



The Effect of the Global Economic Crisis on State and Local Tax Revenues

Karl W. Smith

The global economic crisis has had a dramatic effect on tax revenues at national, state, and local levels. Many state governments, including North Carolina's, are facing record revenue shortfalls, and there is concern that local governments in harder-hit states may even be forced into default on their bond obligations.

This bulletin will explain why the global economic crisis has been so severe and will identify how short- and long-term consequences of the crisis may affect state and local finances.

Brief Background on the Economy

The National Bureau of Economic Research, a nonprofit organization of academic economists, declared that the current U.S. recession began in January 2008.¹ In fact the crisis associated with this recession began much earlier, in August 2007.² Bear Stearns, formerly a large U.S. investment bank, announced in August 2007 that two of its hedge funds had lost billions of dollars by investing in subprime mortgages. A panic ensued, as domestic and foreign investors became concerned that their financial institutions also might have lost money in subprime mortgages. As it turned out, these concerns were well founded.

When investors discovered that other financial institutions lost money not only in subprime mortgages but also in a wide range of credit products, they withdrew their funds from those financial institutions and purchased large quantities of U.S. Treasury bonds. This was an ongoing process that began in July 2007 and is just now subsiding. The process of withdrawing money from general financial markets and reinvesting it in Treasury bonds is the essence of a financial crisis.

Without funds, the financial market cannot make loans. Without loans, U.S. consumers have difficulty making large purchases and businesses have difficulty acquiring capital to expand and hire workers. Both consumers and businesses become concerned when faced with these and

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1. Business Cycle Dating Committee, National Bureau of Economic Research, *Determination of the December 2007 Peak in Economic Activity* (December 11, 2008), www.nber.org/cycles/dec2008.html (accessed July 22, 2009).

2. Karl W. Smith, "Housing, Exports, and North Carolina's Economy," *Economics Bulletin* No. 1 (September 2008).

other cash flow problems: that is, for one reason or another they may end up short on cash at the end of the week, or at the end of the month, without being able to borrow enough money to cover expenses.

These cash flow problems combined with the lack of available credit caused a rapid decline in consumer and business spending, which exacerbated the cash flow concerns of other businesses and then caused a further decline in overall spending. This vicious cash flow cycle was at the heart of the Great Depression of the 1930s, and there was fear in the financial community that history might repeat itself.³

However, the federal government in general and the Federal Reserve in particular responded in November 2008 with unprecedented action to save banks, alleviate fear, and promote lending. As a result, it appears that the crisis is now in its final stages. However, its effects will leave marks on the economy for some time to come. Tax revenues are down at state and national levels, and there is reason to believe that they will be slow to recover from this crisis. Large scale shifts in American consumption patterns may also have long-term consequences for sales tax revenue.

Why Was the Decline So Sharp?

Since World War II, most recessions have been caused either by specific actions by the government or by crises in particular sectors of the economy. Most recessions have occurred as a result of efforts by the Federal Reserve to decrease inflation. The Federal Reserve responds to inflation by printing money at a slower rate, which results in higher interest rates and lower overall spending. Recessions have also been caused by

- the reduction in defense spending after both World War II and the Korean War,
- the oil shock of 1973 that left Americans with less money to spend on things other than gasoline, and
- the collapse in spending by the information technology sector following the dot-com bust in 2001.

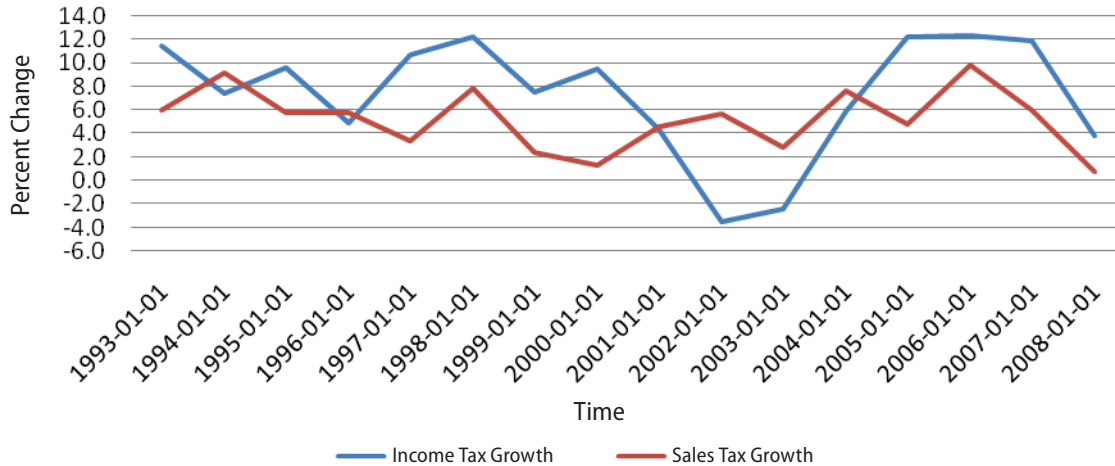
The current recession was caused by a far broader collapse. Although the initial decline in spending began in the housing market, by the end of 2008, the reduction in available credit and fears in the business community over cash flows had caused record declines in virtually every sector of the economy. This induced a recession that was broader and deeper than any recession in recent memory.

The total number of jobs in North Carolina has declined by more than 5 percent in the last year, and the unemployment rate has climbed to 10.8 percent—the highest since state-level data has been recorded.⁴ In the past, North Carolina has tended to be far better off than most states during a recession. However, this time North Carolina's heavy reliance on tax revenues from financial services and construction sectors, both of which are struggling, mean that it is being hit harder.

3. Ben S. Bernanke, *Essays on the Great Depression*. Princeton: Princeton University Press, 2004.

4. Bureau of Labor Statistics, U.S. Department of Labor, www.bls.gov (accessed July 22, 2009).

Figure 1: Year-Over-Year Change in Income or Sales Tax Revenue



Tax Revenues

Tax revenues rise and fall with the economy, but not all revenue sources are equally sensitive to all areas of the economy. The state's income tax revenue depends largely on its employment levels. Higher levels of employment not only mean that more workers are paying more income tax to the state, but it also means that corporations and small businesses have larger profits. The state's sales tax revenue depends on the level of retail sales, and property tax revenue depends on average property values.

Historically, income tax is the most volatile source of revenue; it rises very quickly during periods of economic growth and falls rapidly during recessions. Sales tax revenue traditionally has been less volatile. Sales tax revenue does not rise as fast during periods of growth, but, historically, it does not fall as much during recessions. Property tax revenue, because it is based on four or eight-year revaluations, traditionally has been extremely stable. See figure 1.

Sales Tax

During this economic crisis, things are a bit different. A few communities in North Carolina (e.g., Swain and Dare counties) are experiencing large swings in the property values; however, for most of the state, the property tax base remains stable. The sales tax base on the other hand has experienced a rapid decline, one that outpaces not only its historical performance but the income tax base as well.

This change in performance is the result of a historic collapse in retail sales. As illustrated in figure 2, retail sales across the country have been falling at annual rates of greater than 10 percent. Some of this decline is a result of a reduction in automobile sales. Much of it, however, is because of a drastic change in the spending and saving patterns of American consumers.

From 2005 to 2008, the national savings rate averaged less than 1 percent and frequently was negative. See figure 3. That is, on average, Americans spent nearly as much money as they made. This shopping-spree behavior was fueled by a combination of easy credit and rising home and stock market prices. The availability of easy credit meant that many more Americans could apply for credit cards with ever larger balances. Rising home and stock values made people feel comfortable doing so.

Figure 2: Year-Over-Year Growth in National Retail Sales

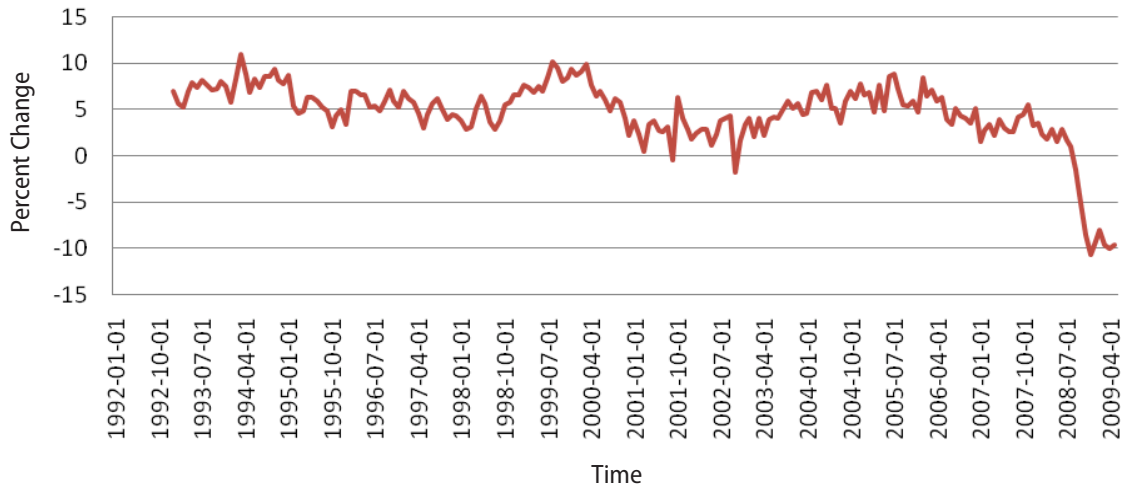
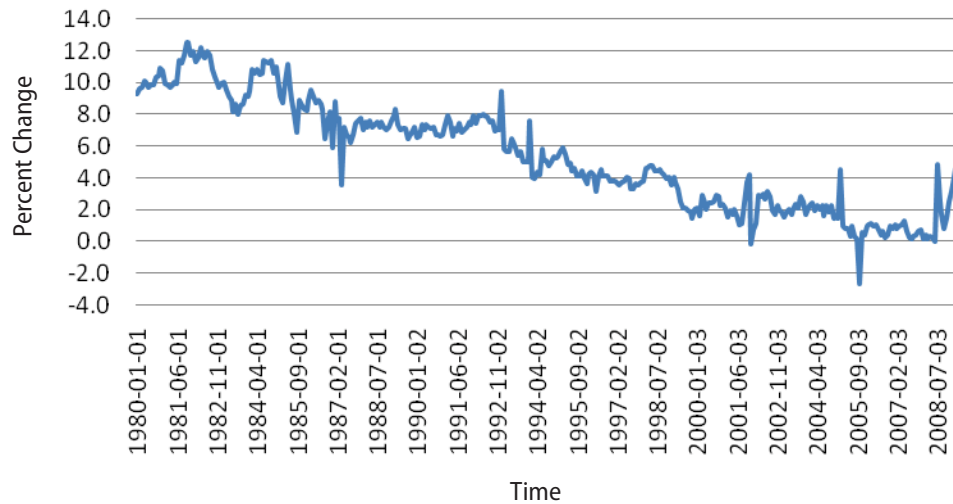


Figure 3: U.S. Personal Savings Rate

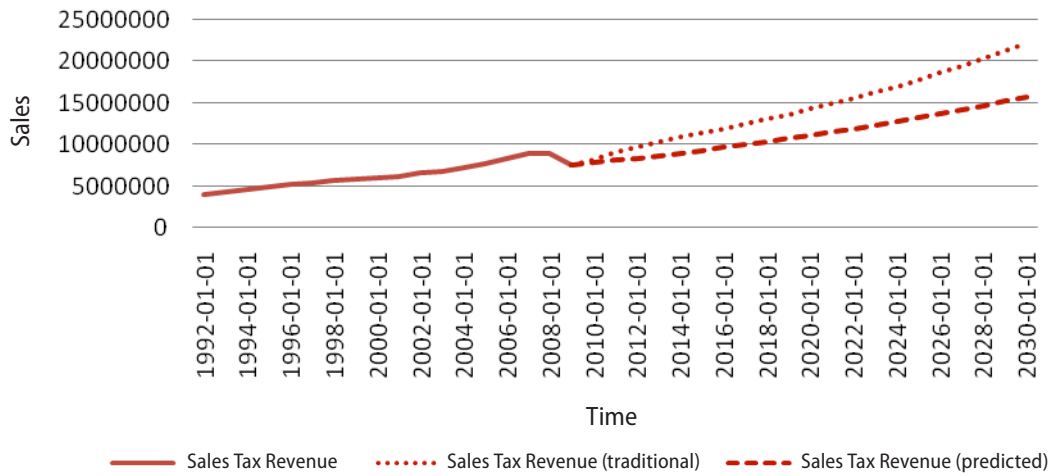


As credit markets tightened and stock and home prices collapsed in response to the crisis, this trend has rapidly reversed itself with savings climbing to more than 4 percent. Retail sales at the national level are down even more than 4 percent, however. This is because salaries are failing as well. In total, Americans are making less money, and they are saving a higher percentage of what they do make. This implies a sharp reduction in spending.

The question for state and local governments is whether or not this trend will reverse itself as credit conditions begin to ease. Traditionally, consumer spending starts to rise just as an economy is exiting a recession. Within a year, spending and retail sales usually are back on the path they were on before the recession began. This time, however, is likely to be different.

Consumer spending will probably begin to increase as credit conditions improve and layoffs decrease. This makes consumers more able and more willing to take on large purchases, such as refrigerators or new televisions. However, it is uncertain whether stock prices will return to their pre-crisis levels anytime soon, and housing prices will almost certainly grow more slowly in the

Figure 4: Traditional versus Predicted Forecast for Sales Tax Revenue



Note: The predicted forecast reflects the potential permanent change in consumer spending habits.

foreseeable future. This means that although consumers will feel freer to make big purchases, they will not feel as free as they did before the crisis.

The personal savings rate is likely to continue to rise. This implies that retail sales will lag the income growth rate on the way out of recession. Going forward, one may estimate this will result in a permanently lower growth path. See figure 4.

All of this means that this crisis may not affect simply short-term tax revenues but the entire long-term revenue outlook. State and local governments may be required to either make permanent cuts in spending or increase taxes to avoid structural deficits.

The size of this potential permanent reduction in sales tax revenue is difficult to estimate. However, as a baseline, assume that the personal savings rate will return to its historical norm of 8 percent. This implies that retail sales at the state level will be approximately 8 percent lower than they otherwise have been, so sales tax revenue will be at least 8 percent lower. However, it could be worse than that. Historically, changes in personal income have been reflected primarily in changes in the purchase of tangible goods and services. If that pattern holds up, sales tax revenue could be permanently reduced by 15 percent or more.

Sales tax revenue supplies approximately 30 percent of the state budget’s general fund and roughly 10–15 percent of local budgets’ general funds. This implies a permanent reduction in revenue of 5 percent for the state and 2–3 percent for local governments.

This estimated permanent reduction in sales tax revenue does not factor in the possible long-term erosion of the sales tax base that will be the topic of a subsequent bulletin. These two results of the economic crisis combine to mean that North Carolina and its local governments are likely to face difficult choices in regard to the sales tax in the near future.

Income Tax

Income tax is likely to respond to this recession as it has to past recessions. This implies that income tax revenue will roughly follow the employment rate and can be expected to begin rising in early 2010. The long-run trend of the income tax is fairly stable, but there are a few areas of concern.

First, because North Carolina's income tax brackets are not indexed to inflation, income tax revenues grow from *bracket creep*. That is, each year more North Carolinians are pushed into higher tax brackets even if their real income remains flat. For example, imagine a family earned \$100,000 in taxable income in 2006. That family fits just into the 7 percent marginal income tax bracket and would pay \$6,787.50 in income taxes in 2006, an average tax rate of 6.79 percent.

In 2007 that family received a 5 percent raise and now has \$105,000 in taxable income.⁵ However, because prices for gas, food, clothing, etc., are higher in 2007, the family is no better off than it was in 2006. It is now, however, in the 7.75 percent marginal income tax bracket. The family will pay a total of \$7,162.50 in income taxes for an average tax rate of 6.82 percent. The family's average tax rate has gone up, but its standard of living has not increased.

The increase may seem small, but over time it means that the state's income tax revenue grows slightly faster than the personal income of its residents. Therefore, state revenues tend to be traditionally slightly higher than simple estimates would project.

Inflation, however, appears to be slowing down—at least for the time being. For the first quarter of 2009, the year-over-year inflation rate was roughly 0 percent. For the state this means that bracket creep will not be a source of revenue growth in the coming few years. As the economy stabilizes, inflation will likely resume, and some economists predict that it will accelerate. However, for now bracket creep is no longer a source of increasing revenues for state government.

The second, and perhaps more important, change is in the distribution of income. North Carolina has a *progressive income tax*. A progressive income tax implies that higher-income residents are taxed more heavily: that is, higher income residents pay tax at a higher rate. This, however, means that for a given level of personal income, the state will take in more revenue if the distribution of income is skewed more towards the rich. Therefore, if higher income residents earn a larger fraction of income, then the state will be taxing a larger fraction of income at that higher rate.

Over the last decade the distribution of income in North Carolina has trended more toward higher-income residents. This often caused income tax revenues to grow faster than simple estimates projected. If the distribution of income reverses course and begins to trend toward lower- and middle-income residents, then income tax revenues will grow more slowly than simple estimates would project. There is some reason to think this might happen.

The financial services industry employed many of the state's higher-income residents. Some economists predict that salaries for financial services professionals will, at a minimum, grow more slowly than in the past and may even decline in the near future.⁶ This will cause the distribution of income among the state's residents to shift downward and the growth rate of state and local governments' income tax revenues to slow.

The reductions in the growth rate of income tax revenue from a slowdown in bracket creep and a change in the distribution of income are small, however, compared to predicted changes in sales tax revenue. At most the state is likely to experience fewer good surprises when it comes to income tax revenue.

5. For simplicity we are ignoring deductions and exemptions and treating all income as taxable. In reality fixed deductions and exemptions amplify the effect of bracket creep. Not only would this family pay into a higher tax bracket, but the real value of its deductions and exemptions would decline.

6. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, 2008–09 Edition, www.bls.gov/oco/ (accessed July 22, 2009).

Property Tax

Property tax is typically the most stable of the three major tax revenue sources, and it is no different in this economic climate. Local officials may have concerns that their property tax revenues will suffer because of a decline in real estate prices. In certain pockets around the state, this may be true. Coastal and mountain areas that attracted many second-home buyers and retirees prior to the economic crisis may expect revaluations to show lower property values for the next four to six years.

However, property values have been relatively stable in most of North Carolina's communities. The typical county should see flat to slightly higher revaluations for the next four to six years but not outright declines.

Conclusion

The fundamentals for growth in North Carolina's tax base are still among the best in the nation. North Carolina continues to attract highly educated residents and high value-added businesses. Over time these new residents and businesses will earn and spend more money, as well as increase the property values within the communities in which they settle.

However, recovery from the economic crisis is likely to be slow. The state's tax revenues are likely to be relatively depressed or slow growing through fiscal year 2010–11. In addition the character of the sales tax base may have changed permanently. State and local governments should prepare for fewer positive revenue surprises for some time to come. State and local governments may want to adjust either tax rates or spending trends in order to meet a slightly lower long-term revenue forecast.

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