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Land and the City

Edited by George W. McCarthy, Gregory K. Ingram, and Samuel A. Moody

Land Policy Series

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*George W. McCarthy, Gregory K. Ingram,
and Samuel A. Moody*

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PREFACE

The majority of the world's population now lives in urban areas and depends on urban systems for housing and social and economic goods and services. This number will only increase as cities blossom and expand to accommodate new residents, particularly in developing nations. What remains unchanged, however, is the key role of cities as engines of economic growth, social activity, and cultural exchange. In an effort to support the success and sustainability of cities, this volume explores how policies regarding land use and taxation affect issues as diverse as the sustainability of local government revenues, the impacts of the foreclosure crisis, and urban resilience to climate change.

This collection, based on the Lincoln Institute of Land Policy's 2014 annual land policy conference, addresses the policies that underlie the organization, financing, and development of the world's cities. It is the final volume in the Institute's land policy conference series. Over the years, these meetings have addressed land policy as it relates to a range of topics, including local education, property rights, municipal revenues, climate change, and infrastructure.

We thank Armando Carbonell, Martim Smolka, and Joan Youngman for their advice on the selection of topics and on program design. The conference was organized by our exceptional event team, comprising Brooke Burgess, Sharon Novick, and Melissa Abraham. Our special thanks go to Emily McKeigue for her exemplary management of the production of this volume, to Peter Blaiwas for the cover design, to Nancy Benjamin for maintaining the publication schedule, and to Barbara Jatkola for her tireless and reliable copyediting.

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Local Government Finances During and After the Great Recession

Adam H. Langley

By most measures, the Great Recession of 2007–2009 was the most severe economic downturn the United States has experienced since the 1930s. Nearly nine million Americans lost their jobs, median household income fell 8 percent when 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): steep declines in state tax revenues led to cuts in state aid for local governments, and falling housing prices triggered drops in property taxes. Meanwhile, many localities also faced growing demand for their services due to higher numbers of poor and unemployed residents.

Such fiscal pressures on local governments can have serious consequences. These governments provide many of the key public services that affect the everyday lives of residents, including K–12 education, police and fire protection, sewers and waste management, parks administration, 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 have a difficult time attracting and retaining residents and businesses and, in the worst case, could face a downward spiral of population decline and disinvestment. Fiscal pressures also affect the labor market, since

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1. Data from Federal Reserve Economic Data (FRED) series: "Total Nonfarm Employment, Seasonally Adjusted" (PAYEMS); "Real Median Household Income in the United States" (MEHOINUSA672N); and "All-Transactions House Price Index for the United States" (USSTHPI).

local governments are major employers, providing about one in ten jobs in the United States. In 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.

This chapter uses a variety of data sources and summarizes existing research to describe how the Great Recession has affected local governments.

The Great Recession Compared with Previous Recessions ———————

The Great Recession has had a much larger impact on local governments than almost all other recent recessions, with the only comparable decline occurring during the double-dip recession of 1980–1982. One way to measure this impact is to look at local government employment trends (figure 6.1). 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, compared with 2.0 and 3.7 percent for the federal and state governments, respectively.[2]

Historically, local government employment has held up fairly well during economic downturns and did not decline at all during the recessions of 1973–1975, 1990–1991, or 2001. In contrast, it fell 3.2 percent following the Great Recession, similar only to the 3.6 percent drop during the 1980–1982 recession. But while the level of contraction was similar in the two recessions, the timing was very different. 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 prerecession levels after five and a half years. In contrast, the American Recovery and Reinvestment Act (ARRA) of 2009 helped prop up employment during the first two years after the Great Recession. Local government employment did not hit bottom until early 2013, and six and a half years after the start of the recession, employment was still 2.6 percent below prerecession levels, meaning there were 382,000 fewer jobs in this sector.

The drop in local government employment has been a major drag on economic recovery. Harris and Shadunsky (2013) used a macroeconomic framework to measure the state and local government sector's contribution to GDP, which means they included spending on consumption and investment, but excluded government transfers and interest payments. They found that in the past four decades, state and local governments contributed to economic growth in every year except 1981 and the three years following the Great Recession. In addition, three years after the trough of the previous five recoveries, the state-local sector's

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

Figure 6.1

Change in Local Government Employment in the Past Five Recessions
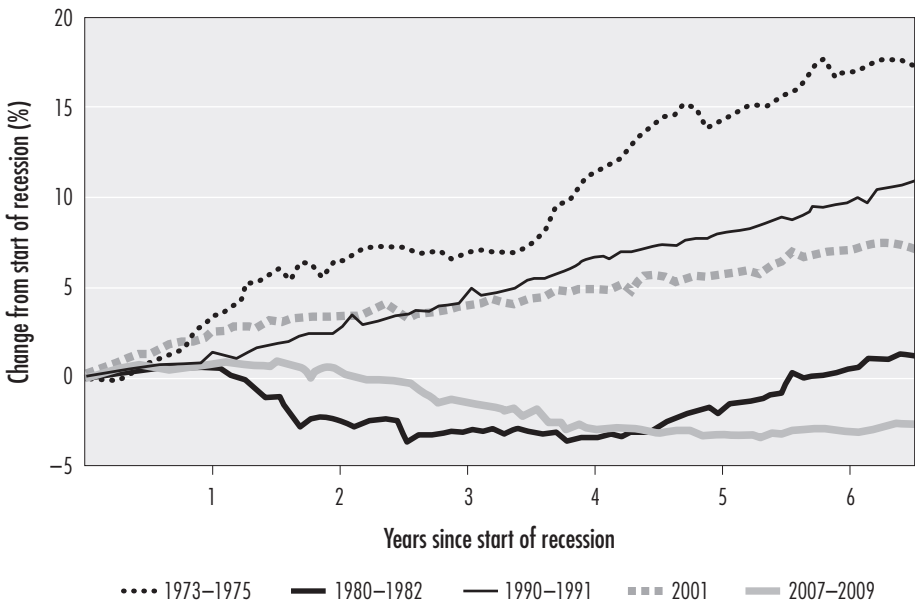
Note: Recession dates are from the National Bureau of Economic Research.
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics, Seasonally Adjusted.

contribution to real GDP growth had averaged 6 percent and was never negative. At that stage following the Great Recession, however, this sector's consumption and investment had actually fallen 4 percent.

Local Government Revenues During the Great Recession

This section looks at five broad revenue categories to determine how local government revenues performed during the Great Recession. Table 6.1 shows the revenue composition of the local government sector in FY07 before the recession began.

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

Table 6.1
Local Government General Revenues, FY07

Percentage of Revenues	Revenue Category
37.5	**Intergovernmental revenues**
33.2	State aid
4.3	Federal aid
28.0	**Property taxes**
11.1	**Non-property taxes**
4.6	General sales taxes
2.4	Income taxes
3.2	Excise taxes, licenses, and other
15.6	**User charges**
7.8	**Miscellaneous revenues**
3.3	Interest earnings
4.4	Other

Source: Tax Policy Center (2014).

all revenue and expenditure figures in this chapter 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 since at least the late 1970s, and while tax revenues steadily recovered after that, in FY13 they were still nearly 5 percent below their FY07 peak (U.S. Census Bureau 2014). Cuts in state spending were postponed for several years following the Great Recession, however, because ARRA provided states with about $150 billion in federal stimulus aid in the years FY09–FY11, which meant the largest cuts occurred in FY12 once most of the federal aid was gone (McNichol 2012).

Propped up by ARRA, 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 in FY07 (table 6.2). While comprehensive data are not available for FY12, the data that do exist suggest that state and federal aid fell considerably in that year, too.

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

Table 6.2
Real Per Capita Local Government Revenues Compared with FY07, FY08–FY11 (% change)

	FY08	FY09	FY10	FY11
General revenues	–0.6	0.4	–1.3	–3.3
Intergovernmental revenues	–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 taxes	0.7	5.5	4.9	1.7
Non-property taxes	–2.6	–7.4	–12.8	–11.5
General sales taxes	–0.9	–3.1	–7.1	–6.3
Income taxes	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 revenues	–3.7	–15.7	–26.1	–31.7
Interest earnings	–0.6	–25.5	–46.0	–53.4
Other	–6.1	–8.4	–11.2	–15.4

Source: Tax Policy Center (2014).

decline in state spending since at least 1987 (NASBO 2013).[3] Real per capita state spending grew 2.1 percent in FY13, but it was still lower than it had been in FY11, given the 4.3 percent drop in FY12.

The end of stimulus aid also affected federal aid that went 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 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.

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3. Total state spending data from NASBO (2013) were adjusted for inflation using the annual average of the seasonally adjusted Consumer Price Index for All Urban Consumers (CPI-U), and for population growth using the Total Population of the U.S. (*http://research.stlouisfed.org/fred2/series/POP*) for June of each year.

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 U.S. Census Bureau treats most federal aid to local governments that flows through states as state aid.

PROPERTY TAXES

Property tax revenue held up fairly well during the Great Recession itself despite the unprecedented collapse in home values, but local governments then experienced significant declines during 2010–2012 for the first time since the tax revolts of the late 1970s and early 1980s. Figure 6.2 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 in 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 from peak to trough was modest (8.5 percent) compared with the plunge in housing prices (27.1 percent).

The lag between changes in property values and responses in property tax revenues occurs primarily because property tax bills are based on assessments from previous years. Multiyear reassessment cycles, assessment limits, and phase-ins of higher assessments can also play a role in this lag. Previous research suggests that three years is an average lag time, although the lag varies significantly across jurisdictions due to differences in administrative practices (Chernick, Langley, and

Figure 6.2
Local Property Taxes and Housing Prices, 1992–2013
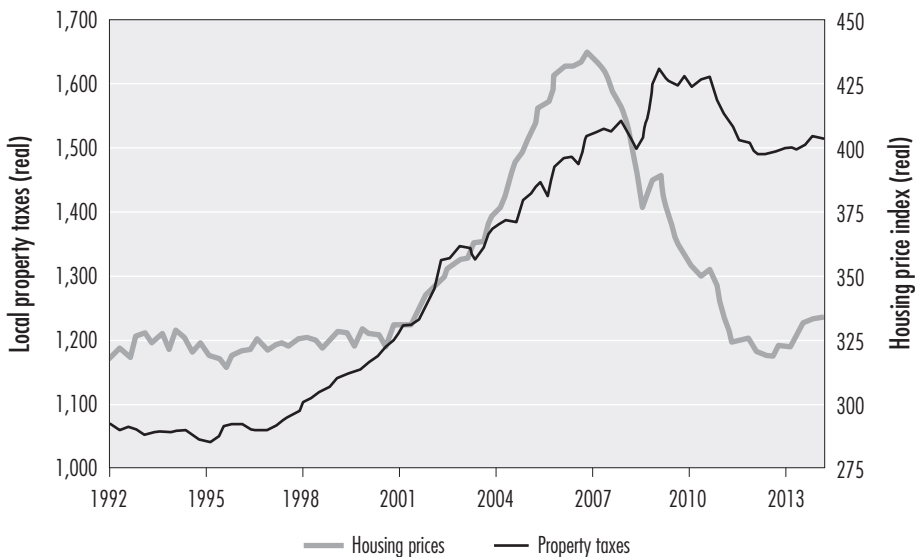
Note: Local property taxes prior to the fourth quarter of 2008 were adjusted upward by 7.7 percent to account for changes in the U.S. Census Bureau's quarterly property tax survey, including sample selection, data editing, and imputation methods. This adjustment follows the approach taken in Dadayan (2012) and Pew Charitable Trusts (2012).
Sources: U.S. All Transactions Index (Federal Housing Finance Agency) adjusted with CPI-U; U.S. Census Bureau (2014).

Reschovsky 2012; Lutz 2008). That property taxes peaked nearly four years after the peak in housing prices is consistent with that research. However, there was no lag between when housing prices and property taxes hit their trough; both bottomed out in early 2012. It is possible that the features of the property tax system that caused the 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 growing in 2013, but with the typical lag observed during periods of increasing values, it is likely 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 the strengths of the property tax, since it provides local governments with a stable revenue source. This stability is a result of two factors: property values have historically been a fairly stable tax base, and local governments have a significant degree of rate-setting flexibility. It is much easier to adjust property tax rates than it is to change sales or income tax rates. Ross, Yan, and Johnson (2013) used 2005–2011 Comprehensive Annual Financial Report (CAFR) data for the municipal governments of the 35 largest U.S. cities and concluded that property taxes 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.

NON-PROPERTY 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 prerecession general revenues, with general sales taxes contributing 4.6 percent, income taxes 2.4 percent, and other taxes 3.2 percent (see table 6.1). However, looking at the sector as a whole obscures wide variations in the importance of these taxes. Many local governments do not use them at all, but those that do often derive a significant share of their total revenues from them. Large city governments, in particular, rely on these taxes more heavily. For example, 73 of 112 large U.S. cities imposed general sales taxes in FY07, and on average they raised 13.9 percent of their general revenues from them. In contrast, 22 of the 112 cities used income taxes, which accounted for 22.3 percent of their revenues on average.[5]

Table 6.2 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 then bottomed out in FY10:

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5. These data come from the Lincoln Institute of Land Policy's Fiscally Standardized Cities (FiSC) database (*www.lincolninst.edu/subcenters/fiscally-standardized-cities/*). They are for city governments, not FiSCs.

general sales taxes were 7 percent lower than in FY07, income taxes were 13 percent lower, and other non-property taxes were 19 percent lower.[6]

Comprehensive data on local government taxes other than property taxes were available only through 2011 at the time of this writing, but recent growth in state income, sales, and other non-property taxes suggests that they 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 the fastest (19.7 percent), followed by other non-property taxes (7.4 percent) and sales taxes (2.4 percent) (U.S. Census Bureau 2014).[7] 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). Growth slowed in the first half of FY14 (Dadayan and Boyd 2014b).

USER CHARGES

User charges were the most resilient revenue source for local governments during the Great Recession. Real per capita charges grew 4.6 percent in FY09 and have been steady since then, so that in FY11 they were 5.0 percent above FY07 levels (see table 6.2). The growth in revenues from user 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 that they increased fee levels during the 2009–2013 period (42 percent on average) or the number of fees (24 percent) 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). 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 from 1977 to 2011, without any particularly large year-to-year increases or decreases, and with only four years of declines (Tax Policy Center 2014).

MISCELLANEOUS REVENUES AND RESERVES

Despite being a small part of local government budgets, 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 6.3 later in this chapter). Interest earnings accounted for most of this decline; they fell 53 percent over this time period (see table 6.2). Research by the Pew Charitable Trusts (2013a)

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6. In FY07, selective sales taxes accounted for 46 percent of other non-property taxes, license taxes 31 percent, and taxes not elsewhere classified 23 percent. From FY07 to FY10, these taxes declined 3 percent, 23 percent, and 43 percent, respectively (Tax Policy Center 2014).

7. Income taxes are individual income and corporate income taxes combined, sales taxes include gross receipts, and other taxes are all other taxes except property taxes.

found that interest earnings also played a disproportionate role in revenue declines for the country's largest cities. That research used data from CAFRs for the municipal governments of 30 large U.S. cities and found that nontax revenue—a category consisting primarily of investment income—was the primary cause of revenue losses for nine of those cities, far more than any other category of own-source revenues.

Part of the reason for the decline in interest earnings 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 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 draw from them during the recession. For example, an analysis of more than 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 rebounded to 31 percent in FY11. However, the averages do not reflect the experiences of most localities. Although about one in four drew down most or all of their reserve funds, the great majority cut spending instead (Marlowe 2013).

A big part of the explanation for declining interest earnings lies in the very low interest rates that have prevailed since 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 they often rely on 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 yields on these types of investments. For example, the secondary market rate for three-month treasury bills fell steadily from 5.03 percent in February 2007 to 0.19 percent in November 2008. The rate stayed below 0.2 percent through early 2011, and has since stayed below 0.1 percent.[8] 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 varies depending on how cities use their reserves. The immediate impact would be limited in cities that use compounding interest earnings to build up their reserves. However, many local governments are happy with their reserve levels and worry that growing them further could create political pressure to spend them down.

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8. Board of Governors of the Federal Reserve System, H.15 Selected Interest Rates. Data downloaded from Federal Reserve Economic Data, Series TB3MS (*https://research.stlouisfed.org/fred2/series/TB3MS*).

Those localities might regularly use interest earnings to fund current operations (Marlowe 2014).

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 1970s and early 1980s (Tax Policy Center 2014). The latest comprehensive data on local revenues available at this writing is FY11, but localities have continued to experience significant fiscal pressures. Figure 6.3 presents changes in real per capita revenues relative to their prerecession levels in FY07—actual revenues through FY11 and estimated revenues for FY12–FY13. The estimated revenues are based on the following data sources and assumptions.[9]

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

Overall, general revenues are projected to have bottomed out in FY12, when they are estimated to be 5.5 percent lower than in FY07. General revenues are expected to grow in FY13 but remain at levels about 4 percent lower than in FY07. The estimated 2012 trough is consistent with several 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, toward the end of the fiscal year for most governments (see figure 6.1).

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9. For the six revenue categories, annual percentage changes for 2011–2013 were first calculated based on the sources described in the text and then adjusted for inflation and population growth. Then revenue levels for 2012 and 2013 were calculated based on the estimated percentage change in real per capita revenues for 2011–2013 and actual revenue levels in 2011.

Figure 6.3

Actual (2008–2011) and Estimated (2012–2013) Changes in Real Per Capita Local Government Revenues Compared with FY07
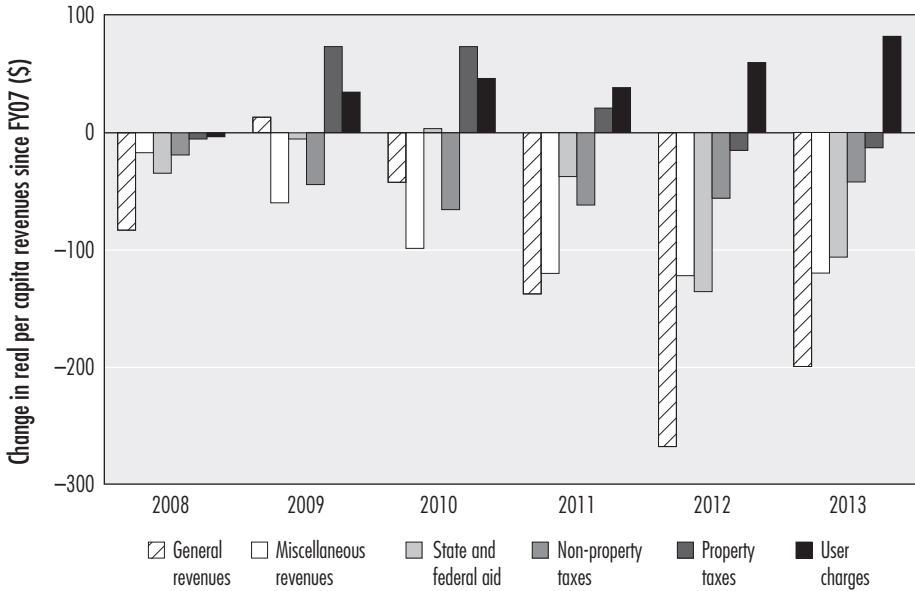
Sources: Data for 2007–2011 are from U.S. Census Bureau (2013). Estimated data for 2012–2013 are based on a variety of sources and some assumptions (see text for details).

This means that local government revenues hit bottom about three years after the Great Recession officially ended in June 2009. This lag was driven by changes in intergovernmental revenues and property taxes. The end of most federal stimulus meant that state and federal aid to local governments likely declined steeply between FY11 and FY12, with a projected decline of 4.3 percent in 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 revenues meant that general revenues held fairly steady through FY10.

For the other categories, the biggest driver of revenue declines was miscellaneous revenues (driven by a 53 percent drop in interest earnings), which accounted for a full three-quarters of the drop in general revenues as of FY11. The immediate impact of this drop varied, however, depending on whether or not localities regularly used interest earnings to fund operating budgets. Non-property taxes also declined considerably, dropping 12 percent from their 2007

peak (although the impact of declines in these taxes would vary across cities based on each city's reliance on them). Recent data on state taxes suggest that non-property tax revenues have begun to recover for local governments, but they are likely still significantly below 2007 levels. Finally, user charges were the most resilient revenue source during the Great Recession, although increases in them were not nearly enough to offset declines in other revenues.

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). After a peak in FY09, however, spending dropped much more sharply than revenues, falling 6.3 percent by FY11 versus 3.7 percent for revenues (Tax Policy Center 2014). Such spending fluctuations can have detrimental consequences, such as governments expanding and then contracting programs, hiring and then laying off staff.

In FY09, local government expenditures—which are based on expected revenues—significantly exceeded actual revenues. That year, state revenue forecasts dramatically overestimated actual revenues (Pew Charitable Trusts and Rockefeller Institute of Government 2011), so states were forced to make large mid-year budget cuts that totaled 5.0 percent of their general fund revenues (NASBO 2009). Local governments were directly affected by these cuts, and many may have overestimated their own-source revenues as well. With these unexpected revenue declines, many localities used reserves to avoid mid-year budget cuts in FY09, when cities' ending balances dropped 25 percent according to surveys of city finance officers (Pagano and McFarland 2013). In FY10 and FY11, localities responded to lower revenue levels by making significant spending cuts, which were much larger than they would have been without the large spending increases 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 earlier, 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.[10] (Compared with the 1980–1982 recession, the Great Recession saw much larger declines in education employment, but smaller declines in non-education employment [Dadayan and Boyd 2014a].)

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

Figure 6.4

Percentage of City Governments Reporting Personnel-Related Spending Cuts, 2010–2013

City governments reporting cuts (%)

☐ 2010   ▨ 2011   ▤ 2012   ■ 2013
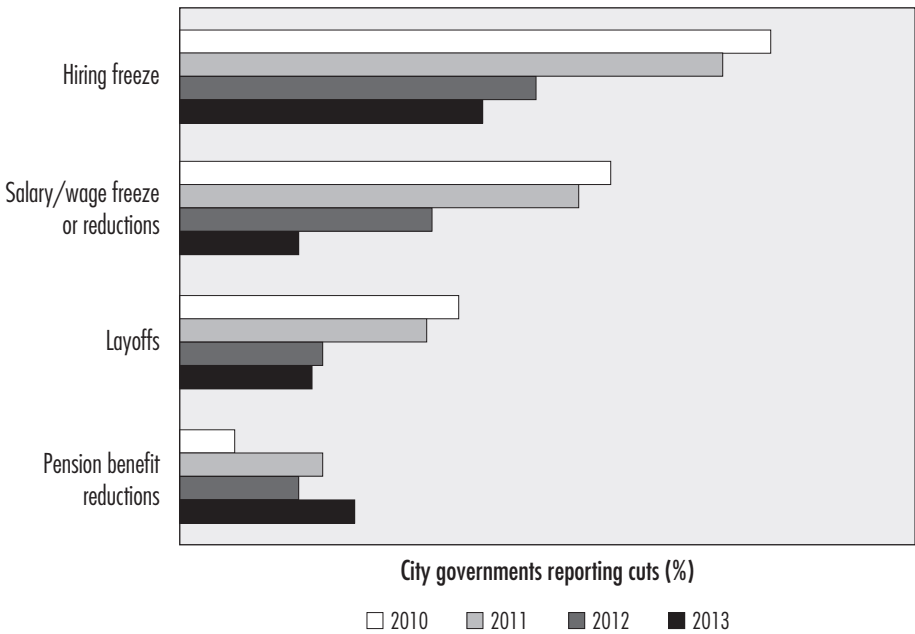
Source: Selected data from Pagano and McFarland (2013).

Figure 6.4 shows specific personnel-related cuts made by city governments during the period from 2010 to 2013. The most common action taken was the institution of a hiring freeze (74 percent of cities did so in 2010), followed by a salary/wage freeze or reductions (54 percent) and layoffs (35 percent). The percentage of cities using these three personnel cuts decreased somewhat in 2011 and was significantly lower in 2012 and 2013. The one notable exception to the declining use of personnel cuts was the use of pension benefit reductions, which grew from 7 percent in 2010 to 22 percent in 2013.

Figure 6.5 compares local government expenditures in FY09 and FY11. Overall, real per capita local government direct general expenditures declined 6.1 percent.[11] While all nine categories listed in this figure experienced declines,

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11. 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 ($52 to $44) and the use of different data sources to adjust for inflation and population growth. General expenditures were used for the earlier

Figure 6.5
Changes in Real Per Capita Local Government Direct General Expenditures from FY09 to FY11 (%)
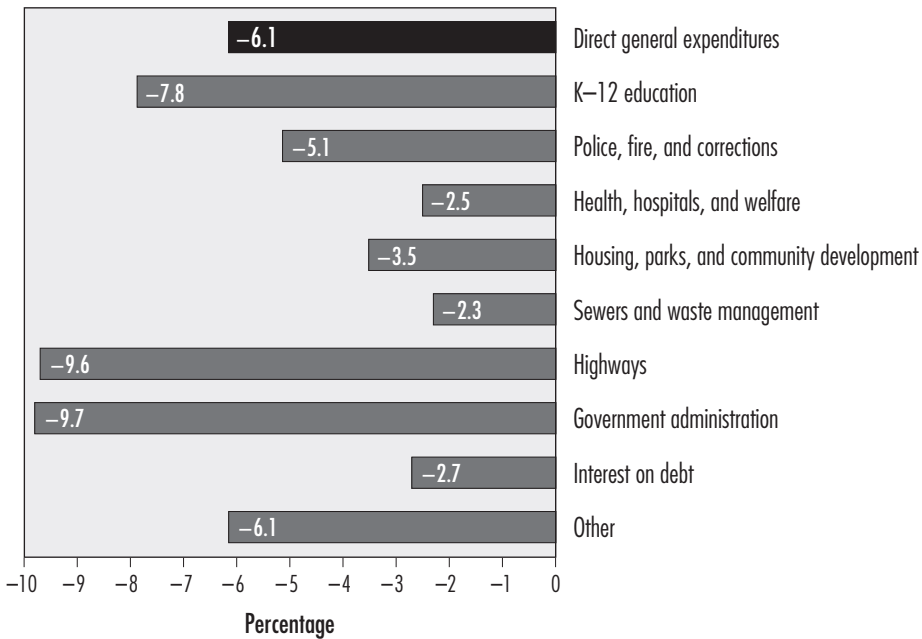
Source: U.S. Census Bureau (2013).

the cuts were not spread evenly. In particular, spending on K–12 education de-creased 7.8 percent, bearing slightly more than half the burden of all the cuts in general expenditures. Other categories that experienced larger-than-average cuts were highways (–9.6 percent) and government administration (–9.7 per-cent). Spending on police, fire, and corrections declined a bit less than average (–5.1 percent). Health, hospitals, and welfare; housing, parks, and community development; sewers and waste management; and interest on debt declined sig-nificantly less than average. Not shown in the graph is that total spending on capital outlays declined much more than current operations, –16.0 percent ver-sus –4.5 percent (Tax Policy Center 2014).

Measuring the impact of spending cuts on the quality of services received by residents is a challenge. While modest spending reductions may not reduce service

calculation because they are analogous to general revenues; intergovernmental expenditures were excluded from the later calculation because the U.S. Census Bureau excludes them from the functional categories in its summary tables.

quality if they are offset by increased efficiency, large cuts will almost certainly erode quality. For example, the Sacramento police budget was cut more than 30 percent between 2008 and 2011, and the police stopped responding to burglaries, misdemeanors, and minor traffic accidents. In 2011, the number of shootings increased 48 percent (Goode 2012). Similarly, since the Great Recession some schools have cut summer school programs or the number of school days, and some have switched to a four-day school week. California allowed school districts to cut up to seven school days, while Arizona allowed reductions of up to five days (Dillon 2011). In addition, demand for public services grows during a recession, exacerbating the challenge of maintaining service quality. For example, the U.S. poverty rate grew 18 percent from 2007 to 2011, driving up the need for a wide range of social services.[12] Finally, measures to boost efficiency, such as investments in new technology, may reduce costs in the long run but often require large up-front investments 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 significant variations across cities. In fact, while most large cities have faced at least some revenue declines, the magnitude of these declines varies widely. To compare local government finances at the city level, this section uses data from the Lincoln Institute of Land Policy's Fiscally Standardized Cities (FiSC) database, a publicly available data set for 112 of the most populous U.S. cities.[13] The FiSC methodology accounts for differences in local government structure across cities by adding together city government revenues plus an appropriate share of revenues from overlying county governments, independent school districts, and special districts. Thus, data on fiscally standardized cities (FiSCs) provide a full picture of revenues raised from city residents and businesses, and the 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 affected by the combined tax burden and total package of services from all overlying governments, not 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.

Figure 6.6 presents real per capita general revenue changes for the 112 FiSCs from their peak to FY11. The most common changes were revenue declines

12. The poverty rate (for individuals) is from the one-year American Community Survey, American FactFinder, *http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml*.

13. The data set is available at *www.lincolninst.edu/subcenters/fiscally-standardized-cities/*.

Figure 6.6

Changes in Real Per Capita General Revenues for 112 Fiscally Standardized Cities from Their Peak to FY11
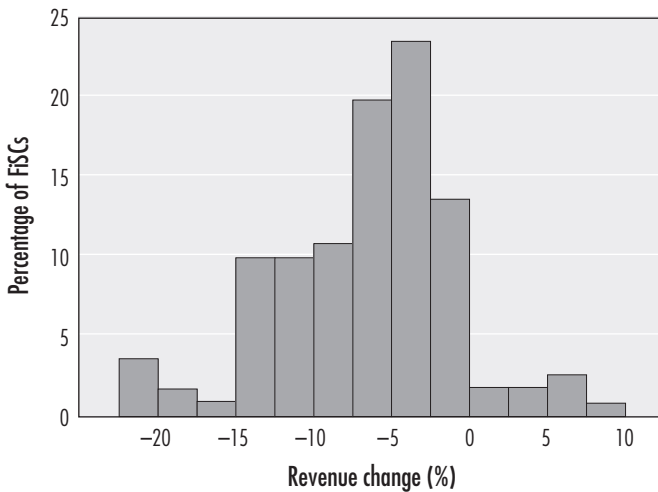
Note: For eight FiSCs whose peak revenues occurred in FY11, revenue change is reported for FY07–FY11.
Source: Fiscally Standardized Cities database, Lincoln Institute of Land Policy, *www.lincolninst.edu/subcenters/fiscally-standardized-cities/*.

between 2.5 and 7.5 percent, with 43 percent of FiSCs facing decreases in this range. However, more than a quarter of the FiSCs had revenue declines exceeding 10 percent, while only eight avoided revenue declines entirely through FY11.

One important policy question is whether the size of revenue declines was affected by the cities' fiscal structure, or whether it 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 the FY08–FY11 revenue changes for each FiSC as a function of economic changes in its region. Given regional economic changes, FY11 revenues for each FiSC are predicted 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 the FiSCs' actual revenue changes between FY08 and FY11 was due to economic factors versus differences in revenue structure.

Univariate regressions are used to estimate the effect of economic changes on the four largest revenue categories for FiSCs: property taxes, non-property taxes, user 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

for the lagged relationship between changes in housing prices and changes in property taxes. All of the variables are measured in real per capita dollars, with the house price index simply adjusted for inflation. The four regressions are as follows:

$$\Delta\ln(\text{Property Taxes}_i)_{2008-2011} = \alpha_0 + \alpha_1\Delta\ln(\text{House Price Index}_i)_{2006-2009} + \varepsilon_i$$

where   House Price Index is the annual average of the metropolitan area all-transaction housing price index produced by the Federal Housing Finance Agency[14]

$$\Delta\ln(\text{Non-property Taxes}_i)_{2008-2011} = \beta_0 + \beta_1\Delta\ln(\text{Personal Income}_i)_{2007-2010} + \varepsilon_i$$

$$\Delta\ln(\text{User Charges}_i)_{2008-2011} = \gamma_0 + \gamma_1\Delta\ln(\text{Personal Income}_i)_{2007-2010} + \varepsilon_i$$

where   Personal Income is for the county where each FiSC is located, using Local Area Personal Income data from the Bureau of Economic Analysis[15]

$$\Delta\ln(\text{State Aid}_i)_{2008-2011} = \delta_0 + \delta_1\Delta\ln(\text{State Government Revenues}_i)_{2008-2011} + \varepsilon_i$$

where   State Government Revenues are the general revenues 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 6.3. The average change for all FiSCs is used to predict changes in three revenue categories that account for a small share of the FiSCs' revenues and are hard to predict as a function of available data. The average change in logged values for FY08–FY11 was 0.142 for federal aid, –0.783 for interest earnings, and –0.056 for other miscellaneous general revenues.

Table 6.4 illustrates how revenue changes attributed to economic factors versus revenue structure were calculated, using the Boston FiSC as an example.

First, Boston's FY08 revenues ($6,385) were distributed to the seven revenue categories as if the city had the average revenue structure for all FiSCs. For example, if Boston's revenue structure matched the average for all FiSCs, 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).

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14. *www.fhfa.gov/DataTools/Downloads/Documents/HPI/HPI_AT_metro.csv.*

15. *www.bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1.*

Table 6.3
Predicting Revenue Changes for Fiscally Standardized Cities as a Function of Local Economic Changes

	(1) Δln(Property Taxes), 2008–2011	(2) Δln(Non-property Taxes), 2008–2011	(3) Δln(User 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*** (0.216)	0.423** (0.172)	
Δln(State Government Revenue), 2008–2011				0.870*** (0.230)
Constant	0.0308*** (0.011)	−0.0626*** (0.013)	0.0441*** (0.013)	−0.0551*** (0.013)
N	108	106	105	106
R^2	0.285	0.117	0.034	0.099
Adjusted R^2	0.279	0.109	0.025	0.090
F	48.43	14.33	6.032	14.36

Notes: Robust standard errors appear in parentheses. All variables are measured in real per capita dollars except for house prices, which are adjusted for inflation. 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.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Second, regional economic changes were 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 6.3), log property taxes are predicted to decline 0.034 points. That would be an $81 decline using the FiSC's actual revenue structure ($2,440 to $2,359), compared with a $52 decline using the average revenue structure ($1,554 to $1,502). In other words, the percentage change (technically, the log change) for each revenue category is determined by local economic changes, but identical log changes translate into different dollar changes depending on revenue levels in the base year. Therefore, 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 and revenue structure. The change in predicted revenues that would have

Table 6.4
Identifying the Causes of Revenue Changes for the Boston FiSC, FY08–FY11

	General Revenues	Federal Aid	State Aid	Property Taxes	Non-property Taxes	User Charges	Interest Earnings	Other Miscellaneous Revenues
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 with average revenue structure (III)	6,100 (B)	430	1,967	1,502	764	1,068	109	259
Predicted with 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
				Economic changes in Boston used for predictions				
			–0.198	Δln(House Price Index), 2006–2009				
			–0.058	Δln(Personal Income), 2007–2010				
			0.019	Δln(State Government Revenue), 2008–2011				
FY08–FY11 revenue change (%)								
Actual: (D – A) / A	–4.9							
Changes attributed to:								
Economic factors: (B – A) / A	–4.5							
Revenue structure: (C – B) / A, or E / A	2.2							
Other factors (unexplained): (D – C) / A	–2.6							

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*. Compared to the average FiSC, Boston relies much less on non-property taxes and interest earnings (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 greater reliance on property taxes, which are predicted to decline.

Revenue changes are attributed to economic factors and revenue structure for the other FiSCs in the same way.

To determine the importance of these two factors, I calculated the squared semi-partial correlations of the FiSCs' actual FY08–FY11 percentage change in general revenues with changes attributed to economic factors and revenue structure. Calculating the squared semi-partial correlations is analogous to estimating the R^2 value 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, and revenue structure explains 6.7 percent.[16]

It is not that surprising that economic factors played a greater role than revenue structure in explaining variations in FY08–FY11 revenue changes across the FiSCs. On one hand, the regression coefficients shown in table 6.3 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—including income, sales, and other taxes—are much more responsive to economic changes than property taxes or user charges. The estimated elasticities show that a 1 percent decline in personal income would lead to an almost equivalent drop in non-property taxes of 0.82 percent. In contrast, a 1 percent drop in personal income would lead to only a 0.42 percent decline in user charges, and a 1 percent drop in housing prices would lead 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, property taxes have 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

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16. Economic factors and revenue structure were both statistically significant at the 0.01 level. The correlations excluded two FiSCs with very large unexplained revenue changes. Anchorage, Alaska, had no actual decline in state aid despite a 29 percent drop in revenues for the state government. Durham, North Carolina, had a drop in real per capita federal aid of more than $900.

recession. However, the unprecedented decline in housing prices during the Great Recession meant that revenue structure was less important than in previous recessions. The elasticities in table 6.3 show that equivalent declines in housing prices and personal income would lead to a drop in non-property taxes that was two and a half times larger than the drop 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 three times 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 normally less responsive to changes in their tax base than other types of taxes. In contrast, in the previous four recessions, housing prices remained relatively stable. Therefore, the limited responsiveness of property taxes to housing price changes was bolstered by steady housing prices, which together made property taxes a more stable revenue source.

The impact of the Great Recession on local government finances varied greatly around the country. Real per capita general revenues declined in all but eight FiSCs; on average, revenues in FY11 were 7.2 percent lower than their previous 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 here finds that these variations were primarily due to large differences in the impact of the recession on local housing prices and incomes. These two economic factors were about six times more important than differences in revenue structure in explaining variations in revenue declines across FiSCs 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 had a smaller impact on revenue stability than in the past. However, the limited responsiveness of property taxes to changes in housing prices also meant that the range of revenue declines across cities was smaller than would have been the case if property taxes had reacted more strongly.

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. Even when revenues do recover, local governments will face a host of future challenges that could reduce their ability to provide public services.

One major challenge is funding shortfalls for public sector pensions. The sharp downturn in the stock market during the Great Recession significantly eroded the financial standing of state and local government pension plans, as the ratio of plan assets to liabilities fell from 87 percent in 2007 to 73 percent in 2012 (Munnell 2012; Munnell, Aubry, Hurwitz, and Medenica 2013). These numbers conceal major variations across cities, however. Munnell, Aubry, Hurwitz, and

Cafarelli (2013) estimated the cost of local government pensions for residents in 173 large U.S. cities. They used a methodology similar to the FiSCs to allocate a share of pension obligations for overlying county governments and independent school districts back to the central city area and also included local government contributions to state-administered pension plans. On average, annual required contributions for pensions accounted for just 2.7 percent of own-source revenues for the least expensive cities (those in the lowest quintile) versus 12.3 percent for the most expensive cities (top quintile).

Local governments will also face growing healthcare costs. Unlike pensions, which are prefunded, 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. The Pew Charitable Trusts (2013b) examined 61 of the largest U.S. cities and found that in FY09 unfunded liabilities for retiree health benefits exceeded those for pensions—$118 billion compared with $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.

In addition, many local governments will have to deal with decreases in state and federal aid as those governments address their own fiscal problems. Already, domestic discretionary spending by the federal government—about one-third of which is aid to state and local governments—has been cut significantly in a series of budget deals. In 2014, spending was budgeted 15 percent below 2010 levels, after adjusting for inflation (Bernstein 2013). Despite the recent budget deals, there are still large gaps between long-run projections for revenues and long-run projections for expenditures. Many proposals to close these gaps 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; changing the deduction for state and local taxes could lead to reductions in state income tax rates; and eliminating the tax exemption for municipal bonds would increase borrowing costs for state and local government infrastructure projects (Rueben 2012).

For state governments, Medicaid and other healthcare costs will continue to account for a growing share of state spending (U.S. Government Accountability Office 2013), which could crowd out other types of spending. States will also have to deal with an outdated sales tax base, which has shrunk significantly relative to the economy as the United States has moved from a manufacturing to a service-based economy (Johnson and Leachman 2013). Unless states tax a larger share of service activities, sales tax revenues are unlikely to match future growth in the broader economy.

High-profile municipal bankruptcies, including that of Detroit in July 2013, have created some concerns that local governments facing the most severe fiscal challenges will increasingly resort to bankruptcy. However, the odds that there will actually be a surge in municipal bankruptcies remain extremely low. Bankruptcy

is not even an option for many localities: only 26 states allow local governments to file for Chapter 9 bankruptcy, and 14 of them require localities to get approval from the state before doing so (Congressional Budget Office 2010).

Even if bankruptcy is allowed, the downsides of bankruptcy significantly outweigh the benefits for almost all localities. Compared with corporate bankruptcies, Chapter 9 has higher requirements to qualify and a less certain restructuring process. 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 the creditors in each class. As a result, the financial benefits of restructuring may be modest and are tough to predict in advance (Congressional Budget Office 2010).

Between 2008 and 2013, only 13 general-purpose governments filed for bankruptcy, just 0.06 percent of these governments in the United States. In contrast, over the same period there were 389,278 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." Of course, bankruptcy is an extreme outcome, and its low frequency is not a good measure of fiscal pressures facing local governments. The long-term challenges discussed in this chapter will deeply impact many local governments even if the number filing for bankruptcy remains low.

Conclusions

The Great Recession has had a large and long-lasting impact on local government finances. These effects have been far greater than from any other recession in the past four decades except the double-dip recession of 1980–1982. Although that recession had similarly large impacts on local finances, the declines following the most recent recession have persisted for much longer. In fact, six and a half years after its onset, local government employment was still 2.6 percent lower than it was at the start of the recession.

Local governments were largely able to muddle through the Great Recession itself, which officially ran from December 2007 to June 2009. Revenues and employment did not start declining until FY10. The delayed impact was due to lagged declines in property taxes and state and federal aid, which together account for almost two-thirds of local government revenues. On average, it takes about three years for property tax revenues to respond to changes in housing prices, largely because property tax bills are based on assessments from previous years. As a result, property taxes actually peaked in FY09 and FY10, but then fell 8.5 percent to their low point in 2012. State government revenues were propped up during the recession by about $150 billion in federal stimulus money, but most of those funds were gone by FY12, and state spending declined more in that year than at any other time since at least 1987. Although comprehensive data do

not yet exist, a variety of data sources suggest that FY12 was the low point in real per capita local government general revenues. Tying these data sources together suggests that FY12 revenues were about 5–6 percent lower than prerecession levels.

The most recent comprehensive data are for FY11, when local government revenues were 3.3 percent below FY07 levels. Up to that point, decreases in miscellaneous revenues accounted for a full three-quarters of the total decline, with those decreases driven by a 53 percent drop in interest earnings. The decline in interest earnings was partially due to local governments drawing down their reserves, but was also greatly affected by extremely low interest rates, which made it practically impossible to generate earnings from the very safe investments that localities hold. The impact of declining interest earnings was limited in cities that use compounding interest to build up their reserves, but local governments that use these earnings to fund current operations took a bigger hit.

Local government expenditures fell much more steeply than revenues after their FY09 peak, with real per capita general expenditures decreasing 6.3 percent from FY09 to FY11. Local governments drew from reserves to maintain spending in FY09, but they had to make deeper cuts starting in FY10. K–12 education bore slightly more than half of the burden of these cuts.

The impact of the Great Recession on local government finances varied widely around the country. The analysis in this chapter used data on 112 FiSCs, entities that combine city government revenues with an appropriate share of revenues from overlying county governments, independent school districts, and special districts. By FY11, more than a quarter of the FiSCs had revenue declines of 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. The analysis found that these economic factors were about six times more important than differences in revenue structure in explaining variations in revenue declines across FiSCs during the Great Recession.

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

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