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LOCAL GOVERNMENT REVENUE STRUCTURE: TRENDS AND CHALLENGES

John R. Bartle, Kenneth A. Kriz, and Boris Morozov*

ABSTRACT. This paper examines trends in local government revenues and current challenges that local governments face in raising revenue. We also look into the future in an effort to make recommendations to local governments regarding their revenue structure. Important trends that we document include a long-term decline in the property tax and an increase in both state aid and user charges. Recent economic changes present serious challenges for local governments due to volatility of sales taxes, decreases in property values, and threats to state aid. As local governments shape their revenue structure, they will need to respond to external economic, technological and demographic changes. Only user charges offer hopeful prospects as a productive revenue source.

INTRODUCTION

This paper examines trends in local government revenues over 100 years in an effort to chart out the likely future. The dramatic events in the economy during the 2008-09 recession put local governments under pressure. This is a serious challenge which

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creates the possibility, and perhaps an imperative that there will be some changes in the structure of local government revenues. This is an important opportunity which policy-makers should capitalize upon.

After a review of the relevant literature, we examine the trends from 1902 to the present, with a more in-depth focus on the more recent years. We then analyze some important challenges facing all local governments in terms of revenue adequacy and highlight issues that may impact specific governments. We conclude with recommendations for policy changes.

LITERATURE REVIEW

Local government revenues are affected by economic, technological and demographic changes. Because of their openness to the external environment, the productivity of revenue systems and their administrative and political acceptability is subject to change. Principles of taxation are therefore important as a guide to decision-making. This section first reviews the criteria for a local tax system and then reviews the state of the existing research on patterns in local revenue policy.

Many normative views of taxation have been advanced. The most commonly mentioned principles for good local taxation are equity, efficiency, revenue adequacy, revenue stability, tax administration and compliance costs, and consistency with economic development plans (see, for example, Bland 2005). Different taxes vary in how well they meet these criteria, so the general consensus is that a portfolio of revenue sources is most appropriate. In applying these principles to local governments, Oates argues that, "lower levels of government... should, as much as possible, rely on benefit taxation of mobile economic units, including households and mobile factors of production. ... To the extent that local governments make use of non-benefit taxes, they should employ them on tax bases that are relatively immobile across local jurisdictions" (1993, p. 36). The first principle justifies the use of user charges and earmarked taxes that are associated with specific expenditure items. The second principle justifies the heavy local use of the property tax, and relatively limited use of income and sales taxes.

The application of these principles to user charges calls for further elaboration. The capacity of local governments to impose user

charges is a function of feasibility. A user fee is theoretically feasible under three conditions: (1) the benefits of a service accrue to particular individuals, (2) it is possible to exclude non-payers from the benefits of the service, (3) the administrative costs are reasonable. User fees do present equity concerns. For example, Bengston and Fan (2001) report significant opposition in some communities based on equity concerns. Also, user charges are not deductible from federal income taxes, as real property and income taxes are.

While these principles provide a theoretical underpinning for local tax policy, local revenue structure reflects the amalgamation of “decisions made regarding the raising of revenues to fund the operations of government” (Allan, 1992). Community values affect revenue structure to some degree, but in reality they are heavily constrained by state law, historical patterns, competitive pressures and administrative realities. As Johnston, Pagano, and Russo write, “States determine which revenue instruments are available to local governments, and they frequently impose tax and spending limits, which entail still more revenue constraints” (2000, p. 170). Local governments are creatures of the state, and so the structure of state tax and expenditure policy largely determines the fiscal powers of local governments. So for example, the level of state funding for primary and secondary education in large part determines the level of local school taxes. Additionally, local revenue policy is subject to political and economic realities and historical patterns of taxation. As compelling as any set of principles may be, they must be economically realistic, politically acceptable, and part of a natural evolution of historical trends.

Research on trends in local government tax structure is extensive. Shannon and Tippett (1975) identified that the main source of growth in local revenues in the 1960’s and 1970’s was the increase in taxes other than the property tax. This observation was later supported by Bartle (2003) who found that from 1970 to 1999 only five states (Alaska, Hawaii, Mississippi, New Jersey, and Virginia) increased their reliance on the property tax. Bowman (1981) examined revenue patterns and local reliance on intergovernmental aid from 1965 to 1977. He found that local governments were increasingly dependent on transfers from state and federal governments. This finding was supported by Lovell (1981) and represented a concern among some at the time that local governments were too financially dependent on

superior governments, hampering their ability to respond to local priorities.

Subsequently, positive models of taxation and local tax base choice were developed. Hettich and Winder developed a model in which “the composition of revenues and the structure of specific taxes arise ‘naturally’ as the result of self-interested political behavior. It is assumed that political agents choose tax structure so as to minimize the political costs (or expected net loss in votes) associated with raising a budget of given size” (1984, p. 67). They found that tax competition exists among local governments as defined by “the fiscal systems of neighboring states and that competition proceeds on a tax-by-tax basis” (Hettich & Winder, 1984, p. 82). The implication of this finding is that the structure of local government revenue is not a purely local decision. Sub-national governments’ revenue structures exhibit some similarities and comparable trends in the evolution of their revenues.

The literature on tax structures only recently began to consider the possibility that the tax decision of one local government may be influenced by decisions made in other jurisdictions. This possibility has been the subject of both theoretical and empirical work. Among authors addressing this aspect of local revenue structure are Blackley and DeBoer (1987), Joyce and Mullins (1991), and Brown and Potoski (2003). The general theme of these findings is that if there is any effect of such influences, “that effect is on the level of local taxes” (Joyce & Mullins, 1991, p. 251).

The existing literature also appears to exhibit a consensus that “spillover effects, tax competition, and copycat behavior” are relevant factors in determining local revenue choice (Sjoquist et al, 2007). All of these factors tend to lead to similar policies across jurisdictions and tax competition for a mobile tax base. More generally, the literature suggests that local revenue policy is a mixture of principles, practical considerations, political decisions, historical context, and interactions among local governments possibly involving strategic or self-interested behavior by local actors. The broader environmental trends of social, economic and demographic change also set the context within which these decisions are made. The next section looks at these trends over time and among states to further define the current context for local revenue policy.

TRENDS

Long-Term Trends

There have been major changes in local government revenue sources over the long term. It is often difficult to discern this, as there are over 80,000 local governments in the US. Most changes are incremental, and so are not highly visible. But several small increments over time can create a large change. This section documents the changes in local revenue trends since 1902. Table 1 and Figure 1 show the aggregate changes in local general revenue sources.

TABLE 1
Local Revenue as a Percent of Total General Revenue, 1902-2007

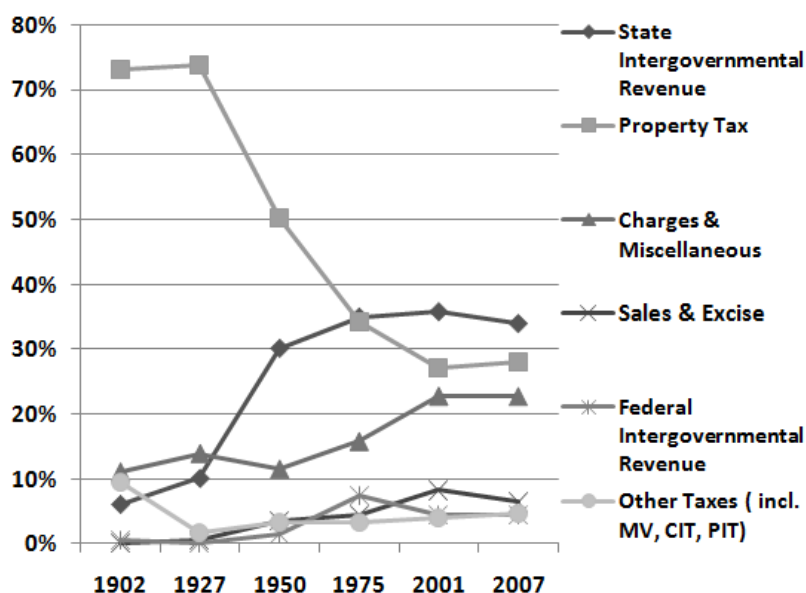
Revenue Type	Year					
	1902	1927	1950	1975	2000	2007
Intergovernmental	6.6%	10.2%	31.6%	42.4%	39.4%	37.9%
Federal	0.5%	0.2%	1.5%	7.5%	3.7%	4.3%
State	6.1%	10.1%	30.1%	34.9%	35.7%	33.6%
Taxes	82.4%	75.9%	57.0%	41.9%	37.4%	38.6%
Property Tax	73.1%	73.9%	50.2%	34.2%	26.8%	27.6%
Sales & Excise		0.4%	3.5%	4.4%	6.4%	6.4%
General Sales				3.0%	4.6%	4.5%
Motor Fuels				0.0%	0.1%	0.1%
Alcohol & Tobacco				0.1%	0.1%	0.1%
Pub. Utilities				0.9%	1.0%	1.0%
Other Excises				0.4%	0.7%	0.8%
Indiv. Income*			0.5%	1.8%	1.9%	1.8%
Corp. Income				0.0%	0.4%	0.6%
Motor Vehicle				0.2%	0.1%	0.1%
Other Taxes**	9.4%	1.6%	2.8%	1.3%	1.7%	2.1%
Charges & Misc.	11.0%	13.9%	11.4%	15.7%	23.2%	23.5%
Charges				10.4%	15.4%	15.7%
Education				2.3%	1.8%	1.8%
Hospitals				2.9%	4.1%	4.3%
Transport				1.0%	1.8%	1.8%
Environment & Housing				2.6%	4.4%	4.7%
Other Charges				1.6%	3.4%	3.4%
Interest				2.8%	4.0%	3.4%
Misc. Revenue				2.6%	3.8%	4.4%

Notes: * Includes small amounts of corporate income taxes 1950-1975.

** Includes licenses 1902-1950.

Source: US Department of Commerce, Census Bureau (various years).

FIGURE 1
Local Revenue as a Percent of Total General Revenue, 1902-2007



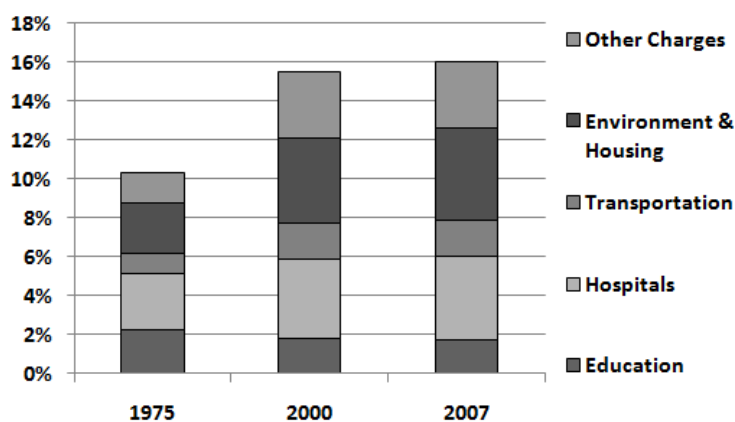
Source: US Department of Commerce, Census Bureau. *Census of Governments*

While taxes have receded as the major source of local revenue, the largest increases have been in state aid (from 6.1 percent to 33.6 percent, now the largest single source of local revenue) and user charges and miscellaneous revenues (from 11 percent to 23.5 percent). Charges alone have grown from 10.4 percent in 1975 to 15.7 percent in 2007. Sales and excise taxes grew from zero in 1902 to 6.4 percent in 2007, with the general sales tax the largest piece of that category. Federal aid rose dramatically from 1.5 percent in 1950 to 7.5 percent in 1975, but since then has fallen to 4.3 percent. Over the same period, local individual income taxes rose from 0.5 percent to 1.8 percent however that portion has not grown since then. The “big three” local revenue sources are now state aid at 33.6 percent, property tax at 27.6 percent and charges at 15.7 percent, for a combined total of almost 77 percent. The fourth largest source is under 5 percent.

Recent Trends

Several recent trends suggested by Figure 1 will be important in the near future. First, it is possible that state aid may have crested. As the largest portion of local revenues and a large portion of state spending, it is natural that this source may recede and particularly so as there has been growing pressure on state budgets. A second trend that bears continued monitoring is whether the property tax will continue its recent increase. Its unpopularity makes it unlikely that there will be a major increase; if so it would be a major reversal in the long-term trend. Third, the reliance on charges continues to increase and there is every reason to expect this will continue. Continued resistance to taxes combined with a demand for good local services makes non-tax revenue a logical solution to the budget puzzle. Also, the improvement in electronic technology has made it easier to administer charges. Figure 2 shows the change in user charges from 1975 to 2007. The overall growth is apparent, and certain categories (hospitals, environment and housing, and “other charges”) have grown substantially.

FIGURE 2
Local User Charges as a Percent of Total General Revenue, 1975-2007



Source: US Department of Commerce, Census Bureau (various years).
Census of Governments

Figure 1 suggests that there were large changes in the revenue structure of local governments during the first several decades of the twentieth century. However, there appeared to be a leveling off during the latter half of the century. This is documented anecdotally in several sources. More recently, there were major changes in the structure of local government revenues during the 1970s and 1980s. The property tax revolt of the late 1970's caused governments to diversify to other revenue sources out of necessity (for different perspectives on this, see McCabe (2000), Temple and Rodgers (1995) and Joyce and Mullins (1991). Since then, the average reliance on various revenue sources has remained relatively stable (Fisher 2003).

The aggregate picture may mask greater changes in individual states. In order to assess recent trends in the average revenue structure of local governments, we analyzed data from the Census of Governments, conducted every five years by the US Census Bureau. This data facilitates an analysis of the average revenue structure by state for 1992 and 2007. For several states, the revenue structure changed substantially during the period. Table 2 presents the results of this analysis. There are some substantial changes in revenue structure at the individual state level. In the area of user charges, most local governments had relatively small changes in their reliance. However, in Idaho local governments increased their reliance on user charges by 11 percent from 1992 to 2007, in what appears to be a direct response to an almost 17 percent decrease in reliance on state intergovernmental aid.

State intergovernmental aid is a revenue source that has shown tremendous variability in changes. While the average change in reliance was -8.65 percent, 15 states had reductions in reliance of 15 percent or more. The fall in the average reliance would have been much greater had it not been for two states (New Hampshire and Vermont) with increases in reliance of more than 10 percent. Vermont had a particularly large increase in reliance of over 26 percent; at the same time their reliance on the property tax fell dramatically (over 30 percent). These large changes were attributable to a major change in the financing of school districts. In 1992, Vermont school districts received about 35 percent of their revenues from the state, with the additional 65 percent of financing primarily coming from property taxes and other tax sources. By 2007, the state provided 94 percent

of revenue for Vermont school districts. At the level of all local governments, the variation in revenue structure changes was largest for user charges, state intergovernmental aid, and property taxes. As noted earlier, these are the largest three sources, so this variation has an important effect on local governments.

At the city level, variability was also fairly large for user charges, state intergovernmental aid, and property taxes though in absolute terms there was less variation than for local governments as a whole. However, other categories of revenue also experienced large variation in the level of change. Cities in several states, especially in the Southeast, Southwest, and Great Plains (Alabama, Arkansas, Arizona, Kansas, New Mexico, and North Dakota) increased their reliance on property taxes by more than 5 percent. This is a reversal of the trend from 1970-1999 where the Southwest, Rocky Mountain and Great Plains states had the largest decreases in their reliance on the property tax (Bartle 2003). In the case of Alabama cities, their reliance on license and occupation fees as a source of revenue also increased dramatically, offsetting a strong reduction in the role of user charges as a revenue source. Other states where cities dramatically increased their reliance on license and occupation fees were Oregon, South Carolina, and West Virginia.

TABLE 2
Summary Measures of Changes in Revenue Structure for the Fifty States and District of Columbia, 1992-2007

<i>All Local Governments</i>				
Revenue Source/Measure	Mean	Std. Dev.	Min	Max
Charges	3.1%	2.8%	-2.0%	11.3%
Federal IGR	0.8%	1.5%	-6.9%	3.5%
State IGR	-8.7%	9.2%	-21.8%	26.2%
Property Tax	2.0%	6.9%	-30.4%	11.8%
General Sales Tax	1.4%	2.1%	-1.9%	7.0%
Excise Taxes	0.5%	0.6%	-0.4%	2.8%
License & Occupation Fees	1.2%	1.0%	0.2%	4.4%
Individual Income Taxes	0.2%	0.8%	-0.6%	3.9%
Corporate Income Taxes	0.1%	0.5%	0.0%	2.4%
Other Taxes	-0.3%	1.1%	-3.0%	3.7%
Miscellaneous Revenues	-0.4%	2.4%	-8.8%	5.3%

TABLE 2 (Continued)

<i>All Local Governments</i>				
Revenue Source/Measure	Mean	Std. Dev.	Min	Max
<i>Cities</i>				
Revenue Source/Measure	Mean	Std. Dev.	Min	Max
Charges	0.5%	4.5%	-13.8%	11.0%
Federal IGR	0.4%	2.4%	-4.1%	7.0%
State IGR	-0.4%	5.0%	-11.1%	16.1%
Property Tax	-1.2%	5.0%	-22.7%	9.5%
General Sales Tax	1.3%	3.1%	-5.0%	12.2%
Excise Taxes	0.5%	1.5%	-2.4%	6.1%
License & Occupation Fees	3.4%	3.9%	0.2%	20.1%
Individual Income Taxes	-0.3%	1.3%	-7.1%	1.6%
Corporate Income Taxes	0.2%	0.8%	0.0%	4.1%
Other Taxes	-2.2%	3.7%	-18.7%	3.9%
Miscellaneous Revenues	-2.2%	5.0%	-22.2%	4.1%

Source: US Department of Commerce, Census Bureau (2008). *Census of Governments, 1992-2007*.

Local revenues have demonstrated important changes among states and regions. These changes reflect changes in the external environment, in state-local fiscal systems, and local decisions. These factors will continue to change, and the recent recession has increased the pace of this change and with it the difficult choices facing local governments.

CHALLENGES

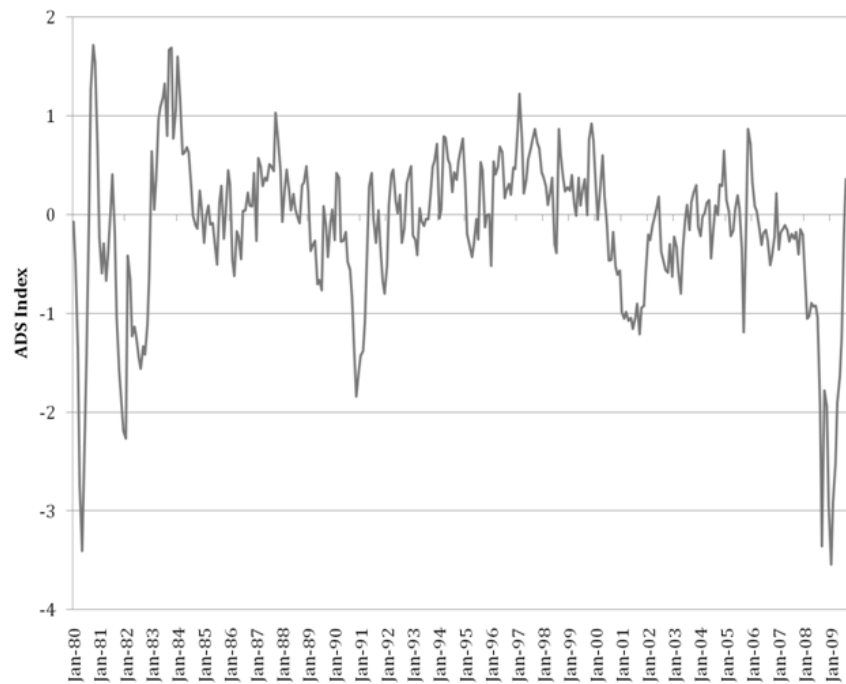
Going forward, it is difficult to say exactly how governments will choose to obtain their revenue. However, as the choices are approached by individual governments, we can identify the challenges that they will face in determining the best revenue structure for the individual jurisdiction. Some challenges are ubiquitous and eternal, such as citizen preferences for revenue sources that are less visible and appear to impact others more than themselves (such as the preference for sumptuary taxes not only to correct consumption externalities but as permanent revenue sources). These challenges have been documented in many places. There are, however, some challenges that have only recently been

realized or documented. These are revenue base sensitivity (traditional ones as well as new ones exposed by the recent economic downturn) and continued fragmentation of the revenue base through suburbanization.

Revenue Base Sensitivity and the Recession of 2007-09

In the final quarter of 2007, the US entered into a prolonged economic recession. Though in some ways it was similar to earlier recessions, this recession was somewhat deeper and certainly longer than prior recessions. Figure 3 shows a newly developed measure of economic activity, the Arouba-Diebold-Scotti Business Conditions

FIGURE 3
Arouba-Diebold-Scotti Index, Monthly Average,
January 1980-December 2009



Source: Federal Reserve Bank of Philadelphia (2010)

Index (ADS Index) for the period 1985-2009. In this index, a value less than 0 indicates that the economy is growing below its long-term trend, if the index remains below 0 for an extended period of time the economy is likely in recession (Arouba, Diebold, & Scotti, 2009). The most recent recession is deeper than even the severe recession of 1979-80 and lasted much longer than any recent recession. The index indicates that the most recent recession likely began in January 2007 and ended in July 2009, lasting 31 months. By contrast, the 1979-80 recession is estimated to have lasted 14 months, the 1981-82 "double-dip" recession lasted 17 months, the 1990-91 recession most likely was the shortest at 13 months, and the 2000-02 economic downturn lasted 23 months (the ADS index indication of recession deviates somewhat from the "official" indication of recession published by the National Bureau of Economic Research).¹

The long and deep recession exposed sensitivities in local revenue bases. As documented earlier, some local governments units over time have shifted toward revenue sources traditionally thought of as more income elastic, such as general sales and excise taxes. This sensitivity is shown in Figure 4, which documents quarterly general sales and gross receipts tax revenues for local governments. The more jagged line with markers is the "raw" data indicating the total sales tax receipts reported to the US Census Bureau. The line without markers is the 4-quarter moving average of the data, which smoothes the data. The figure shows a similar pattern as both the 1990-91 recession and the 2007-09 recession. As many authors have noted, shifting reliance to revenue sources that are more income elastic implies greater sensitivity to economic conditions.

A recent study of state tax elasticities by the Kansas City Federal Reserve found that the short-run elasticity (volatility) of corporate and personal income taxes was the highest (2.61 and 2.58, respectively), followed by the selective (1.26) and general (1.24) sales taxes. The long-run elasticities (growth potential) for these taxes found personal income taxes to be 2.03, with general sales taxes at 0.92, corporate income taxes at 0.53 and selective sales taxes at 0.23 (Felix, 2008). The fact that there has not been a large shift towards these volatile taxes by most local governments is fortuitous in the face of this recession. However state governments and some local governments (especially some large cities) are more reliant on these taxes. While

FIGURE 4
Quarterly Sales and Gross Receipts Tax Revenues, All US
Governments, 1988Q1 - 2009Q3



Source: US Department of Commerce, Census Bureau, *Census of Governments*

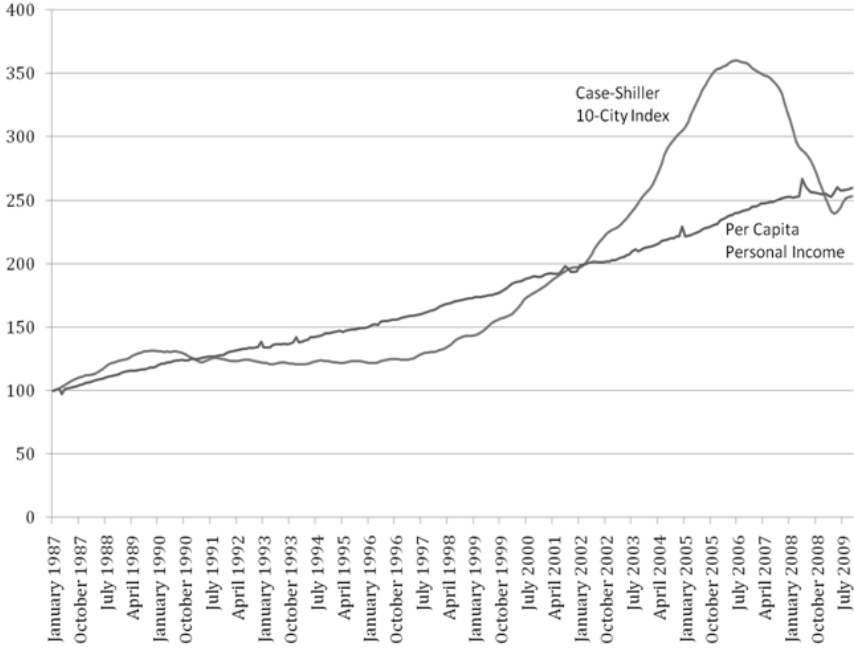
they benefitted from the better long-term growth of the personal income tax and general sales tax, they are now suffering from the volatility of these taxes. This volatility can be reduced by broadening the sales tax base and focusing income taxes on the more stable components of income, such as wages, rather than the more volatile components, such as capital income.

While the elasticity of the sales tax base was known to be high prior to the most recent recession, several jurisdictions were surprised by the vulnerability of the property tax base to the economic downturn. Part of this vulnerability was generated through the “housing bubble” that occurred in the early 2000s in several jurisdictions and the corresponding “housing bust” starting in 2007. This bubble and bust is shown in Figure 5. This chart shows the Case-Shiller 10-city index, a measure of national housing values, along with

estimates of per capita personal income for the period January, 1987 to October, 2009.

Historically, housing price growth has tracked income growth fairly closely (Case & Shiller, 2003). The figure shows that during the early 1990s, housing prices languished, experiencing little growth, but the relationship between prices and income remained. However, in 1997 housing prices began to grow at rates much higher than income growth. By 2002-2003, housing price growth accelerated and home values began to diverge significantly from income. By late 2006 the housing frenzy reached a top and values began to fall, accelerating dramatically in 2007. By April 2009, the fall in prices appeared to subside as values began to come into line with income.

FIGURE 5
Home Prices and Income, January 1987 - October 2009



Source: Calculated from Macromarkets, Inc. (2010) and US Department of Commerce, Bureau of Economic Analysis (2010).

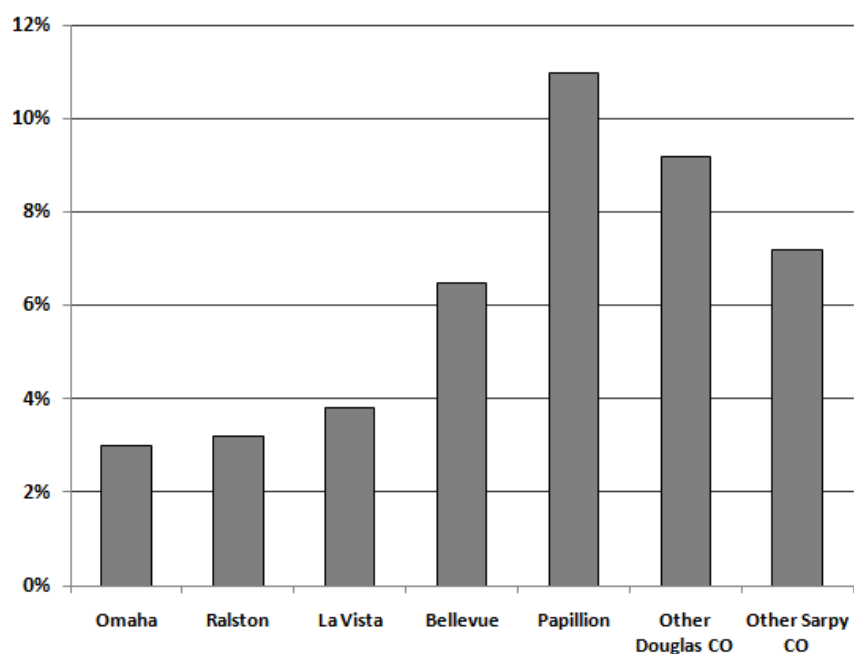
This fall in housing values has been more marked in some areas than in others. The coastal regions have in general experienced greater declines in housing values compared to inland regions. Areas that experienced explosive growth during the 1997 – 2006 imploded faster than other areas. California, Florida, Arizona, and Nevada have been “ground zero” in the housing crisis. In these areas, governments have seen falling property taxes along with sales and other traditionally more economically sensitive revenues. Taking only a few examples, the City of San Diego has seen a 45 percent drop in its median home price from November 2005 to January 2009. Property tax revenues were revised downward by 3.5 percent from the adoption of the fiscal year 2009 budget to the end of the fiscal year and are projected to fall by 2.9 percent during fiscal year 2010 (City of San Diego, 2009). Assessed valuation in Las Vegas, Nevada is projected to fall by almost 26 percent from fiscal year 2010 to fiscal year 2011 (Clark County Assessor, 2009). Property tax revenues there are already falling and are projected to decrease 5.15 percent from fiscal year 2008 to fiscal year 2009 (City of Las Vegas, 2009). Property values in Tampa, Florida declined by 12.6 percent from FY2009 to FY2010. This along with a lower collection rate due to delinquencies in payment led to a fall in property tax revenues of \$21.5 million (13.51 percent of the FY2009 level—City of Tampa, 2009). While other jurisdictions saw smaller decreases in assessed values and property taxes, almost every area has seen stagnation in property tax revenues at a bare minimum. In states where there are binding limits on property tax rates, these decreases in values will cause a decrease in revenue absent legislative action.

Business Mobility and Fragmentation of the Tax Base

The events of the 2007-2009 Great Recession exposed some new weaknesses for local governments in terms of their ability to sustain revenue growth. However, recent developments have amplified existing challenges to the ability of some local governments to generate revenue. One of the most trenchant problems for central cities has been their inability to expand the mobility of the tax base to outlying metropolitan areas. This inability is especially problematic for governments that are strongly dependent on retail sales taxes. An example is shown in Figure 6 for the City of Omaha, Nebraska and its surrounding suburban areas. As of 2007, Omaha was dependent on the sales tax for approximately 48 percent of its General Fund

revenues and 29 percent of overall Governmental Funds revenue. At one time, it used broad annexation powers to acquire tax base in newly developing areas. However, its ability to grow has been constrained due to popular concern over high profile annexations and state laws passed to reign in the city. At the same time, the retail sales tax base has seen its largest growth outside the central city, in areas with lower combined tax rates. Figure 6 shows that retail sales grew most strongly between 1997 and 2006 in unincorporated areas of Douglas and Sarpy counties, which have low local option sales tax rates and in suburban Papillion and Bellevue, two cities with the ability to grow and with strongly expanding populations. Omaha, along with “inner ring” suburbs of Ralston and La Vista, have had slow growth in their sales tax base.

FIGURE 6
Average Annual Growth Rate in Taxable Sales,
Omaha and Surrounding Areas, 1997-2006



Source: Calculated from State of Nebraska, Department of Revenue (2009)

The Great Recession has made it seem that there is almost no “safe port in the storm” for local governments. The mobility of retail sales present challenges to central cities. More generally, the volatility of income and sales taxes is relatively high, making it difficult to use these sources to fund local services. State aid tends to be drawn from state income and sales taxes which have the same problems. Revenue from the federal government is a potential source. However, most federal aid funds are not disbursed directly to local governments and when they are they often come with “strings” attached in the form of mandated service levels. Even the property tax which is thought to be one of the most stable revenue sources is showing alarming weakness in some locations. User fees are perhaps the only relatively reliable source, but their political acceptability is threatened when constituents are hard-pressed.

CONCLUSION

Historically, major changes in government revenues have been pragmatic responses to major external events such as war, recessions, and the invention of the automobile (Bartle, 2001). The future is likely to be the same. The recent revolution in technology and communications suggests that these sorts of external events will be the main force behind future changes. For instance, the mobility of retail sales and the growth of e-commerce suggest a need for state and local governments to revamp sales taxes. Toll roads are now less administratively costly due to electronic technology, making growth in user fees of this nature easier. Changes in fuel sources used for vehicles suggest that before long, taxes on diesel fuel and gasoline will be replaced by other levies.

Local revenues will also be heavily influenced by state government policies. States will be challenged to maintain their levels of support. If they are unable to do so, they will have to either give local governments more tax authority, or reduce expenditure mandates. The ability of the property tax to continue its recent growth depends on the stability of property values; in some places this has been undermined. Given the resistance to increased taxes, the limited ability of states to help, and the limited potential for any large new revenue source, perhaps the most natural change might be for local governments to retreat in their provision of some services and look to community groups, businesses and nonprofits to fill the gap.

NOTES

1. For dates of economic contractions and expansions from the NBER, see <http://www.nber.org/cycles/main.html>.

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