

DATA BRIEF

Newly Released Data Show Long-Lasting Impact of the Great Recession on Central Cities

Howard Chernick, Adam Langley, and Andrew Reschovsky¹

May 2014

Since September 2013, a large interactive database containing detailed annual fiscal information for 1997-2010 on the nation's largest central cities has been available on the website of the Lincoln Institute of Land Policy (www.lincolninst.edu/subcenters/fiscally-standardized-cities/). The Fiscally Standardized Cities (FiSC) database enables users to compare revenues, expenditures, debts, and assets for 112 of the largest central cities in the United States.

The 2011 data have just been added to the FiSC database. This paper highlights some of what can be learned from the newly added data.

Introduction

Because the delivery of public services is organized differently in different cities, it is nearly impossible to make meaningful fiscal comparisons across central city governments. Some city governments provide a full array of services for their residents, while others share the responsibility of service delivery with politically independent overlying governments. For example, in 2011 the per capita revenues of the City of Baltimore were \$5,437, nearly twice the revenues of the City of Seattle (\$2,838). At first blush, these numbers suggest that the residents of Seattle get substantially fewer public services than residents of Baltimore, or that the city government in Seattle is much more efficient in delivering services. Neither explanation, however, is correct. It turns out that about a fifth of government revenues in Seattle go to King County, which serves Seattle and most of its surrounding suburbs, and provides Seattle residents and businesses with a range of services, including public health and corrections. An additional

¹ Howard Chernick is a Professor in the Department of Economics at Hunter College and the Graduate Center, City University of New York; Adam Langley is a Research Analyst in the Department of Valuation and Taxation at the Lincoln Institute of Land Policy; Andrew Reschovsky is a Fellow in the Department of Valuation and Taxation at the Lincoln Institute of Land Policy and a Professor Emeritus at the University of Wisconsin-Madison.

one-fifth of revenues go to Seattle Public Schools, an independent school district serving all public school students in Seattle. By comparison, in Baltimore, which has no overlying county government or independent school districts, most revenues go to the city government. If we add up all the government revenues in both Baltimore and Seattle we find that per capita revenues were \$121 higher in Seattle than they were in Baltimore.

To account for these differences in governmental structure, we developed the concept of *fiscally standardized cities* (FiSCs). We construct FiSCs by adding revenues, expenditures, and other fiscal variables for each central city municipal government to a portion of the revenues and expenditures of overlying governments, including counties, independent school districts, and special districts. The allocations to each FiSCs are estimates of the revenues collected from and services provided to central city residents and businesses by these overlying independent governments. For example, the central city's share of county population is used to allocate revenues and expenditures from county governments. For school districts, allocations are based on the share of students in overlying school districts who reside within the central city. A full description of the FiSC methodology is available in Langley (2013).

The Composition of Central City Revenues

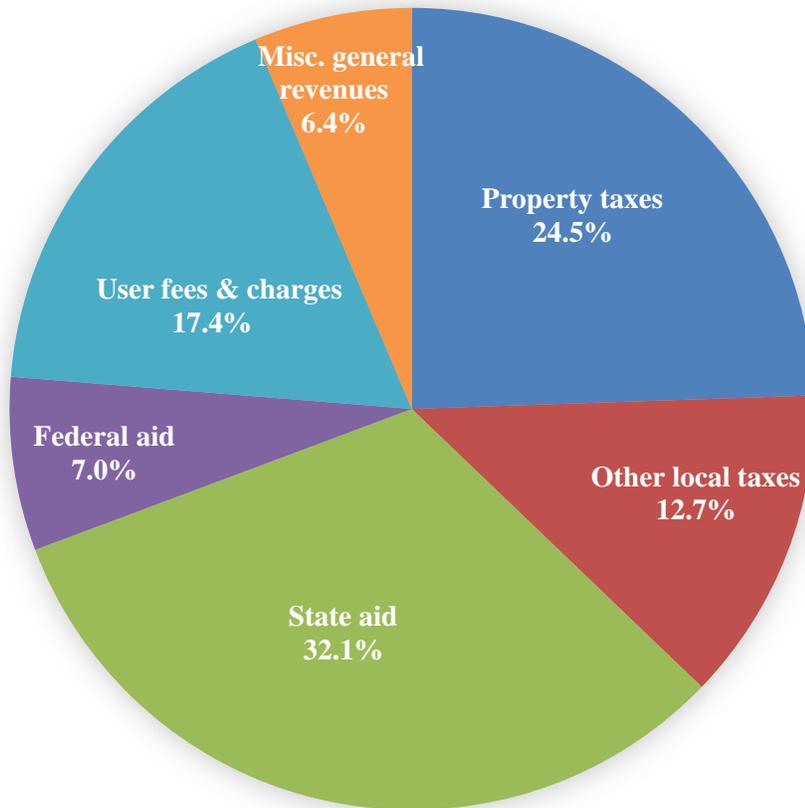
With the addition of 2011 data, the FiSC database now includes annual data for 35 years. In this brief, however, we focus on the period covering the Great Recession and its aftermath. The FiSCs provide a full picture of revenues raised from city residents and businesses and spending on their behalf, whether done by the city government or a separate overlying government. All the reported fiscal data were collected by the Governments Division of the U.S. Census Bureau.

Although the Great Recession officially ended in June 2009, the fiscal impacts of the recession and the collapse of the housing market have lingered. Figure 1 displays the diverse revenue sources of FiSCs. The percentage shares are the average shares of the 112 FiSCs. The property tax continues to play a very important role in financing public services in most central cities. On average, it provides a quarter of general revenues. The relative importance of the property tax varies substantially across FiSCs. In nine central cities, including Cleveland, Detroit, and Philadelphia, the property tax contributes less than 15 percent of general revenue, while in Austin, Boston, and Madison (WI), the property tax accounts for over 40 percent of revenues.

On average, taxes other than the property tax provide only 13 percent of revenues. The most common alternative taxes are general and selective sales taxes. Only 23 of the 112 FiSCs get any revenue from the individual income tax, and only 9 from a corporate income tax. Intergovernmental revenues from states and the federal government average nearly 40 percent of the revenue of FiSCs. Although on average state governments provide about a third of FiSCs' revenue, there is a great deal of variance across the country in the role that states play in central city finance. On the one hand, state aid provides over half of revenues in seven FiSCs, including Bakersfield, Buffalo, Fresno, and Springfield (MA). On the other hand, Atlanta, Austin, Fort Lauderdale, and Salt Lake City each receive less than 15 percent of their FiSC revenues from state aid.

Figure 1

General Revenue by Source, Average for 112 FiSCs, 2011



Most FiSCs generate a substantial amount of revenue from a wide range of charges and fees levied on residents, tourists, commuters, and businesses. Six FiSCs, including Charlotte, Colorado Springs, and Flint, derive over a third of their revenues from charges and fees. In contrast, 11 cities, including Baltimore, Boston, and Philadelphia, get under 10 percent of their revenues from fees.

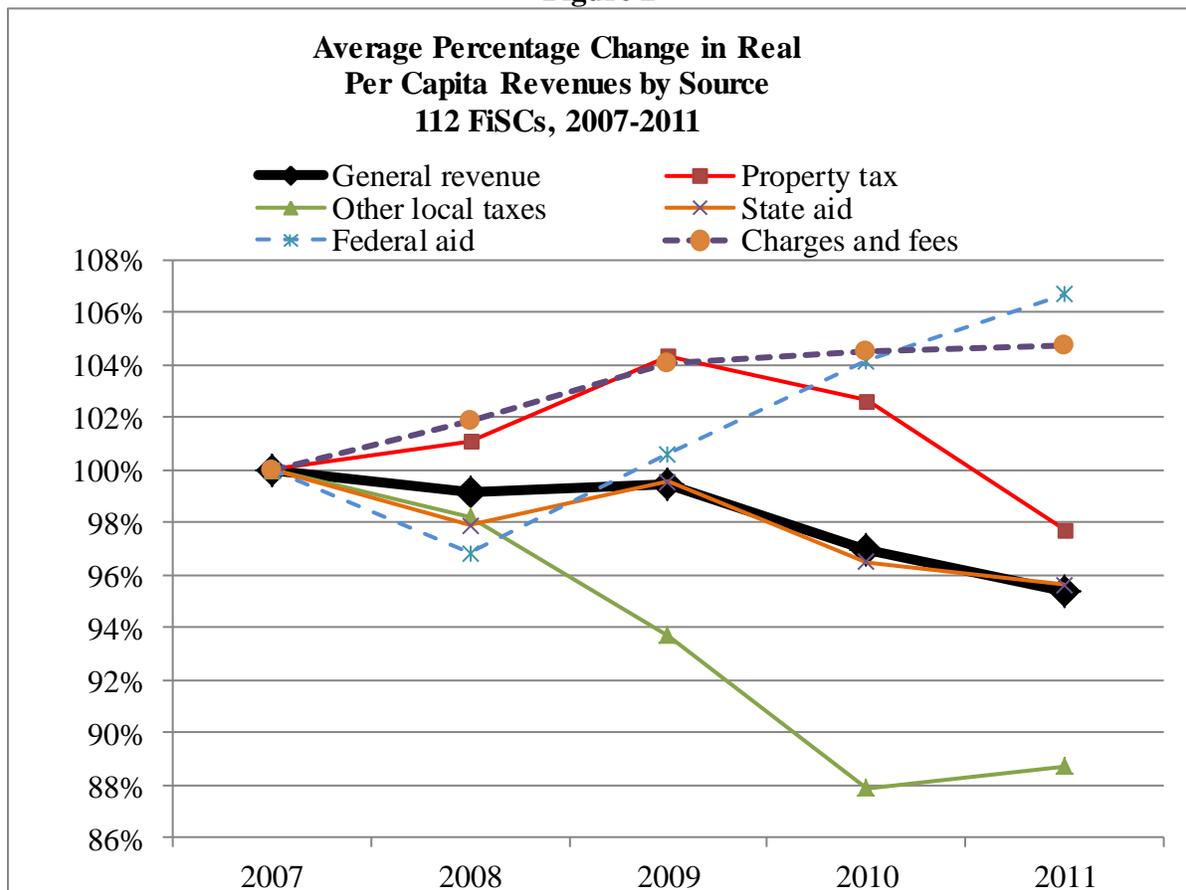
Recent Trends in Central City Revenues

We now turn to an investigation of how these revenue sources have changed recently and how they have been impacted by the Great Recession. To help us assess how changes in revenues affect the ability of local governments to provide public services, we adjust changes in nominal revenues by changes in central city populations and in the price level as measured by the Consumer Price Index for urban consumers. Figure 2 displays data on average percentage changes in per capita real (inflation-adjusted) revenue of FiSCs for the period 2007 through 2011. Each line on the graph reflects a separate source of FiSC revenue, with each year's entry on the graph representing the percentage change in that source of revenue **relative to** its 2007 level (indicated as 100%).

The thick black line on the graph represents per capita real general revenues. It tells a quite interesting story. For the two years of the Great Recession, 2007 through 2009, the average real per capita revenue of the 112 FiSCs remained largely unchanged. In 2010 however, average real per capita general revenues fell by three percent from their 2007 level. This decline continued in 2011, with per capita real revenues nearly five percent below where they were in 2007. To understand this delayed fiscal response to the Great Recession, it is important to explore the annual changes in the major components of general revenue.

The reason that real per capita general revenues were relatively unchanged between 2007 and 2009 was that increases in property taxes and user fees offset declines in revenue from state aid and other local taxes. Several recent studies have found a lag of approximately three years between changes in housing prices and subsequent changes in property tax revenues.² The lag is mainly attributable to the fact that assessment changes this year are used to calculate next year's tax liabilities, and to delays in reassessing properties to reflect changes in market values. With housing prices in many parts of the country peaking in 2006, it is thus not surprising that property tax revenues kept increasing through 2009.

Figure 2



² See Chernick, Langley, and Reschovsky (2011, 2012), Lutz (2008), and Lutz, Molloy, and Shan (2011).

Because state governments rely on revenue from cyclically-sensitive income and sales taxes, the recession led to large budget gaps, which many states filled in part by cutting state aid to local governments. In the average FiSC, state aid fell by about two percent in 2008. After a small increase in 2009, state aid declined through 2011. In 2011, real per capita state aid was about 4.5 percent lower than it was in 2007.³ FiSC revenues from local sales and income taxes also declined steadily during the course of the recession. By 2010, these revenues were 12 percent below 2007 levels. In 2011, they increased slightly reflecting the slowly improving economy.

The decline in real per capita revenues of the average FiSC between 2009 and 2011, and especially between 2010 and 2011, is attributable to a decline during those years of the two most important sources of revenue for FiSCs—the property tax and state aid. Reflecting the decline in property values in most parts of the country, property tax revenues in the average FiSC declined by 1.6 percent between 2009 and 2010, and by 4.8 percent between 2010 and 2011. Because most local governments were able to raise property tax rates, these revenue reductions were substantially smaller than the reductions in property values that occurred during this period. In 2011, per capita real property tax revenue in the average FiSC was 2.3 percent lower than its value in 2007.

Between 2009 and 2011, federal aid to the average FiSC increased by 6.1 percent. This increase is attributable to passage of the federal stimulus legislation, the American Recovery and Reinvestment Act, enacted by Congress in February 2009. During this same period, state aid to the average FiSC declined by nearly four percent. Because for most FiSCs state aid is a much more importance source of intergovernmental revenue than federal aid, in 62 of the 112 FiSCs per capita intergovernmental assistance declined between 2009 and 2011.

Given that the severity of the recession, the magnitude of the housing price collapse, and the pressure on state aid all varied substantially across the country, it is hardly surprising that the fiscal conditions in the nation’s central cities were substantially different in different parts of the country. Between 2010 and 2011, real per capita general revenues declined in 71 percent of the FiSCs, with an average reduction of 7.2 percent in these FiSCs. Over the four-year period from 2007 through 2011, general revenues declined in 83 (74 percent) of the FiSCs. Of the 26 FiSCs in which real per capita general revenues declined by 10 percent or more between 2007 and 2011, in only four did revenue increase between 2010 and 2011. The largest revenue reductions occurred in Florida and in the West, with, for example, particularly large reductions between 2007 and 2011 in Las Vegas (20.2 percent), Sacramento (17.8 percent), Miami (13.9 percent), Fort Lauderdale (13.2 percent), and Phoenix (13.0 percent). It is interesting to note that although real per capita revenues in Detroit were 3.9 percent lower in 2011 than they were in 2007, between 2010 and 2011, Detroit’s revenues actually increased by 8.1 percent.

In 12 FiSCs, general revenues were more than 5 percent higher in 2011 than they had been in 2007. In half of those FiSCs however, revenues declined between 2010 and 2011. The spatial distribution of FiSCs in which revenues rose was quite varied. FiSCs with revenue increases included Baltimore, Buffalo, Ft. Worth, Minneapolis, and San Francisco.

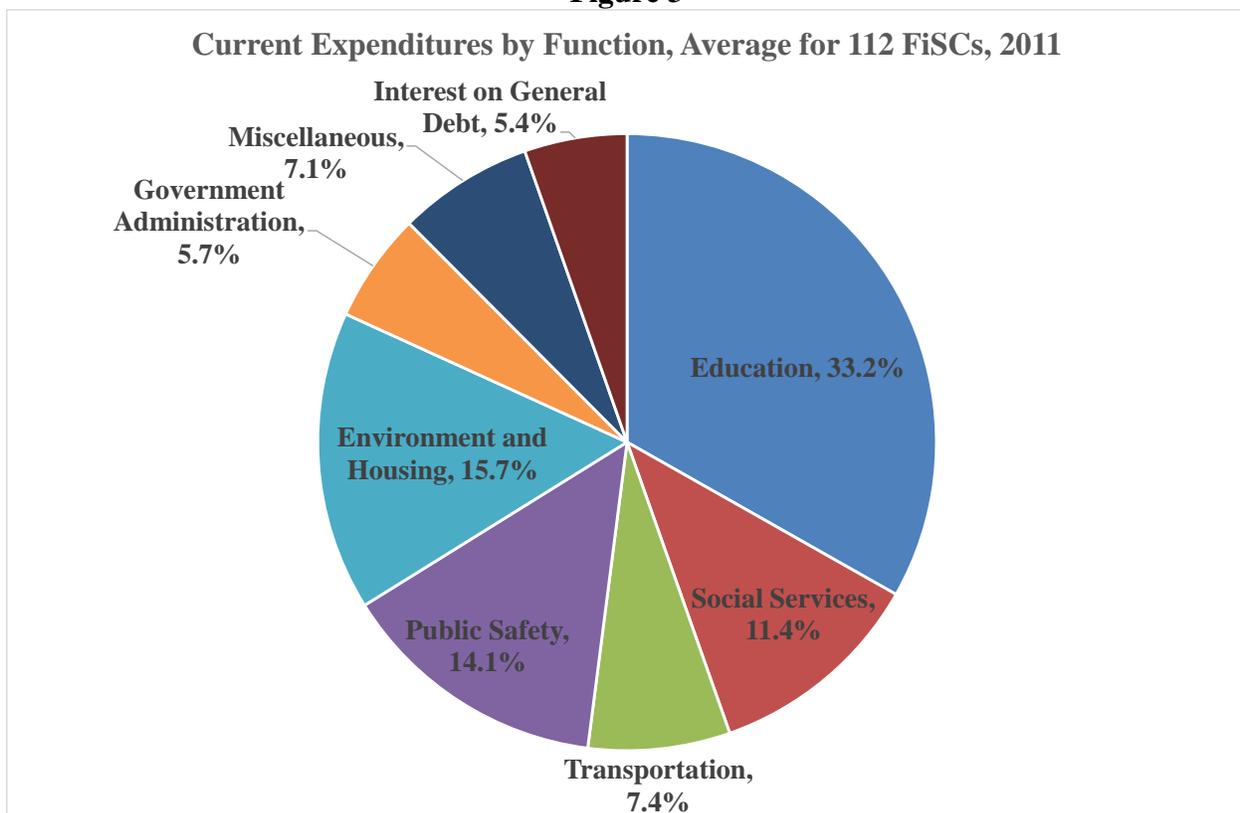
³ Preliminary analysis suggests that on average, for every dollar of reduction in state tax receipts between 2007 and 2009, aid to FiSCs during the period 2007 to 2011 decreased 30 and 50 cents (Chernick, 2014).

Recent Trends in Central City Expenditures

In the long run, changes in local government revenues are mirrored by changes in local government spending. Because most local governments, including municipalities, counties, and school districts maintain fund balances and reserve accounts, year-to-year changes in revenues are not necessarily reflected in changes in expenditures. The data presented here are for current, or operating, general expenditures. They are calculated by subtracting annual capital outlays from total expenditures.⁴ In 2011, the average FiSC had per capita current expenditures of \$4,473.

Figure 3 illustrates how money was spent in the average FiSC. One third of current expenditures by FiSCs were for education. The second largest category of spending, environment and housing, includes parks and recreation, housing, community development, sewage, and trash and recycling collection. Spending for public safety accounted for 14.1 percent of expenditures. Spending patterns in individual FiSCs can vary substantially from the averages shown in Figure 3. For example, education makes up over half of spending in Jackson (MS) and Springfield (MA), but less than 20 percent of spending in Ft. Lauderdale and San Francisco.

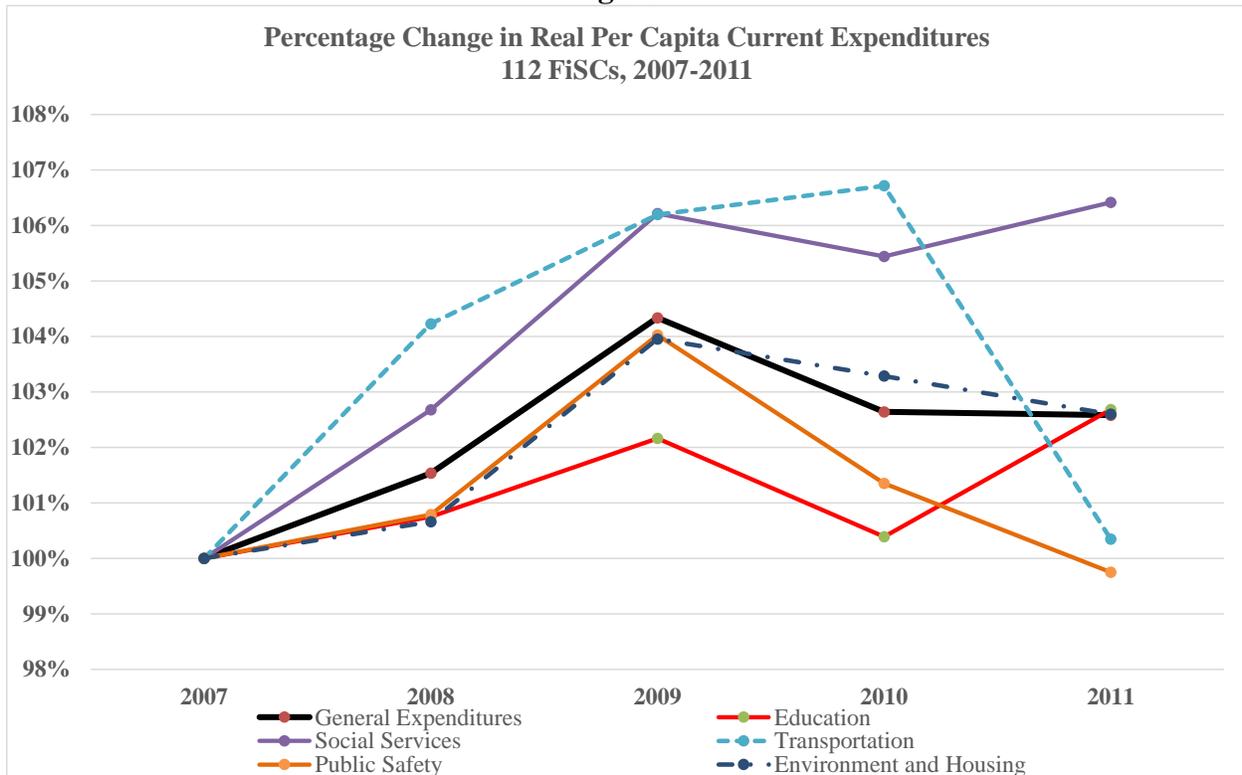
Figure 3



⁴ Because about 30 percent of total capital outlays are not identified by functional expenditure categories in the FiSC dataset, we overestimate current expenditures for the categories for which capital outlay data are not specified. To calculate current expenditure shares for Figure 3, we sum these estimates of current expenditures for all functional expenditure categories. This methodology may result in a small overestimate of current expenditures in several categories, primarily public safety, transportation, and miscellaneous.

In Figure 4, we trace changes in real per capita current expenditures from 2007 through 2011. The lines show the percentage change in spending relative to spending in 2007. As shown by the thick black line, real per capita current expenditure grew from 2007 to 2009, the period of the Great Recession. This growth was possible because, as shown in Figure 2, revenues remained relatively constant during this period, and city governments were able to draw down fund balances and reserves.⁵ The story was quite different from 2009 through 2011, when real per capita spending declined. Overall, the cuts in spending were smaller than the spending increases from 2007 to 2009, and thus real per capita expenditures in 2011 were 2.6 percent higher than they had been in 2007.

Figure 4



The other five lines in Figure 4 illustrate the patterns of expenditures for major spending categories. As might be expected during and immediately after a severe economic downturn, real expenditures on social services rose for most of the period, and were more than six percent higher in 2011 than in 2007. In contrast, spending on education grew at a slower rate than spending between 2007 and 2010, and then grew at an above average rate between 2010 and 2011. It is interesting to note that public safety spending fell sharply between 2009 and 2011, ending up slightly below its 2007 level.

⁵ Evidence that cities used reserve funds during this period comes from two studies that utilized data from cities' Comprehensive Annual Financial Reports (Pew Charitable Trusts, 2013; Ross, Yan, and Johnson, 2014).

As with revenues, a great deal of variation existed in the change in spending among the 112 FiSCs. Although average real per capita spending in FiSCs rose between 2007 and 2011, in 45 central cities spending fell during this period. In six cities, including Reno, Richmond, Sacramento, San Diego, real per capita spending fell by more than 10 percent. During the same four-year period, spending rose by more than ten percent in 20 cities, including Baltimore, Buffalo, Pittsburgh, and San Antonio.

Future Fiscal Prospects for America's Central Cities

This paper shows that revenues for the average FiSC did not begin to decline until after the Great Recession had officially ended, with significant declines in both 2010 and 2011. Unfortunately, comprehensive data on local government finances for the nation's largest cities are not yet available for years after 2011. However, the data that do exist suggest that revenues continued to decline through at least 2012, with only modest growth in 2013. Because of the lagged response of property tax revenues to changes in housing prices, property taxes continued to fall after housing prices began rising. Our calculations using data from the U.S. Census Bureau's *Quarterly Summary of State and Local Taxes* show that real per capita local government property taxes fell nearly 3 percent in 2012 and stayed near that level in 2013.

Although comprehensive data on state aid to local governments are not available, a survey conducted by the Center on Budget and Policy Priorities found that in 33 states real per student state aid to primary and secondary education was lower in fiscal year 2014 than it had been in fiscal year 2008. The survey also found that in 15 states real per pupil state aid declined between fiscal years 2013 and 2014 (Leachman and Mai, 2013). The winding down of the federal government stimulus program resulted in a sharp drop of federal aid to state and local governments in 2012. The National Association of State Budget Officers reports that between 2011 and 2012, federal aid to states fell by more than \$50 billion (NASBO, 2013). Looking forward, in light of the most recent Congressional budget agreement it is likely that over the next decade federal grants to local governments will decline.

Existing data show that the rate of recovery of local revenues from the 2007-2009 recession has been much slower than in previous recessions, and local government employment remains at levels at least three percent below the peak in 2008. However, the full story of the impact of the Great Recession on central cities' finances cannot be told until comprehensive data for 2012 and 2013 are available. The 2012 Census of Government Finances is currently scheduled to be released in December 2014, and once those data are available we will add 2012 to the FiSC dataset. These data will go a long way towards enhancing our understanding of the recession's impact on the finances of the nation's major central cities. Given the slow rate of economic recovery combined with recent fiscal trends, most cities appear to be in for leaner times for an extended period.

References

- Chernick, Howard. 2014. "Fiscal Pressure on U.S. Cities: State Aid and Local Taxes," presentation at CIRANO conference, Montreal, March 14.
- Chernick, Howard, Adam Langley, and Andrew Reschovsky. 2011. "The Impact of the Great Recession and the Housing Crisis on the Financing of America's Largest Cities," *Regional Science and Urban Economics* 41, Issue 4 (July): 372-381.
- Chernick, Howard, Adam Langley, and Andrew Reschovsky. 2012. "Predicting the Impact of the U.S. Housing Crisis and "Great Recession" on Central City Revenues," *Publius: The Journal of Federalism* 42, Issue 3 (Summer): 467-493.
- Langley, Adam H. 2013. "Methodology Used to Create Fiscally Standardized Cities Database," Working Paper WP13AL1, Cambridge, MA: Lincoln Institute of Land Policy, August. www.lincolninst.edu/pubs/dl/2292_1632_Langley_WP13AL1.pdf.
- Leachman, Michael and Chris Mai. 2013. "Most States Funding Schools Less Than Before the Recession," Washington, DC: Center on Budget and Policy Priorities, Updated September 12. www.cbpp.org/cms/index.cfm?fa=view&id=4011.
- Lutz, Byron F. 2008. "The Connection Between House Price Appreciation and Property Tax Revenues," *National Tax Journal* 61, No. 3 (September): 555-572.
- Lutz, Byron F., Raven Molloy, and Hui Shan. 2011. "The Housing Crisis and State and Local Government Tax Revenue: Five Channels," *Regional Science and Urban Economics* 41, No. 4 (July): 306-319.
- Pew Charitable Trusts. 2013. *America's Big Cities in Volatile Times: Meeting Fiscal Challenges and Preparing for the Future*, Washington, DC: The Pew Charitable Trusts, November. www.pewstates.org/research/reports/americas-big-cities-in-volatile-times-85899511780?p=1
- Ross, Justin M., Wenli Yan, and Craig Johnson. 2014. "The Public Financing of America's Largest Cities: A Study of City Financial Records in the Wake of the Great Recession," *Journal of Regional Science*, forthcoming.