

# Working Paper Series

## STATE REVENUE PROJECTIONS TO 2010

BY

HOLLEY HEWITT ULBRICH, PH.D.

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# State Revenue:

## PROJECTIONS TO 2010

This paper develops revenue projections to fiscal year 2009-10 for South Carolina's general fund. It is an update to the 1997 report, *State Revenue: Projections to 2010*,<sup>1</sup> which was prepared as part of that year's fiscal sustainability project. In this report, projections for 2009-10 are adjusted to reflect new information from fiscal year 1997-98. The projections of future revenue in this paper are intended to provide a useful focal point for discussions about the ability of the state to fund future expenditure demands.

This report is organized as follows. First, key differences between the 1997-98 revenue projections made in the Fiscal Sustainability Working Group's 1997 report and actual revenue collections for that year are discussed. Then, new projections of the state's future general fund revenue through 2009-2010 are presented. As in last year's report, two different kinds of revenue projections are made. The first involves projecting total revenue and the second looks more closely at the major components of general revenue. To maintain comparability with last year's report, general fund revenue projections include funds that will be diverted to the new Trust Fund for Tax Relief beginning in 1998-99.

## Comments on the Revenue Projections in the 1997 Report

In the 1997 report, revenue estimates for 1997-98 ranged from \$4,735 million to \$4,803 million. Actual recurring revenue for 1997-98 was \$4,844—\$41 million higher than the upper bound estimate and \$109 million more than the lowest bound estimate. This figure was also well above the revenue forecast of \$4,676 million made in 1997 by the State Budget and Control Board's Board of Economic Advisers.<sup>2</sup> These projection errors encompass a range of 1-2 percent, which is small for an individual year but can amount to substantial sums over the longer periods. It is therefore important to revisit the data to determine the source of the differences in projections before making revised projections through 2009-10.

Part of the difference between projected and actual revenue in the 1997-98 general fund can be attributed to faster growth in personal income than was assumed in both the Fiscal Sustainability Working Group's projections and those of the Board of Economic Advisors. Rather than the 5.5 percent growth in personal income that was assumed in the 1997 figures, actual income growth in the calendar year 1997 was 5.8 percent.<sup>3</sup> This difference between assumed and actual personal income growth would account for about \$35 million of the additional revenue.

<sup>1</sup> Holley H. Ulbrich, *State Revenue: Projections to 2010* (Clemson, S.C.: Strom Thurmond Institute, October 23, 1997).

<sup>2</sup> S.C., State Budget and Control Board, Board of Economic Advisors, *Long Range General Fund Revenue Plan Fiscal years 1995-96 to 2004-05*, February 10, 1997.

<sup>3</sup> Personal income is reported by calendar years, while state revenues are reported for fiscal years (July-June). However, because of lags in tax collection, the personal income for the calendar year that begins in January is the appropriate basis for predicting the revenues collected in the following fiscal (July-June) year.

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# STATE REVENUE PROJECTIONS TO 2010

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WORKING PAPER 1

IN A FOUR-PAPER SERIES ON  
FISCAL SUSTAINABILITY OF THE SOUTH CAROLINA  
REVENUE AND EXPENDITURE SYSTEM  
1998-2010

STROM THURMOND INSTITUTE OF GOVERNMENT AND PUBLIC AFFAIRS  
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## **STATE REVENUE: PROJECTIONS TO 2010**

This paper develops revenue projections to fiscal year 2009-10 for South Carolina's general fund. It is an update to the 1997 report, *State Revenue: Projections to 2010*, which was prepared as part of that year's fiscal sustainability project. In this report, projections for 2009-10 are adjusted to reflect new information from fiscal year 1997-98. The projections of future revenue in this paper are intended to provide a useful focal point for discussions about the ability of the state to fund future expenditure demands.

This report is organized as follows. First, key differences between the 1997-98 revenue projections made in the Fiscal Sustainability Working Group's 1997 report and actual revenue collections for that year are discussed. Then, new projections of the state's future general fund revenue through 2009-2010 are presented. As in last year's report, two different kinds of revenue projections are made. The first involves projecting total revenue and the second looks more closely at the major components of general revenue. To maintain comparability with last year's report, general fund revenue projections include funds that will be diverted to the new Trust Fund for Tax Relief beginning in 1998-99.

The two major state revenue sources also increased at faster rates relative to personal income growth than they have in the past. With income up 5.8 percent, individual income tax revenue was up 8 percent and retail sales tax revenue increased 6.6 percent in 1997-98. There is no reason to expect that these unusually high rates of revenue growth relative to personal income growth will be sustained. The federal capital gains tax rate change did result in a \$4 million one-time revenue jump in the individual income tax. However, even without that windfall, growth in individual income tax revenue would still have been 7.8 percent, which is high by historical standards. Other revenue sources that significantly exceeded expectations were earnings on investments (\$71 million actual versus \$52 million projected) and miscellaneous taxes (all but individual and corporate income, sales, insurance, alcoholic beverage, and business/corporate licenses), which brought in \$217 million compared to the original projection of only \$164 million.<sup>1</sup>

Table 1 shows actual 1997-98 revenue collections and the Fiscal Sustainability Working Group's earlier projections for total 1997-98 revenue that were made in the fall of 1997.

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Table 1  
Actual and Projected 1997-98 General Fund Revenue  
(in millions)

<i>Projection Method</i>	<i>1997-98 in '97 Report</i>	<i>1997-98 Actual</i>	<i>Percent Difference</i>
Based on BCB Growth Rate	\$4,803	\$4,844	+0.9%
Elasticities Method	\$4,779	\$4,844	+1.4%
Components Method	\$4,735	\$4,844	+2.3%

*Note: The BCB Growth Rate method used the annual growth in revenue implicit in forecasts to 2004-05. See: S.C., State Budget and Control Board, Board of Economic Advisors, Long Range General Fund Revenue Plan Fiscal years 1995-96 to 2004-05, February 10, 1997.*

Because of an accounting change in the 1998 legislative session, some of the money that would normally have been counted as general fund revenue is now incorporated into a trust fund that includes property tax relief funds, homestead exemption reimbursement funds, inventory tax reimbursement, and depreciation property tax reimbursement. This change takes effect with the current (1998-99) fiscal year so it does not impact any of the actual revenue data used in this analysis, but it will affect the interpretation of projections for years beginning with 1998-99. In this analysis, projections of future general fund revenue combine the general fund and the new Trust Fund for Tax Relief into a single total in order to provide a consistent basis for projections and comparisons with previous years.

## GENERAL FUND REVENUE PROJECTIONS TO 2009-10

Even for a single year, revenue projections usually involve a range rather than a single number. Estimating future revenue in different ways allows consideration of both the diversity of assumptions that can be made about the course of economic events (e.g., changes in income, employment, and inflation) and the varying methods that can be used to make projections. The simplest projection method is based on two assumptions. The first assumption is that personal income will continue to grow at the same rate as the average rate for the last 10-12 years, about 5.5 percent per year. Since this growth rate is not adjusted for inflation, in some years it may represent relatively high inflation and low real income growth and in other years just the opposite. The second assumption is that the relationship between revenue growth and personal income growth (elasticity) will remain stable over the projection period, based on past experience.

In the 1997 report, a number of alternative projections were presented. The first extended the 1997 revenue forecasts of the Board of Economic Advisors, and the second reported the revenue projections implicit in the Infrastructure Study.<sup>1</sup> Two additional sets of projections were developed—one based on examination of the individual components of general revenue and the other on the historical elasticities of the individual revenue sources with respect to personal income.

This report presents two sets of general fund revenue projections. They are:

1. A projection of total revenue based on expected annual income growth of 5 percent, of which 2.5 percent is real growth (as it was in the earlier estimates) and 2.5 percent is inflation (down from 3 percent last year).
2. A projection of the major revenue components, with growth based on past elasticities for individual taxes, adjusted for legislative changes in the tax code and other factors that impact on particular taxes—including, but not limited to, business tax incentives.

### REVENUE PROJECTIONS BASED ON TOTAL REVENUE

Projecting future revenue using a constant growth factor is the simplest method of revenue projection, although it is likely to be the least accurate because it fails to take changing conditions into account. However, even simple projections based on past revenue growth and anticipated future income can provide a useful starting point for discussions about the ability of the state to fund future expenditure demands.

Revenue projections based on projected growth of personal income require key assumptions about income growth and tax elasticities. In the 1997 report, personal income was assumed to grow at 5.5 percent per year, of which 3 percent was inflation and 2.5 percent was real growth. The Fiscal Sustainability Working Group now believes that the inflation rate may remain lower for the near future, but finds it difficult to anticipate sustained growth of income and output at more than 2.5 percent over a twelve year period. On the supply side, growth is constrained by the labor force, which is growing relatively slowly and in short supply in many parts of the state, with unemployment rates in the 2-3 percent range in some upstate counties. Infrastructure is another factor limiting the rate of growth. On the demand side, it is highly unlikely that an economy that has been in expan-

sion for more than six years can expect another twelve years of steady growth without at least one recession. For these reasons, three alternative rates of income growth are used in projecting total revenue. They are last year's 5.5 percent income growth rate, 5 percent (which maintains the same projected real growth but a lower inflation rate), and 5.8% (which is a continuation of last year's income growth rate, but high by historical standards).

The second assumption has to do with the responsiveness of the overall revenue system to income growth. While some individual taxes and revenue sources (such as the individual income tax) are very responsive to income growth, others (such as alcoholic beverage taxes) are less so. The measure of the relationship between the rate of personal income growth and the rate of revenue growth is called elasticity.<sup>2</sup> Historic elasticities for major revenue sources were calculated for the period 1986-1997. The elasticity of the revenue system overall was 0.767; i.e., a 10 percent increase in personal income would result in a 7.67 percent increase in general fund revenue. This elasticity, applied to the three projected income growth rates of 5.5%, 5% and 5.8%, resulted in revenue growth rates of 4.22%, 3.84%, and 4.45%.

Table 2 shows the overall revenue projections for 2009-10 based on the three alternative income growth assumptions. Note that in the first case annual revenue growth is close to the inflation rate plus the growth rate of population, which are the two main drivers of the expenditure side of the equation. For this reason and the income growth assumption discussed above, the projection based on 5 percent growth in personal income is preferred.

<sup>1</sup> *South Carolina Infrastructure Study*, prepared by Rutgers University, Wilbur Smith & Associates, Siemon, Larsen & Marsh, and Sandstone Environmental Associates, Inc. for the South Carolina Advisory Commission on Intergovernmental Relations (Columbia, SC: ACIR, May 1997).

<sup>2</sup> Elasticity of a tax with respect to personal income is a measure of the percentage change in revenue from that tax in response to a given percentage change in personal income. Elasticities are usually calculated on the basis of historical data and measure the relationship between a great variety of economic variables, such as price and quantity sold. They are widely used for forecasting by economists.

Table 2  
Projections Based on Total Revenue  
1998-99 and 2009-10  
(in millions)

<i>Year</i>	<i>Total Revenue</i>
1997-98 (actual)	\$4,844
With annual personal income growth of 5%: (Annual revenue growth rate: 3.8%)	
1998-99	\$5,030
2009-10	\$7,610
With annual personal income growth of 5.5%: (Annual revenue growth rate: 4.2%)	
1998-99	\$5,049
2009-10	\$7,957
With annual personal income growth of 5.8%: (Annual revenue growth rate: 4.4%)	
1998-99	\$5,060
2009-10	\$8,167

#### REVENUE PROJECTIONS BASED ON REVENUE COMPONENTS

The components method uses the elasticity measures developed in the 1997 report along with factors impacting specific taxes in order to develop projections for specific revenue sources, which are then added together to derive a projection of total revenue. The revenue components examined in this report include the individual income tax, state sales tax, corporate income tax, alcoholic beverage/beer and wine tax, and the sum of all other revenue sources.

**INDIVIDUAL INCOME TAX** Projections for the individual income tax assume that income tax revenue will continue to grow at the same rate with respect to income as it did over the period 1986-1995, which is very close to the same rate as personal income growth. If personal income grows at 5 percent for the next twelve years, it is projected that individual income tax revenue will grow at a rate of 4.93 percent before adjusting for the retirement exemptions, business location incentives, and tuition tax credits enacted by the General Assembly toward the end of that base period. Then, individual income tax revenue is adjusted for:

1. An expected revenue loss from the expanded retirement exemption, projecting the recent forecasts made by the Board of Economic Advisors<sup>1</sup> for 1998-99 and 1999-00 to the period 2001-2010 at an annual rate of 7 percent;
2. Tuition tax credits, using the projected revenue loss from the Board of Economic Advisors for 1998-99 and 1999-00 and incrementing that loss at a rate of 1 percent a year thereafter (approximate growth rate for the college-aged population); and

3. Job development fees and retraining agreements, as outlined in the companion paper on business incentives.<sup>2</sup>

After these adjustments, projected revenue from the individual income tax for 1998-99 is \$2,178 million, and for 2009-10, \$3,529 million. Historically, the individual income tax is the most sensitive of the major tax groups to changes in personal income. However, it has become less sensitive since it has been indexed for inflation.

**RETAIL SALES TAX** No major changes have been made in this tax in recent years, except for the growth of local option sales taxes. Therefore, retail sales tax revenue is projected to 2009-10 based on an income elasticity of 0.76 and a personal income growth rate of 5 percent, resulting in an average annual growth rate of 3.83 percent. Projected revenue for 1998-99 is \$1,808 million, and for 2009-10, \$2,733 million.

**CORPORATE INCOME TAX** Because business tax incentives have made the net growth of this tax negative in the last two years, the elasticity of this tax was calculated using revenues from 1986 to 1994, the period before these incentives took effect. The growth rate based on that elasticity and a projected 5 percent annual growth in personal income resulted in a high projected revenue growth rate of 7.4 percent before accounting for the four business incentive programs that impact on the corporate income tax. The programs are the job tax credit, the investment tax credit, the economic impact zone credit, and Aid to Families with Dependent Children credit. After adjusting for the impacts of these programs, projected corporate income tax revenue for 1998-99 is \$187 million, and for 2009-10, \$405 million.

**ALCOHOLIC BEVERAGES** Beer and wine are taxed separately from other alcoholic beverages, but both taxes are based on volume rather than price. This kind of tax is one that tends to grow very slowly over time. Revenue from these taxes is projected to continue to grow at the same slow rate with respect to income as in the past, 1.55 percent a year. Revenue from the alcoholic beverage tax is projected to be \$129 million in 1998-99 and \$153 million in 2009-10.

**ALL OTHER REVENUES** Revenues from this collection of miscellaneous sources, which accounts for 14 percent of total recurring general fund revenue, is very erratic. This category was up about \$22 million in 1997-98 because of a few unusual items, such as debt service transfers, the unclaimed property fund, good earnings on investments, and an exceptional year of estate tax revenues. Rather than attempt to project these items separately, the 1998 forecasts by the Board of Economic Advisors were used for the first two years—1998-99 and 2009-10. Beyond 2000, the historic average growth rate of 1.638 percent per year was used to generate revenue projections. Projected revenue for 1998-99 is \$666 million and for 2009-10, \$708 million.

The recent tobacco settlement may add to these miscellaneous revenues, particularly beginning in 1999-00, but it is likely that revenue from the tobacco settlement will be earmarked for specific uses related to tobacco growers and/or public health, rather than being available for general public purposes. Revenue from video gambling may also increase dramatically if video gambling machines are monitored and taxed as they are in other states. However, to expect such action is speculative at this point, and it is very likely that if this does occur, these funds will also be earmarked for some specific purpose. Lottery revenue is unlikely before 2001-02 and is therefore not considered in these projections. Table 3 summarizes the 1997-98 actual revenue and presents the 1998-99 and 2009-10

projections by components.

<sup>1</sup> S.C., State Budget and Control Board, Board of Economic Advisors, *General Fund Revenue Forecast: Fiscal Years 1996-97 To 1999-00*, November 10, 1998.

<sup>2</sup> Daniel V. Rainey, *Fiscal Impact of Business Incentives on General Revenue* (Clemson, SC: Strom Thurmond Institute of Government and Public Affairs, December 31, 1998).

Table 3  
Current and Projected Revenue by Major Components  
1997-98, 1998-99 and 2009-10  
(in millions)

<i>Revenue Components</i>	<i>1997-98 Actual</i>	<i>1998-99 Projected</i>	<i>2009-10 Projected</i>
Individual Income Tax	\$2,095	\$2,178	\$3,529
Corporate Income Tax	194	187	405
Retail Sales Tax <sup>1</sup>	1,742	1,808	2,733
Alcohol/Beer and Wine	127	129	153
All Other Revenue	694	666	708
<b>Total Revenues</b>	<b>\$4,844</b>	<b>\$4,969</b>	<b>\$7,528</b>

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

## SUMMARY

In summary, the Fiscal Sustainability Working Group believes that the most credible revenue projection for 2009-10 ranges between \$7,528 million, the sum of the projected components, and \$7,610 million the overall revenue projection based on 5% personal income growth (Table 4). Higher income growth rates of 5.5% and 5.8% result in higher projections of \$7,971 million and \$8,167 million for 2009-10. These higher projections, which are closer to the range of the projections made in the previous year's report, are now considered less likely because of the steady decline in the inflation rate. This year's report maintains the real (inflation-adjusted) income growth rate assumed in last year's projections but assumes a lower inflation rate, in line with recent past experience, which results in a lower rate of growth of personal income. While projections over a period as long as 12 years are always subject to error from unforeseen events, the Fiscal Sustainability Working Group believes that these are plausible predictions based on the current revenue structure, historical patterns of relationships between revenue and personal income, and plausible assumptions about future inflation and real growth.

**Table 4. South Carolina General Fund Revenue Projections, 1998-2010 (in millions)**

FISCAL YEAR	1997-98(a)	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-c
<b>Component Revenues Projection</b>											
Personal Income Tax	\$2,095.2	\$2,177.8	\$2,257.3	\$2,357.5	\$2,463.5	\$2,575.2	\$2,693.6	\$2,817.5	\$2,947.1	\$3,082.8	\$3,224
Retail Sales Tax	1,741.8	1,808.4	1,877.6	1,949.4	2,024.0	2,101.5	2,181.9	2,265.3	2,352.0	2,442.0	2,535
Corporate Income Tax	193.8	187.3	200.9	215.5	231.1	247.9	265.9	285.2	305.9	328.0	351
Alcoholic Beverage Tax	127.3	129.2	131.2	133.3	135.3	137.4	139.6	141.7	143.9	146.2	148
All Other Sources of Revenue	694.0	666.1	601.7	611.6	621.6	631.8	642.1	652.6	663.3	674.2	685
<b>TOTAL</b>	<b>\$4,844.4</b>	<b>\$4,968.8</b>	<b>\$5,068.8</b>	<b>\$5,267.2</b>	<b>\$5,475.5</b>	<b>\$5,693.8</b>	<b>\$5,923.0</b>	<b>\$6,162.4</b>	<b>\$6,412.3</b>	<b>\$6,673.2</b>	<b>\$6,945</b>
<b>Constant Growth of Total Revenue Projections</b>											
Personal Income Growth Rate:											
5.0%	\$4,844.4	\$5,030.1	\$5,223.0	\$5,423.3	\$5,631.3	\$5,847.3	\$6,071.5	\$6,304.4	\$6,546.1	\$6,797.2	\$7,057
5.5%	\$4,844.4	\$5,048.7	\$5,273.3	\$5,495.8	\$5,727.6	\$5,969.2	\$6,221.0	\$6,483.5	\$6,757.0	\$7,042.0	\$7,339
5.8%	\$4,844.4	\$5,059.9	\$5,285.0	\$5,520.1	\$5,765.6	\$6,022.1	\$6,290.0	\$6,569.8	\$6,862.1	\$7,167.4	\$7,486

<sup>a</sup>1997-98 figures are actual reported revenues.  
 Note: Detail may not sum to totals due to rounding.