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STATE OF SOUTH CAROLINA  
BOARD OF ECONOMIC ADVISORS

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To: South Carolina Budget and Control Board

Subject: South Carolina Board of Economic Advisors  
Revenue Forecast, February 15, 1990

The Board of Economic Advisors is required by Section 11-9-880 of the 1976 Code of Laws to make a final forecast for the next fiscal year on February 15. The February forecast for Fiscal Year 1990-91 is provided herein.

Economic events since the November 1 forecast have proceeded essentially as anticipated. The national economic slowdown has had the expected effect on the economy of South Carolina and particularly on corporate profits. This has been reflected in lagging Corporate Income Tax collections. In addition to the overall slowdown, the change in the Corporate Income Tax rate in South Carolina from 6% to 5.5%, and currently 5%, has added to lower Corporate Income Tax revenues. This had been incorporated into the forecast. The failure of corporations to have adjusted for their reduced liability has resulted in their use of their refunds for declaration payments, rather than separate payments made currently with refunds to be paid at some subsequent date. The effect of this has been a double negative on Corporate Income Tax collections. Further, a one time change in Corporate Income Taxes with the impact this year from the Tax Reform Act of 1986

has resulted in reduced liabilities for some corporations, particularly major utilities and others.

Other collections are more in line with expectations. As anticipated, the negative effects of Hugo were felt early in the fiscal year. The positive effects are being seen in the Sales Tax and improved income taxes. Personal Income for South Carolina in the third quarter of 1989 as reported by the U.S. Department of Commerce confirms this pattern. The impact of the hurricane has been to turn what would have been a 9.4% increase in South Carolina Personal Income into a negative .9% from the third quarter a year ago. Some of the decline was the result of lost wages and lost proprietors income. Another part was from delayed reporting due to the storm. A significant cause of the reversal from positive to negative was in the conceptual way the U.S. Department of Commerce measures personal income. Net destruction of homes from Hugo, a decrease in assets, was treated as lost income. As the year progresses, the release of income data for South Carolina should confirm the pattern being established by tax collections.

Forecasts of the economy through the middle of 1991 remain essentially as in the scenario of November 1. Somewhat more uncertainty is being injected into the picture with the unknown impact throughout the national economy of the changes occurring in Eastern Europe, although these are considered of a longer range nature than the forecast period. Of more immediate concern are signs of increased inflation and the Federal Reserve reaction

to it. This has added somewhat more pessimism to the discussions but it has not yet been confirmed by significant changes in the consensus forecast.

Given the little changed forecast of continued but modest growth through June 1991, for the U.S. economy and the developing patterns brought by Hugo on the South Carolina economy which were anticipated at the time of the November forecast and in the January 1 review, the Board of Economic Advisors finds no reason or basis for change in the forecast of \$3355.0 million for Fiscal Year 1989-90 or of \$3538.5 million for Fiscal Year 1990-91.

Board of Economic Advisors

W.R.P.

February 15, 1990

TABLE I

GENERAL FUND REVENUES  
Forecast FY 1989-90 and FY 1990-91  
(In Millions of Dollars)

	ACTUAL FY 1988-89	ESTIMATE FY 1989-90	ESTIMATE FY 1990-91
TOTAL GENERAL FUND (1)	3142.5	3355.0	3538.5
Total Regular Sources (1)	3098.0	3314.0	3494.5
Sales Tax (1)	1085.6	1128.1	1187.0
Individual Income Tax	1248.1	1390.8	1485.1
Corporation Income Tax	211.2	222.0	237.4
All Other	553.1	573.1	585.0
Miscellaneous Sources	44.5	41.0	44.0
Education Improvement Fund	272.318	282.025*	296.750*
Interest on Education Improvement Fund	1.771	1.900	1.900
TOTAL	274.089	283.925	298.650
		<u>RATES OF CHANGE **</u>	
TOTAL GENERAL FUND		6.8%	5.5%
Total Regular Sources		7.0	5.4
Sales Tax		3.9	5.2
Individual Income Tax		11.4	6.8
Corporation Income Tax		5.1	6.9
All Other		3.6	2.1
Miscellaneous Sources		-7.8	7.3
Education Improvement Fund		3.6	5.2
Interest on Education Improvement Fund		7.3	---
TOTAL		3.6	5.2
(1) Net of Education Improvement Fund.			
* One-fifth of total sales tax.			
** Percent change based on unrounded figures.			

Board of Economic Advisors  
November 1, 1989

REVENUE FORECASTING PROCEDURES  
BOARD OF ECONOMIC ADVISORS  
FISCAL YEARS 1990 AND 1991

The procedures and methodology of the Board of Economic Advisors in the preparation of the final revenue forecast for Fiscal Year 1990-91 as of February 15, 1990 involved three major stages: 1) providing the economic background and setting at the national and State levels for the revenue forecasts; 2) interpreting recent and historical revenue relationships; and 3) continued monitoring of developments in the State from the impact of Hurricane Hugo on economic activity, income and revenues.

The Board members consulted as in the past with experts and professional economists for economic intelligence gathering. A special meeting of the Board of Economic Advisors on October 4, 1989 brought together Board members, in-State economists and South Carolina members of the National Advisory Council. The purpose of the meeting was to discuss the effects of Hurricane Hugo on the State's economy and revenues for this fiscal year and next and to determine the impact on the revenue estimates.

A regularly scheduled meeting was held on October 26, 1989 in Columbia with the National Advisory Council to the Board of Economic Advisors. Present at the meeting were: Dan M. Bechter, Ph.D., Vice President, Federal Reserve Bank of Richmond, representing Advisory Council member J. Alfred Broaddus, Jr., Ph.D., Senior Vice President and Director of Research, Federal Reserve Bank of Richmond; Ben E. Laden, Ph.D., President, BEL Associates; James A. Morris, Ph.D., Distinguished Professor of Economics Emeritus, University of South Carolina; Ronald P. Wilder, Ph.D., Chairman, Department of Economics, University of South Carolina; David A. Wyss, Ph.D., Senior Vice President and Chief Financial Economist, Data Resources, Inc.; and Bruce Yandle, Ph.D., Alumni Professor of Economics, Clemson University. Bruce L. Williams, formerly Corporate Economist, Southern Bell Telephone Company, and currently Manager, Statistics and Econometrics, BellSouth Services, resigned from the Advisory Council effective August 31, 1989, following a reassignment in an area other than forecasting. Bethel Minter, First Vice President and Economist, Sun Trust, Atlanta, Georgia, and John L. Harris, Ph.D., Director of Economic and Energy Forecasting, Carolina Power and Light Company, Raleigh, North Carolina, also participated in the meeting.

The resources of the national forecasting groups by which the SCOPE model and other forecasts are driven, Data Resources, Inc., Evans Economics, Inc., and WEFA, Inc., were available weekly and monthly to Board members and staff. Materials from a variety of sources--international, national and State publications--were also made available to Board members and staff. In addition, there was Board interaction by the Chairman and the Executive Director with numerous outstanding national economists at the 31st Annual Meeting of the National Association of Business Economists held September 24-27, 1989 in San Francisco, California and BEA staff representation at the 44th Annual FTA Conference on Revenue Estimating and Tax Research held October 22-25, 1989 in Orlando, Florida. Board members and staff have continued discussions with leading economists, business executives and officials of other states with responsibility for revenue forecasting for further intelligence gathering in the preparation of this report.

## BRIEF OVERVIEW OF THE SCOPE MODEL

The SCOPE (South Carolina Operations Planning and Evaluation) Model was initiated in 1972 in the Office of Chief Economist (originally in the Governor's office). It was designed and operated as a policy and forecasting tool for top level executive, legislative and management decision making. SCOPE is an econometric model designed to reflect the South Carolina economy and to forecast the performance of major economic variables in the State, particularly tax revenues, employment and income. The model is based on a framework of economic activity in the State relative to national economic activity with approximately 85 exogenous national variables provided by leading national forecasting services such as Data Resources, Inc., the WEFA Group, and Evans Economics, Inc.

The SCOPE core model consists of 63 equations, of which 55 are stochastic\* and eight are identities. SCOPE attempts to reflect the diversity of the South Carolina economy by including 20 industrial sectors of manufacturing and nonmanufacturing employment, and a series of equations for wages, personal income, unemployment, taxable sales and State tax revenue.

### Durable Manufacturing Employment

The durable manufacturing employment block consists of six stochastic equations for the major industries in the State as reported by the South Carolina Employment Security Commission. The employment equations for each separate industry are expressed as a function of a national consumption expenditure index appropriate for that particular industry, a national industrial production index corresponding to that industry and the national level of employment in that industry. The durable employment forecasts include the following industries: Lumber and Products, Stone, Clay and Glass, Fabricated Metal Products, Electrical and Nonelectrical Machinery, and Other Durables which includes Furniture and Fixtures, Instruments and Related Products.

### Nondurable Manufacturing Employment

The nondurable manufacturing employment block consists of several stochastic equations for the major nondurable industries in the State. Like the durable block, the employment equation for each industry is expressed as a function of a national consumption index appropriate for that particular industry, a national industrial production index for that particular industry and the national level of employment in that industry. Employment forecasts are available for each of the following nondurable industries: Food and Kindred Products, Textile Mill Products, Apparel, Paper, Printing and Publishing, Chemicals, and Other Nondurables, such as Rubber and Miscellaneous Plastics Products.

\* Stochastic is defined as a type of modeling for time series analysis explaining future probability from historical experience.

## Nonmanufacturing Employment

The nonmanufacturing employment block is disaggregated into several stochastic equations: Construction, Transportation and Public Utilities, Services, Trade, Finance-Insurance-Real Estate, State and Local Government, and Federal Government. Employment growth in these industries is specified as functions of State population, national employment in these industries and national consumption indices.

## Personal Income

The personal income block is composed of 11 equations, one equation for the unemployment rate, and ten additional equations for each of the ten major components of personal income as published by the Bureau of Economic Analysis, Department of Commerce. These equations are specified as functions of their respective national and State income and employment variables. In addition, equations are estimated for wage and salary disbursements for all major industries and are specified as functions of national wage trends and State employment levels.

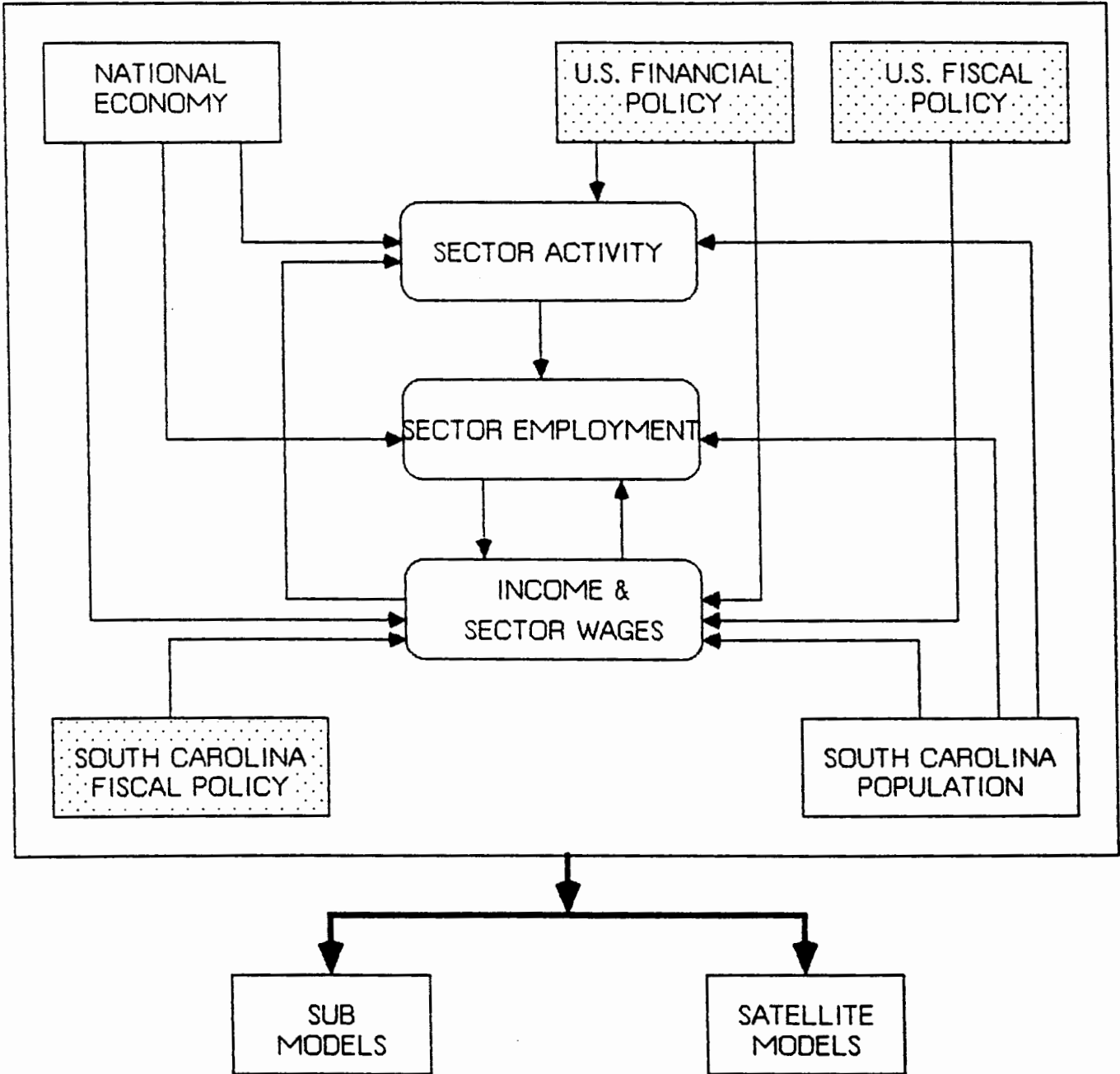
## Revenues




The revenue section of the model emphasizes four major stochastic Regular Revenue Sources equations: 1) South Carolina corporate income tax, 2) South Carolina individual income taxes, 3) South Carolina retail sales tax, and 4) all other taxes. These equations are individually specified as functions of aggregate employment and income with their respective coefficients and constants. In addition, there are two stochastic equations for taxable sales and refunds.

The model is currently undergoing major revisions to incorporate recently developed econometric techniques and to reflect significant structural changes in the national and South Carolina economies. The core economic model is completed and the reformulation of the revenue model is in progress.

# SCOPE MODEL

SOUTH CAROLINA OPERATIONS, PLANNING & EVALUATION MODEL



-  Exogenous Variables
-  Exogenous Policy Variables
-  Endogenous Variables