, the cuts were not spread evenly. In particular, spending on K-12 education declined 7.8 percent. In total, K-12 education bore slightly more than half of all cuts in general expenditures. Other categories that experienced larger than average cuts were spending on highways and government administration. Spending on police, fire, and corrections declined just less than average. Categories that declined significantly less than average include health, hospitals, and welfare housing, parks, and community development; sewers and waste management; and interest on debt. Breaking down the categories further reveals that government services that generate significant fee revenues either grew or had small declines, including hospitals (1.1 percent), sewers (0.3 percent), higher education (-0.6 percent), and housing and community development (3.7 percent). Also not shown in the graph is that total spending on capital outlays (-16.0 percent) declined much more than current operations (-4.5 percent) (Tax Policy Center 2014).

Measuring the impact of spending cuts on quality of services received by residents is challenging. While modest spending reductions may not reduce service levels if they are offset by increased efficiency, large cuts will almost certainly erode service quality. For example, in Sacramento, the police budget was cut more than 30 percent between 2008 and 2011, and the police stopped responding to burglaries, misdemeanors, or minor traffic accidents. In 2011, the number of shootings increased 46 percent (Goode 2012). Some schools have cut summer school, the number of school days, or even switched to a four-day week. In California, the state allowed school districts to cut up to seven school days, while Arizona allowed reductions of up to five days (Dillon 2011). Maintaining service quality is also difficult since demand for public services increases during recessions. For example, the poverty rate grew 18 percent from 2007 to 2011, driving up the need for a wide range of social services.[13] Finally, measures to boost efficiency, such as investments in new technology, may reduce costs in the long-run but often require large upfront costs that are not feasible when budgets are tight (Pew Charitable Trusts 2012).

Variations in Revenue Changes for Large U.S. Cities

Data on revenue changes for the local government sector as a whole conceals large variations across cities. In fact, while most large cities have faced at least some revenue decline, the magnitudes of the declines vary widely. To compare local government finances at the city-level, this section uses data on Fiscally Standardized Cities (FiSCs), a publicly available dataset for 112 of the most populous U.S. cities.[14] The FiSC methodology accounts for differences in local government structure across cities by adding together revenues for the city government plus an appropriate share from overlying county governments, independent school districts, and special districts. Thus, FiSCs provide a full picture of revenues raised from city residents and businesses

[12] The 6.1 percent decline in *direct* general expenditures ($4,866 to $4,570) is less than the previously cited 6.3 percent in general expenditures ($4,928 to $4,617), because of the exclusion of intergovernmental expenditures (which declined from $52 to $44) and the use of different data sources to adjust for inflation and population growth. General expenditures are used for the first calculation because they are the analogue to general revenues; intergovernmental expenditures are excluded from the second calculation because the Census excludes them from the functional categories in its summary tables.

[13] American Fact Finder. Data is the poverty rate for individuals from the 1-year American Community Survey.

[14] The dataset is available at http://www.lincolninst.edu/subcenters/fiscally-standardized-cities/.

and spending on their behalf, whether done by the city government or a separate overlying government.

These estimates are valuable because economic outcomes and residents' quality of life in each city are primarily affected by the combined tax burden and total package of services from all overlying governments, and not by the specific government imposing each tax or providing each service. However, it should be noted that FiSCs are not decision-making bodies and are poorly suited for studying policy changes made by individual governments. Langley (2013) provides a full description of the FiSC methodology.

Table 3 focuses on the timing of revenue changes for the 112 FiSCs during the FY07-FY11 period. General revenues peaked in FY07 for 48 of the FiSCs, and 94 had reached their peak by FY09. Only 8 of the 112 FiSCs avoided revenue declines through FY11. Revenues were continuing to decline through FY11 for the great majority of FiSCs, with 75 reaching their low-point in that year. While 29 FiSCs have had some revenue growth from their troughs, they are all still below their prior peaks. Furthermore, it is likely that most FiSCs faced revenue declines in FY12.

Table 3: Peak and Trough in Real Per Capita General Revenues for 112 Fiscally Standardized Cities (2007-2011)

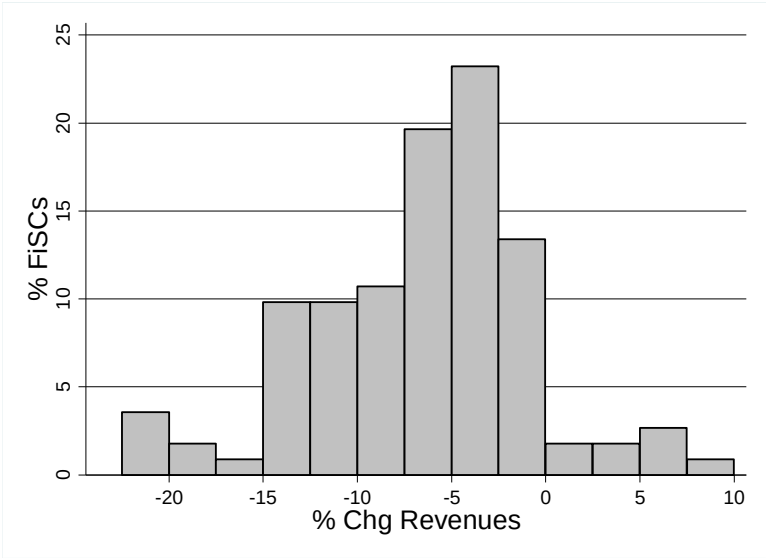
	2007	2008	2009	2010	2011
Peak	48	14	32	10	8
Trough	N/A	8	2	19	75

Source: Fiscally Standardized Cities database. Lincoln Institute of Land Policy.

Figure 7 looks at the magnitude of revenue declines for the 112 FiSCs from their peak to FY11. The most common declines were between 2.5 and 7.5 percent, with 43 percent of FiSCs facing revenue drops in this range. However, more than a quarter of the FiSCs dealt with revenue declines exceeding 10 percent.

One important policy question is whether the size of revenue declines was affected by cities' fiscal structure, or was simply the result of local differences in the economic impact of the recession. To investigate this question, a series of univariate regressions are used to predict FY08-FY11 revenue changes for each FiSC as a function of economic changes in their region. Given regional economic changes, FY11 revenues are predicted for each FiSC in two ways: 1) using each FiSC's *actual* revenue structure in FY08, and 2) using the *average* revenue structure for all FiSCs in FY08. Revenue changes predicted using the average revenue structure are attributed to economic factors, while the difference between the two predictions is attributed to each FiSC's revenue structure. Finally, an analysis was conducted to estimate how much of the variation in FiSCs' actual revenue changes between FY08 and FY11 was due to economic factors versus differences in revenue structure.

Figure 7: Declines in Real Per Capita General Revenue for 112 Fiscally Standardized Cities (Peak to FY2011)



Source: Fiscally Standardized Cities database. Lincoln Institute of Land Policy.

Note: Change is shown for FY07-FY11 for eight FiSCs with peak revenues in FY11.

Univariate regressions are used to estimate the effect of economic changes on the four largest revenue categories for FiSCs: property taxes, non-property taxes, charges, and state aid. Changes in economic variables are lagged by one or two years to account for differences between fiscal years and calendar years and the lagged relationship between changes in housing prices and property taxes. All variables are measured in real per capita dollars, with the housing price index simply adjusted for inflation. The four regressions are as follows:

$$\Delta \ln(\text{Property Tax}_i)_{2008-11} = \alpha_0 + \alpha_1 \Delta \ln(\text{House Price Index}_i)_{2006-09} + \varepsilon_i \qquad (1)$$

where Housing Price Index is the annual average of the metropolitan area all-transaction housing price index produced by the Federal Housing Finance Agency,

$$\Delta \ln(\text{NonProperty Taxes}_i)_{2008-11} = \beta_0 + \beta_1 \Delta \ln(\text{Personal Income}_i)_{2007-10} + \varepsilon_i \quad (2)$$

$$\Delta \ln(\text{Charges}_i)_{2008-11} = \gamma_0 + \gamma_1 \Delta \ln(\text{Personal Income}_i)_{2007-10} + \varepsilon_i \qquad (3)$$

where Personal Income is for the county where each FiSC is located using Local Area Personal Income Data from the Bureau of Economic Analysis,

$$\Delta \ln(\text{State Aid}_i)_{2008-11} = \delta_0 + \delta_1 \Delta \ln(\text{State Govt Revenue}_i)_{2008-11} + \varepsilon_i \qquad (4)$$

where State Govt Revenue is general revenue for the state government where each FiSC is located using data from the Tax Policy Center (2014). Results for the four regressions are shown in table 4 (see next page). The average change for all FiSCs is used to predict changes for three revenue categories that account for a small share of FiSCs' revenue and are hard to predict as a function of available data. The average change in logged values for the FY08-FY11 period was 0.142 for federal aid, -0.783 for interest earnings, and -0.056 for other miscellaneous general revenue.

Appendix Table 2 illustrates how revenue changes attributed to economic factors versus revenue structure are calculated using the Boston FiSC as an example. First, Boston's FY08 revenues ($6,385) are distributed to the seven revenue categories as if it had the average revenue structure for all FiSCs. For example, if Boston's revenue structure matched the average for all FiSCs, then the Boston FiSC would have collected less in per capita property taxes ($1,554 vs. $2,440) and more in non-property taxes ($853 vs. $159). Second, regional economic changes are used to predict FY11 revenues for the seven categories using 1) actual FY08 revenues, and 2) FY08 revenues as if Boston had the average revenue structure. For example, logged inflation-adjusted housing prices declined 0.198 log points in the Boston metro area between 2006 and 2009. Given the coefficient estimates from equation 1 (see table 4), log property taxes are predicted to decline 0.034 points. That is an $81 decline using the FiSC's actual revenue structure ($2,440 to $2,359), compared to a $51 decline using the average revenue structure ($1,554 to $1,502). In other words, the percentage change (technically, log change) for each revenue category is determined by local economic changes, but identical percentage changes translate into different dollar changes depending on revenue levels in the base year, so variations in revenue composition will affect predicted revenue changes. Third, FY11 general revenues for the two scenarios are calculated by summing the seven revenue categories.

Finally, actual FY08-FY11 revenue changes are attributed to economic factors, revenue structure, and other factors. The change in predicted revenues that would have occurred if Boston had the average revenue structure is attributed to *economic factors*; in this scenario, Boston's revenues would have declined 4.5 percent ($6,385 to $6,100). Alternatively, revenues are predicted to decline only 2.3 percent when Boston's actual revenue structure is used, and the difference of 2.2 percentage points between the two scenarios is attributed to *revenue structure*. Boston relies much less on non-property taxes and interest earnings than the average FiSC, two revenue categories predicted to fall substantially, and more on federal aid, a category predicted to grow. These characteristics of Boston's revenue structure more than offset the FiSC's above average reliance on property taxes, which are predicted to decline. The difference between the actual change in Boston's revenues (-4.9 percent) and the predicted decline using Boston's revenue structure (-2.3 percent) is attributed to *other factors*, which are factors not accounted for in the regressions such as policy changes and variations across FiSCs in the responsiveness of revenues to economic changes. The sum of changes attributed to the three factors is equal to the actual revenue change for the Boston FiSC.

Table 4: Predicting Revenue Changes for Fiscally Standardized Cities as a Function of Local Economic Changes

	(1) Δln(Property Tax), 2008-2011	(2) Δln(Non-Property Taxes), 2008-2011	(3) Δln(Charges), 2008-2011	(4) Δln(State Aid), 2008-2011
Δln(House Price Index), 2006-2009	0.326***			
	(0.047)			
Δln(Personal Income), 2007-2010		0.819***	0.423**	
		(0.216)	(0.172)	
Δln(State Govt Revenue), 2008-2011				0.870***
				(0.230)
Constant	0.0308***	-0.0626***	0.0441***	-0.0551***
	(0.011)	(0.013)	(0.013)	(0.013)
N	108	106	105	106
R-sq	0.285	0.117	0.034	0.099
Adj. R-sq	0.279	0.109	0.025	0.090
F	48.43	14.33	6.032	14.36

* p < 0.10, ** p < 0.05, *** p < 0.01

Notes: Robust standard errors are in parentheses. All variables are measured in real per capita dollars, except for housing prices which are inflation-adjusted. All regressions exclude Washington, DC. FiSCs are dropped from the regressions if they have changes in either the explanatory or dependent variable that are more than three standard deviations outside the mean change for all FiSCs.

Revenue changes are attributed to the three factors for the other FiSCs in the same way. To determine the importance of economic factors and revenue structure, I calculate the squared semi-partial correlations of FiSCs' actual FY08-FY11 percentage change in general revenues with changes attributed to economic factors and revenue structure. The squared semi-partial correlations are analogous to estimating the R-square between actual revenue changes and each factor, controlling for the effect of the other factor. This analysis suggests that economic factors were about six times more important than differences in revenue structure in explaining variations in revenue changes for the FiSCs. Economic factors explain 40.1 percent of the variation in revenue changes across the FiSCs, whereas differences in revenue structure explain just 6.7 percent.[15]

The far greater role of economic factors in explaining variations in FY08-FY11 revenue changes across the FiSCs is not that surprising. On the one hand, the regression coefficients shown in table 4 suggest that FiSCs more reliant on property taxes and user charges would have done better than those more reliant on non-property taxes and state aid. Non-property taxes—

[15] Economic factors and differences in revenue structure are both statistically significant at the 1-percent level. The correlations exclude two FiSCs with very large unexplained revenue changes. Anchorage, AK had no actual decline in state aid despite a 29 percent drop in revenues for the state government. Durham, NC had a drop in real per capita federal aid of more than $900.

including income, sales, and other taxes—are much more responsive to economic changes than property taxes or charges. The estimated elasticities show that a 1 percent decline in personal income leads to an almost equivalent drop in non-property taxes of 0.82 percent. In contrast, a 1 percent drop in personal income only leads to a 0.42 percent decline in charges, and a 1 percent drop in housing prices leads to a 0.33 percent decline in property taxes. In addition, the constants are positive for property taxes and charges, but negative for non-property taxes and state aid.

Historically, the property tax has been a more stable revenue source for local governments than other types of taxes (Kenyon 2007), which is one of the main reasons to expect revenue structure to affect the size of revenue declines during a recession. However, the unprecedented decline in housing prices during the Great Recession means that revenue structure was less important than in prior recessions. The elasticities in Table 4 show that equivalent declines in housing prices and personal incomes would lead to 2.5x larger drop in non-property taxes than in property taxes. But the declines in these two economic variables were far from equivalent during the Great Recession. For the average FiSC, the 2006-2009 decline in inflation-adjusted housing prices (15.2 percent) was about 3x larger than the 2007-2010 decline in real per capita personal income (5.1 percent). Thus, the much larger decline in housing prices offset the fact that property taxes are less responsive to changes in their tax base than other types of taxes. In contrast, in the prior four recessions, housing prices were relatively stable. Therefore, in those recessions the limited responsiveness of property taxes to house price changes was bolstered by steady housing prices, which together made property taxes a more stable revenue source. In addition, while revenue structures do vary considerably across FiSCs, these differences were much smaller than variations in local economic changes during the Great Recession.[16]

The impact of the Great Recession on local government finances varied greatly around the country. Real per capita general revenues declined in all but 8 FiSCs; on average, revenues in FY11 were 7.2 percent lower than their prior peak for these FiSCs. More than a quarter of the FiSCs dealt with revenue declines exceeding 10 percent, but a fifth had declines of less than 2.5 percent or never declined at all. The analysis above finds that these variations were primarily due to large differences in the impact of the recession on local housing prices and incomes. These economic factors were about six times more important than differences in revenue structure in explaining variations across FiSCs in revenue declines during the Great Recession. Revenue structure likely mattered less than in other recent recessions, because the unprecedented decline in housing prices meant that differences across cities in their reliance on property taxes would have a smaller impact on revenue stability than in the past. However, the limited responsiveness of property taxes to changes in housing prices also means that the range of revenue declines across cities was smaller than would have been the case if property taxes reacted more strongly.

[16] The coefficient of variation across FiSCs for the share of FY08 general revenues raised from state aid was 0.35 (mean = 32.0%, st. dev. =11.2%); it was 0.30 for property taxes (μ=24.3%, σ=7.3%). The coefficient of variation across FiSCs for the percent change in inflation-adjusted housing prices from 2006-2009 was -0.99 (μ=-15.2%, σ=15.1%); for 2007-10 changes in real per capita personal income it was -0.98 (μ=-5.1%, σ=4.9%).

Future Challenges for Local Government Finances

The Great Recession's impact on local government revenues has been large and long-lasting, and for many localities it will take a long-time to recover to pre-recession levels. However, even once revenues do recover, local governments face a host of future challenges that could squeeze their ability to provide public services. These challenges include dealing with increasing pension and healthcare costs for public sector workers and retirees, and the likelihood of decreased state and federal aid as those governments address their own fiscal problems. Despite these challenges, the number of municipal bankruptcies is likely to remain extremely low.

Attention to the unfunded liabilities of public sector pensions has grown in recent years as two sharp downturns in the stock market in the past 15 years significantly eroded the financial standing of state and local governments' pension plans. The ratio of plan assets to liabilities fell from 103 percent in 2000 to 87 percent in 2004, and then dropped from 87 percent in 2007 to 73 percent in 2012 (Munnell 2012, 20; Munnell et al. 2013a). Actuaries typically average the value of plan assets over a five-year period to smooth out market fluctuations, which explains why the funded ratio continued to fall for several years after the stock market bottomed out.

However, these reported liabilities may underestimate the true problem since they are based on state and local governments' chosen discount rates. Until 2014 changes, guidelines from the Government Accounting Standards Board (GASB) had state and local governments use the expected long-run rate of return on plan assets as their discount rate, which is around 8 percent. However, financial theory says that future payments should be discounted based on their risk level; since pension payments are basically guaranteed under state law a risk-free rate should be used, such as the rate on a 20-year Treasury bond, which has averaged around 5 percent over the past twenty years.[17] Using a discount rate of 5 percent instead of 8 percent has a huge impact on pension costs. In 2010, unfunded pension liabilities would have been $2.6 trillion instead of $0.8 trillion; as a share of payroll, annual required contributions for pensions would rise from 13.4 percent to 32.4 percent (Munnell 2012, 62).

These numbers for the state and local sector as a whole conceal major variations across cities. For example, Munnell et al. (2013b) estimate the cost of local government pensions for residents in 173 large U.S. cities. They use a methodology similar to FiSCs to allocate a share of pension obligations for overlying counties and school districts back to the central city area, and also include local government contributions to state-administered pension plans. Their comprehensive estimates show that, on average, annual required contributions for pensions are equal to 7.9 percent of own-source revenues for the central city areas. However, pension costs vary widely: averaging just 2.7 percent of revenues for the least expensive cities (those in the lowest quintile) versus 12.3 percent for the most expensive cities (top quintile).

Healthcare is another area where local governments will face growing costs in the future for both current workers and retirees. Local governments are also responsible for covering some Medicaid costs in about half the states. In fact, projections by the U.S. Government Accountability Office (2013) show that the long-term fiscal gap for state and local governments

[17] The average rate was 5.14 percent using monthly data for March 1994 to March 2014. Data from Selected Interest Rates (Table H-15), Board of Governors of the Federal Reserve System.

is driven almost entirely by healthcare spending. As a share of GDP, they estimate that between 2013 and 2060, total state and local government spending will rise modestly from 14.3 to 14.9 percent; health-related spending will nearly double from 3.8 to 7.2 percent, while all other spending will fall from 10.5 to 7.7 percent.

Unlike pensions, which are pre-funded, retiree healthcare benefits have traditionally been funded on a pay-as-you-go basis. As a result, most local governments have very little set aside to pay future benefits. For example, the Pew Charitable Trusts (2013b) looked at 61 of the largest U.S. cities and found that in fiscal year 2009 unfunded liabilities for retiree health benefits exceeded those for pensions—$118 billion compared to $99 billion. Total pension liabilities were more than three times higher than retiree health liabilities, but pensions were 74 percent funded whereas retiree health benefits were only 6 percent funded.

Efforts to address the federal government's long-term budget challenges will also impact local governments. Since it's 2010 peak, domestic discretionary spending—about one-third of which is aid to state and local governments—has been cut significantly in a series of budget deals. Under a December 2013 agreement, negotiated by Sen. Murray and Rep. Ryan, domestic discretionary spending in 2014 will be 15 percent lower than 2010 levels once adjusted for inflation (Bernstein 2013).

Despite recent budget deals, the federal government still faces a large fiscal gap between projected revenues and expenditures, and there have a variety of proposals to bring about long-term budget balance. Most proposals call for major reductions in tax expenditures, changes that could have considerable impacts on state and local governments. For example, rapid changes in the mortgage interest deduction could drive down home values and property tax revenues, while changing the deduction for state and local taxes could lead to reductions in state income tax rates (Rueben 2012). Eliminating the tax exemption for municipal bonds would increase borrowing costs for state and local governments' infrastructure projects. There have also been proposals to have states and localities issue taxable bonds and to then have the federal subsidy come in the form of a tax credit to buyers or a direct payment to issuing governments equal to a share of interest costs, such as under the Build America Bonds program. While these changes would make the federal subsidy more efficient, it could leave states and localities susceptible to cuts in subsidy rates during the federal appropriations process (Gordon 2011).

State governments also face future challenges that will impact their ability to provide aid to local governments. As discussed above, Medicaid and other healthcare costs will account for a growing share of state spending, crowding out other types of spending in many states. On the revenue side, states face two related problems. First, state tax systems have become outdated. In particular, the sales tax base has shrunk significantly relative to the economy, as the U.S. has moved from a manufacturing- to a service-based economy. Unless states tax a larger share of service activities, sales tax revenues are unlikely to match future growth in the broader economy. A second, related problem is that state tax revenues have become more volatile over the business cycle over the past three decades, which leaves local governments susceptible to cuts in state aid during recessions. States' increasing reliance on personal income taxes has been the main reason for this trend due to the extreme volatility of capital gains taxes, but the erosion of the sales tax base has also contributed (Pew Charitable Trusts and Rockefeller Institute of Government 2011).

Detroit's bankruptcy filing in July 2013 along with other high-profile municipal bankruptcies has created some concerns that local governments facing the most severe fiscal challenges will increasingly resort to bankruptcy. However, the odds of there actually being a surge in municipal bankruptcies remain extremely low for several reasons. First of all, bankruptcy is not an option for many localities as only 26 states allow local governments to file for Chapter 9 bankruptcy, and 14 of them require localities to first get approval from the state (Congressional Budget Office 2010).

Even if bankruptcy is allowed, the downsides of bankruptcy will significantly outweigh the benefits for most localities. Bankruptcy does provide short-term cash flow relief and an "automatic stay," which prevents creditors from taking action against the municipality without court approval. The stay makes it easier for a government to put together a comprehensive plan for addressing its fiscal challenges instead of dealing with legal claims on a case-by-case basis as they arise. Bankruptcy may also provide a municipality with a stronger negotiating position with creditors and unions, and thus enable the government to achieve larger concessions than it could obtain outside of bankruptcy. However, compared to corporate bankruptcies, Chapter 9 has higher requirements to qualify and the restructuring process is less certain. Chapter 9 requires that a municipality be insolvent, which is difficult to prove since governments have taxing powers. Judges cannot force municipalities to raise taxes, cut spending, or sell assets, and any restructuring plan must be approved by two-thirds of creditors from each class. As a result, financial benefits from restructuring may be modest and are tough to predict in advance (Congressional Budget Office 2010). Bankruptcy also entails substantial legal costs which will make it practically impossible for the municipality to access credit markets for many years, and the stigma of filing bankruptcy often reduces all types of investment in the community (Standard and Poor's 2012).

Because municipal bankruptcy is generally an unattractive option and is not even allowed in about half the states, they have been very rare. Between 2008 and 2013, only 13 general-purpose governments filed for bankruptcy, just 0.06 percent of these governments in the U.S. In contrast, over the same period there were nearly 400,000 commercial bankruptcies (Maciag 2013). Despite enduring fiscal challenges for many local governments, Standard & Poor's (2012, 3) has declared that "bankruptcies are unlikely to occur outside a very small minority of [governments]…and credit quality across the sector is generally stable and resilient." Similarly, most analysts agree that Meredith Whitney "vastly overstated her case on 60 Minutes" in December 2010 when she predicted that there would be 50 to 100 sizable municipal bond defaults (Holeywell 2011). Of course, bankruptcy is an extreme outcome and its frequency is not a good measure of fiscal pressures facing local governments. The long-term challenges discussed above will deeply impact many local governments even if the number filing for bankruptcy remains low.

Conclusion

The Great Recession has had a large and long-lasting impact on local government finances. These effects have been far greater than those from any other recession in the past four decades

except for the double-dip recession of 1980-1982, and while that recession had similarly large impacts on local finances, declines have persisted for much longer than after the most recent recession. In fact, six and a half years later, local government employment in April 2014 was still 2.6 percent lower than what it had been at the start of the Great Recession.

Local governments were largely able to muddle through the Great Recession, which officially ran from December 2007 to June 2009—revenues and employment actually did not start declining until FY10. The delayed impact was due to lagged declines in property taxes and in state and federal aid, which together account for almost two-thirds of local government revenues. On average, it takes about three years before property tax revenues respond to changes in housing prices, largely because property tax bills are based on assessments from prior years. As a result, property taxes actually peaked in FY09 and FY10, but then fell 8.5 percent from their peak to their low-point in 2012. State government revenues were propped up during the Great Recession by about $150 billion in federal stimulus funds, but most of those funds were gone by FY12, and state spending declined during the same year more than at any other time since at least 1987. Comprehensive data do not yet exist, but a variety of data sources all suggest that FY12 was the low-point in real per capita local government general revenues. Tying together these data sources suggests that FY12 revenues were about 5 to 6 percent lower than pre-recession levels.

The most recent comprehensive data are for FY11, when local government revenues were 3.3 percent below FY07 levels. Up until then, decreases in miscellaneous revenue accounted for three-quarters of the total decline, with decreases driven by a 53 percent drop in interest earnings. The drop in interest earnings was partially due to local governments drawing down their reserves, but was also greatly affected by the very low interest rates during this period which made it practically impossible to generate earnings off the very safe investments that localities hold. The impact of declining interest earnings will be limited in cities that use compounding interest to build up their reserves, but many local governments are happy with their reserve levels and use these earnings to fund current operations.

Local government spending fell much more steeply than revenues after its FY09 peak, with real per capita general expenditures falling 6.3 percent from FY09 to FY11. Local governments drew from reserves to maintain spending in FY09, but then had to make larger cuts starting in FY10. K-12 education bore slightly more than half of these cuts.

The impact of the Great Recession on local government finances varied widely around the country. This paper used data on 112 fiscally standardized cities (FiSCs), which combine revenues for city governments with an appropriate share for overlying counties, school districts, and special districts. More than a quarter of the FiSCs had revenues that by FY11 had declined more than 10 percent from their peak, but a fifth had declines of less than 2.5 percent or no decline at all. These variations were primarily due to large differences in the impact of the recession on local housing prices and incomes. An analysis found that these economic factors were about six times more important than differences in revenue structure in explaining variations across FiSCs in revenue declines during the Great Recession.

Local governments still have a long way to go before they return to pre-recession levels of revenue and spending, after accounting for inflation and population growth. Even once they do recover, localities will face of a host of future challenges, including increasing pension and healthcare costs for public sector workers and retirees, and the likelihood of decreased state and federal aid.

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Appendix Table 1

General Fund Revenues for City Governments
(Percent Change in Inflation-Adjusted Dollars)

	FY11-FY12	FY12-FY13	FY13-FY14
	Actual	**Estimate**	**Budget**
Atlanta	-3.5	-6.7	1.8
Baltimore	-0.5	-2.5	1.3
Boston	-3.5	2.1	2.7
Chicago	-8.0	4.3	-0.7
Cleveland	0.1	-2.4	-5.4
Cincinnati	-1.3	-4.7	-1.7
Dallas	-1.6	1.3	5.4
Denver	0.2	6.6	1.5
Detroit	-13.7	-5.2	-1.2
Houston	-2.9	5.7	2.0
Kansas City, MO	-4.7	3.7	0.2
Las Vegas	-6.8	0.7	-0.8
Los Angeles	-0.8	4.0	3.3
Miami	2.0	-5.6	2.1
Minneapolis	5.8	-5.6	23.9
New York	3.2	3.4	-0.9
Orlando, FL	-8.1	5.0	-1.7
Philadelphia	-9.7	1.3	1.9
Phoenix	-3.9	2.6	4.8
Pittsburgh	-6.1	0.7	1.4
Portland, OR	0.3	-2.5	-2.9
Riverside, CA	1.1	4.9	-0.9
Sacramento, CA	-3.8	1.0	-0.4
San Antonio	-2.1	-0.1	1.4
San Diego	5.3	-4.7	2.9
San Francisco	5.4	7.7	-6.2
Seattle	1.0	-1.9	3.2
St. Louis	-1.9	0.7	0.8
Tampa, FL	-1.2	3.6	0.0
Washington	7.4	2.4	0.5
Average	-1.7	0.7	1.3
Median	-1.4	1.2	1.0
No. With Decrease	19	11	12

Source: City budget documents. Contact author for a full list of citations.

Note: Seasonally adjusted CPI-U for January of each year used to adjust for inflation.

Appendix Table 2: Identifying the Causes of Revenue Changes for the Boston FiSC (FY08-FY11)

	General Revenue	Federal Aid	State Aid	Property Tax	Non-Prop. Taxes	Charges	Interest Earnings	Other Misc.
FY08 Revenue Structure								
Average for FiSCs		5.8%	32.0%	24.3%	13.4%	16.4%	3.7%	4.3%
Boston		10.7%	34.5%	38.2%	2.5%	7.2%	1.7%	5.1%
FY08 Revenues								
With Average Revenue Structure (I)	6,385	373	2,046	1,554	853	1,047	238	274
Actual (II)	**6,385 (A)**	685	2,205	2,440	159	459	112	326
FY11 Revenues								
Predicted w/Average Revenue Structure (III)	**6,100 (B)**	430	1,967	1,502	764	1,068	109	259
Predicted w/Actual Revenue Structure (IV)	**6,239 (C)**	789	2,121	2,359	142	468	51	309
Actual	**6,072 (D)**							
FY08-FY11 Predicted Revenue Change								
Average Revenue Structure: III - I	-285	57	-78	-51	-89	21	-129	-15
Actual Revenue Structure: IV - II	-146	104	-84	-81	-17	9	-61	-18
Difference: Attributed to Revenue Structure	**138 (E)**	48	-6	-29	73	-12	68	-3
FY08-FY11 Revenue Change				**Economic Changes in Boston are Used for Predictions**				
Actual: (D-A) / A	-4.9%		-0.198	Δln(House Price Index), 2006-2009				
Changes Attributed To:			-0.058	Δln(Personal Income), 2007-2010				
Economic Factors: (B-A) / A	-4.5%		0.019	Δln(State Govt Revenue), 2008-2011				
Revenue Structure: (C-B) / A, or E/A	2.2%							
Other Factors (Unexplained): (D-C) / A	-2.6%							