

**Population Growth, Inflation, and  
Municipal Revenues and Expenditures in  
South Carolina, 1990-1994**

by

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## **Population Growth, Inflation, and Municipal Revenues and Expenditures in South Carolina, 1990-1994**

What's driving municipal revenues and expenditures? Critics of local government point to growth in property taxes, business licenses or fees, or to increases in spending in various categories as evidence of government growth or government waste. Defenders point to the pressures of growing population, rising costs, infrastructure needs, and service demands as the explanation for rising spending and revenues. This report clarifies some of the issues involved in measuring and interpreting the growth of municipal expenditures and revenues. Specifically, this report also adjusts those figures for the combined effect of population growth and increasing costs due to inflation, the two primary "drivers" of local government revenue and expenditure growth.

### **The Starting Point**

To provide a baseline comparison, Table 1 presents growth rates for municipal revenues and expenditures between 1990-91 and 1993-94 without adjusting for either population growth or inflation. The unadjusted growth in various revenue and expenditure categories is an adequate measure of relative change, *e.g.*, whether property taxes rose faster or more slowly than service revenues or all own source revenues. Fiscal year 1990-91 was chosen as a starting year for this analysis to minimize any distortions in revenues (especially grants) and expenditures related to disaster relief after Hurricane Hugo.

The three fastest-growing revenue sources over the three year period were federal aid, service revenues, and licenses and permits, although federal aid is a fairly small share of total revenues. On the spending side, outlays for administration and public safety grew faster than expenditures as a whole. However, these measures do not accurately reflect changes in the "cost of government" compared to the cost of goods and services in general. Both a population correction and an inflation correction are needed.

The reader may note in Table 1 that spending was greater than revenues in 1990-91, while the opposite was true in 1993-94. Revenues and expenditures are rarely in balance for any given reporting year, even when municipalities balance their budgets. Reported revenues and expenditures reflect actual dollars received and spent during the reporting year, not budgeted amounts. Revenues are often received in a given year from a grant or borrowing or other sources and carried over into the next fiscal year or two as spending takes place. Property tax revenue comes in primarily during the period December to March, but is spent throughout the year. Transfers from utility funds to the general fund or expenditures on municipal utilities can also complicate the revenue picture.

**Table 1**  
**Municipal Revenue and Expenditure Growth**  
**1990-91 to 1993-94**  
**(thousands)**

	1990-91	1993-94	Percent Change
Total Revenue*	\$518,765	\$637,433	+22.9%
Own Source	419,707	517,314	+23.3%
Property Tax	192,727	236,000	+22.5%
Licenses & Permits	105,467	136,726	+29.6%
Service Charges	68,085	88,674	+30.2%
Other Own Source**	53,428	55,913	+4.7%
Intergovernmental	\$99,059	\$120,119	+21.3%
Federal	34,043	47,177	+38.6%
State	50,810	56,384	+11.0%
Interlocal	14,206	16,558	+16.6%
Total Expenditures*	\$547,444	\$600,066	+9.6%
Administration	97,259	118,339	+21.7%
Public Safety	206,916	244,177	+18.0%
Environment & Housing	78,343	85,637	+9.3%
Recreation & Culture	59,517	55,813	-6.2%
Other Spending	105,409	96,100	-8.8%

*Source: Annual Municipal Financial Reports, S.C. State Budget & Control Board.*

*\*Utilities excluded. \*\*Includes local option sales tax in 1993-94.*

*Detail may not sum to totals due to rounding.*

### Population Growth

Population growth is a major driver of municipal revenue and spending growth in South Carolina. On the spending side, more people mean more solid waste to dispose, more houses and streets requiring police patrols, more fire service calls, more water meters to read, and more citizens expecting recreation programs and using parks and public transportation. On the revenue side, more citizens also mean more houses and cars generating revenues from property taxes and building permits, and more revenue from local business licenses and service charges.

Between 1980 and 1990, South Carolina's population grew by 11.7% from 3.1 million to nearly 3.5 million people, faster than the national average. Municipal population in the state grew by 10.7% over the decade through immigration, annexation, and incorporation, a little more slowly than expansion in unincorporated areas. Between 1990 and 1993, there was an additional (estimated) jump in the state population of 4.1%, and in the municipal population of 6.9%, so municipalities have grown a little faster than unincorporated areas in more recent years. Part of this jump was accounted for by

included two incorporations—Awendaw and James Island—which together added more than 18,000 people to the municipal rolls.

Municipal revenues and expenditures would have had to grow by about 7% over the three year period just to keep pace with population growth. In fact, municipal revenues grew by 22.9% and expenditures by 9.6% between 1990-91 and 1993-94.

The easiest way to adjust for population growth is to put all revenue and expenditure figures on a per capita basis. This adjustment is done by dividing total dollars by the population. Per capita figures are also the most accurate way to compare revenues and spending between cities. Table 2 shows what has happened to per capita revenues and spending for South Carolina cities between 1990-91 and 1993-94.

**Table 2**  
**Per Capita Municipal Revenue and Expenditure Growth**  
**1990-91 to 1993-94**

	1990-91	1993-94	Percent Change
Total Revenues*	\$400.51	\$472.44	+18.0%
Own Source	324.04	383.41	+18.3%
Property Tax	148.80	174.91	+17.5%
Licenses & Permits	81.43	101.34	+24.5%
Service Charges	52.56	65.72	+25.0%
Other Own Source**	41.25	41.44	+0.5%
Intergovernmental	\$76.48	\$89.03	+16.4%
Federal	26.28	34.97	+33.1%
State	39.23	41.79	+6.5%
Interlocal	10.97	12.27	+11.9%
Total Expenditures*	\$422.66	\$444.74	+5.2%
Administration	75.09	87.71	+16.8%
Public Safety	159.75	180.97	+13.3%
Environment & Housing	60.48	63.47	+4.9%
Recreation & Culture	45.95	41.37	-10.0%
Other Spending	81.38	71.23	-12.5%

*Source: Annual Municipal Financial Reports, S.C. State Budget & Control Board.*

*\*Utilities excluded. \*\*Includes local option sales tax in 1993-94.*

*Detail may not sum to totals due to rounding.*

When municipal finances are compared on a per capita basis rather than a total dollar basis, three-year revenue growth drops from 22.9% to 18.0%, and spending growth drops from 9.6% to only 5.2%. Clearly, population is partly responsible for growth in municipal finances, but other factors

must also be at work. The next section examines the effect of inflation—rising prices—on municipal revenues and expenditures.

### **Inflation: The Rising Cost Of Providing Municipal Services**

Like any other purchaser or producer of goods and services, municipalities face rising prices for the products and services they buy. About 55% of what municipalities buy is labor, whose cost has been rising slowly but steadily. There are a number of price indexes that can be used to adjust both revenues and expenditures for the effects of rising prices. These include the Consumer Price Index (CPI) and the Gross Domestic Product (GDP) implicit price deflator for the overall economy.

There is one index that specifically measures what is happening to the average price of the inputs state and local governments buy and the cost of the services that they sell. That index is called the implicit price deflator for the state and local government sector of the GDP. This index is computed annually (and quarterly) by the U.S. Department of Commerce as part of its statistical series on measuring national income and product. The state and local government implicit price deflator is a more accurate tool for measuring inflation in state and local governments than the CPI or the overall GDP deflator, because it measures what is happening to the prices of those items that are purchased or produced by state and local governments. The other indexes include such items as food, clothing, and recreation (CPI) or manufacturing materials and agricultural wholesale prices (GDP deflator).

Inflation adjustments are very important in making year-to-year comparisons and measuring real growth. If household incomes, on average, rise with inflation (as they normally do) and municipal revenues and expenditures rise at the same rate, there is no real growth in municipal revenue or spending. Only when these figures rise faster than the inflation rate is there a “real” increase.

Inflation adjustments are made by dividing the figure in current dollars by a price index. Assume, for example, that the price index for year 1 is 1.00, and the price index for year 2 is 1.04. Suppose, furthermore, that property tax revenues in Midville rose from \$405,000 to \$462,000 between year 1 and year 2, an increase of 14.1%. What is the inflation-adjusted increase? To determine the value of year 2 property tax revenues at year 1 prices, divide year 2's \$462,000 by 1.04, the price index. Year 2's property tax revenues in Year 1's “constant dollars” are  $462000/1.04$ , or \$444,231, and the inflation-adjusted growth is 9.7%. (Price indexes are often given in whole numbers for convenience. In the example above, the index for Year 1 would be 100 instead of 1.00. When whole numbers are used, simply divide the index by 100 before using it to inflation-adjust dollars.)

Table 3 shows the inflation-adjusted growth for municipal revenues and expenditures between 1990-91 and 1993-94. Because the implicit price deflator for the state and local government sector of the GDP used in this analysis has a base year of 1987 (1987=100), the revenue and expenditures shown in Table 3 are all in 1987 constant dollars.

Like the population adjustment, correcting for inflation greatly reduces the measured increase in both revenues and expenditures over the three year period. Inflation-adjusted revenues rose only 13.7% instead of 22.9%, while spending rose an inflation-adjusted 1.4% instead of 9.6%.

**Table 3**  
**Inflation-Adjusted Municipal Revenue and Expenditure Growth**  
**1990-91 to 1993-94**  
**(thousands)**

	1990-91	1993-94	Percent
	(1987 \$)	(1987 \$)	Change
Total Revenues*	\$444,529	\$505,498	+13.7%
Own Source	359,646	410,242	+14.1%
Property Tax	165,148	187,153	+13.3%
Licenses & Permits	90,374	108,427	+20.0%
Service Charges	58,342	70,321	+20.5%
Other Own Source**	45,782	44,340	-3.1%
Intergovernmental	\$84,883	\$95,257	+12.2%
Federal	29,171	37,412	+28.2%
State	43,539	44,714	+2.7%
Interlocal	12,173	13,131	+7.9%
Total Expenditures*	\$469,104	\$475,865	+1.4%
Administration	83,341	93,845	+12.6%
Public Safety	177,306	193,637	+9.2%
Environment & Housing	67,132	67,912	+1.2%
Recreation & Culture	51,000	44,261	-13.2%
Other Spending	90,324	76,210	-15.6%

*Source: Annual Municipal Financial Reports, S.C. State Budget & Control Board.*

*\*Utilities excluded. \*\*Includes local option sales tax in 1993-94.*

*Detail may not sum to totals due to rounding. Inflation adjustments made using the implicit price deflator for GDP for state and local government sector as published in the Economic Report of the President, Washington, D.C.: U.S. Government Printing Office, February 1995.*

### **The Combined Effect Of Population And Inflation**

Most reported figures on government finance that are used to make comparisons over time are corrected for either population or inflation, but rarely both at once. If in fact population and inflation are the two primary drivers of municipal revenues and spending, then correcting for both together should clearly show what areas of spending and revenues are growing for reasons other than population growth or inflation. Table 4 shows the inflation-adjusted changes in per capita revenues and spending for South Carolina cities between 1990-91 and 1993-94.

Note that the combined adjustment is not a simple sum of the individual effects of population growth and inflation because there is an interaction between the two. Municipal revenues and expenditures

**Table 4**  
**Inflation-Adjusted Per Capita Municipal Revenue and Expenditure Growth**  
**1990-91 to 1993-94**

	1990-91	1993-94	Percent
	(1987 \$)	(1987 \$)	Change
Total Revenues*	\$343.20	\$374.65	+9.2%
Own Source	277.67	304.05	+9.5%
Property Tax	127.50	138.71	+8.8%
Licenses & Permits	69.77	80.36	+15.2%
Service Charges	45.04	52.12	+15.7%
Other Own Source**	35.35	32.87	-7.0%
Intergovernmental	\$65.53	\$70.60	+7.7%
Federal	22.52	27.73	+23.1%
State	33.61	33.14	-1.4%
Interlocal	9.40	9.73	+3.6%
Total Expenditures*	\$362.17	\$352.69	- 2.6%
Administration	64.34	69.55	+8.1%
Public Safety	136.89	143.51	+4.8%
Environment & Housing	51.83	50.33	- 2.9%
Recreation & Culture	39.37	32.80	-16.7%
Other Spending	69.74	56.48	-19.0%

*Source: Annual Municipal Financial Reports, S.C. State Budget & Control Board.*

*\*Utilities excluded. \*\*Includes local option sales tax in 1993-94.*

*Detail may not sum to totals due to rounding. Inflation adjustments made using the implicit price deflator for GDP for the state and local government sector as published in the Economic Report of the President, Washington, D.C.: U.S. Government Printing Office, February 1995.*

grow in response to population growth, but the additional dollars due to population growth are also affected by inflation.

Adjusting for the combined effects of population and inflation reveals some dramatic differences in growth rates between different areas of municipal spending and revenues. Revenues show net growth of 9.2% over the three year period. There were three fast-growing components: service revenues (primarily fire protection, recreation, solid waste and EMS fees); licenses and permits; and federal aid (a rather small share of total revenue, about 7%.) Even though local option sales tax had been added to the "other own source" revenue category by 1993-94, these revenues still fell by 7% after adjusting for population growth and inflation. Adjusted municipal revenues from state sources (including both grants and state-shared revenues) also fell slightly, as did total spending (down 2.6%). The two largest categories of spending, administration and public safety, however, showed net growth even after these corrections. Spending for environment and housing, recreation and culture, and other areas actually fell in real per capita terms.

## Conclusion

This report has examined how population growth and inflation—separately and jointly—affect municipal finances over time. Removing the effects of these two factors on municipal finances is an important first step toward identifying where real growth is taking place.

It should be emphasized that the purpose of this report is to demonstrate the process and the value of making combined population and inflation adjustments. The time interval chosen will influence the measured growth rates before and after adjusting for population and inflation. A longer or different time period would be expected to yield somewhat different inflation-adjusted per capita growth rates. The time period examined in this report was fairly short, only three years. The ending year of 1993-94 was the most recent fiscal year for which complete data was available. The starting year, 1990-91, was chosen to minimize the effects of high federal and state aid and unusual expenditures in 1989-90, the year of Hurricane Hugo. Had another base year such as 1988-89 been used, the results would have been slightly different. Between 1988-89 and 1993-94, a five year period, inflation-adjusted per capita total revenue grew 11.3% compared to 9.2% over three years. Total spending, however, grew 7.9% over the five year period instead of falling 2.6% as it did in the shorter (1990-91 to 1993-94) period. Adjusted property tax revenues grew 10.4% over the five-year period compared to 8.8% over the three-year period.

Thus, different time periods yield different results. But as long as truly exceptional years such as 1989-90 are avoided, the revenue story seems to be consistent. Municipal revenues are consistently growing somewhat faster than population and inflation. Adjusted growth of municipal spending, however, varies more according to the time period chosen.