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REVENUE FORECAST

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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 12, 1988

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 1988-89 is provided herein.

Economic activity has continued essentially as projected in the Board of Economic Advisors' reports of November, December and January. Income growth has been moderate and unemployment and inflation are at relatively low rates. On balance, the economy seems to have weathered the October crisis up to this point although certain sectors, particularly the financial, have felt the effects more seriously. A major structural shift has been occurring in the economy with the role previously played by consumption and housing in sustaining economic growth being assumed by manufacturing, business investment and export activity. This had been anticipated even before October 19 and was confirmed by fourth quarter GNP data. Growth for the quarter came almost entirely from inventory accumulation at the wholesale and retail levels. For the nation,

unemployment declined from 6.7% a year ago to 5.8% where it has remained for two months. In South Carolina, the seasonally adjusted rate is lower, at 5%, but has risen in the last few months from a low in October of 4.6%.

Revenue collections from July through January have been essentially as anticipated as indicated in last week's release of the Board.

The economic outlook has not changed significantly since the November 1 report of the Board of Economic Advisors. There is discussion from a few economists of a recession already in progress, but the consensus of most mainstream economists is for modest growth with no recession before mid-1989. Even among the consensus, there is a new trace of uneasiness and a less definite sense of the direction of the economy for next year and beyond than there was six months ago.

As new data--such as low real growth in GNP and low rates of inflation, allowing for leeway in stimulus by the Federal Reserve--are released, the outlook for no recession before mid-1989 is reinforced. Following immediately are negative soundings, such as from several leading indicators, giving concern that the weaker role of consumption may not be sufficiently offset by strength in other sectors to continue the modest advance. Adding to the uncertainties and conflicting signals is the Federal Reserve's reading of these signals and its response to the situation. With more positive than negative forces contemplated at this time, for

purposes of the February 12 Report, the most probable assumption continues that the national economy will continue to expand although unevenly, and the State's economy will continue to display greater relative strength tied as it is to sectors of active strength.

Revenue collections for February through July will respond to these uncertain economic events and will be affected by shifting economic and financial movements. The effect on refunds with conformity to the Federal Code has yet to be assessed. A further unknown is the lasting extent of the poor weather conditions on January retail sales to be reported next month. With the outlook clouded by conflicting results and no clear evidence to indicate a shift from the outlook previously projected, the Board recommends no change at this time in the revenue forecast for FY 1987-88 of \$2886 and of \$3050 for FY 1988-89. Should the situation not develop as expected, and revenues for FY 1987-88 fail to reach the level projected, the estimate for FY 1988-89 would have to be adjusted accordingly.

Some slowdown in the first quarter of 1988 over the last quarter of 1987 is to be expected as the economy absorbs the inventory accumulation. GNP data confirming the extent of this will not be released until April. The Board will continue to monitor the situation and should an unexpected downturn occur, budgetary authorities will be notified promptly. In light of the many uncertainties, they should be prepared with an alternative budget scenario should unusual events not yet evident occur.

Board of Economic Advisors

W.R.P.

February 12, 1988

TABLE I

GENERAL FUND REVENUES  
Forecast 1987-88 and 1988-89  
In Millions of Dollars

	ACTUAL 1986-87	ESTIMATE 1987-88	ESTIMATE 1988-89
TOTAL GENERAL FUND (1)	2692.8	2886.0	3050.0
Total Regular Sources (1)	2651.8	2819.5	3006.0
Sales Tax (1)	946.9	1001.9	1062.0
Individual Income Tax	1008.9	1068.6	1155.0
Corporation Income Tax	184.9	224.3	233.0
All Other	511.0	524.7	556.0
Miscellaneous Sources	41.0	66.5	44.0
Education Improvement Fund	236.3	250.5 *	265.5 *
Interest on Education Improvement Fund	2.4	1.8	1.9
TOTAL	238.7	252.3	267.4

	<u>RATES OF CHANGE</u>	
TOTAL GENERAL FUND	7.2%	5.7%
Total Regular Sources	6.3	6.6
Sales Tax	5.8	6.0
Individual Income Tax	5.9	8.1
Corporation Income Tax	21.3	3.9
All Other	2.7	6.0
Miscellaneous Sources	62.3	-33.8
Education Improvement Fund	6.0	6.0
Interest on Education Improvement Fund	-25.0	5.6
TOTAL	5.7	5.9

(1) Net of Education Improvement Fund.  
\* One-fifth of total sales tax.

REVENUE FORECASTING PROCEDURES  
BOARD OF ECONOMIC ADVISORS  
FISCAL YEARS 1988 AND 1989

The procedures and methodology of the Board of Economic Advisors in the preparation of the final revenue forecast for Fiscal Year 1988-89 as of February 12, 1988 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) interacting with officials of other states with responsibility for revenue forecasting.

The Board members consulted as in the past with experts and professional economists for economic intelligence gathering. These occurred both before and after the October 19 financial crisis. Following the financial crisis on October 19, a meeting was held on October 27 in Columbia, South Carolina with J. Alfred Broaddus, Jr., Ph.D., Senior Vice President and Director of Research, the Federal Reserve Bank of Richmond; Ben E. Laden, Ph.D., formerly Vice President and Chief Economist, T. Rowe Price Associates, Inc., Baltimore; Randolph C. Martin, Ph.D., Director of the Division of Research and Professor of Economics, University of South Carolina; Douglas P. Woodward, Ph.D., Research Economist, Division of Research, University of South Carolina; and Holley H. Ulbrich, Ph.D., Alumni Professor of Economics, Clemson University, in which the outlook for the economy of the nation and South Carolina was considered. Discussions have continued with a substantial number of leading economists and businessmen in New York, Boston, Richmond, Atlanta and South Carolina in preparation for this report. The resources of the national forecasting groups by which the SCOPE model, when operative, and other forecasts are driven, Data Resources, Inc., Evans Economics, Inc., and Wharton Econometric Forecasting Associates, were available weekly and monthly to Board members. Materials from a variety of sources--international, national and state publications--were also made available to Board members.

Board of Economic Advisors  
February 12, 1988

## 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., Wharton Econometric Forecasting Associates, and Evans Economics, Inc.

The SCOPE core model consists of 63 equations, of which 55 are stochastic\* and 8 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 6 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 7 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 7 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 10 additional equations for each of the 10 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.

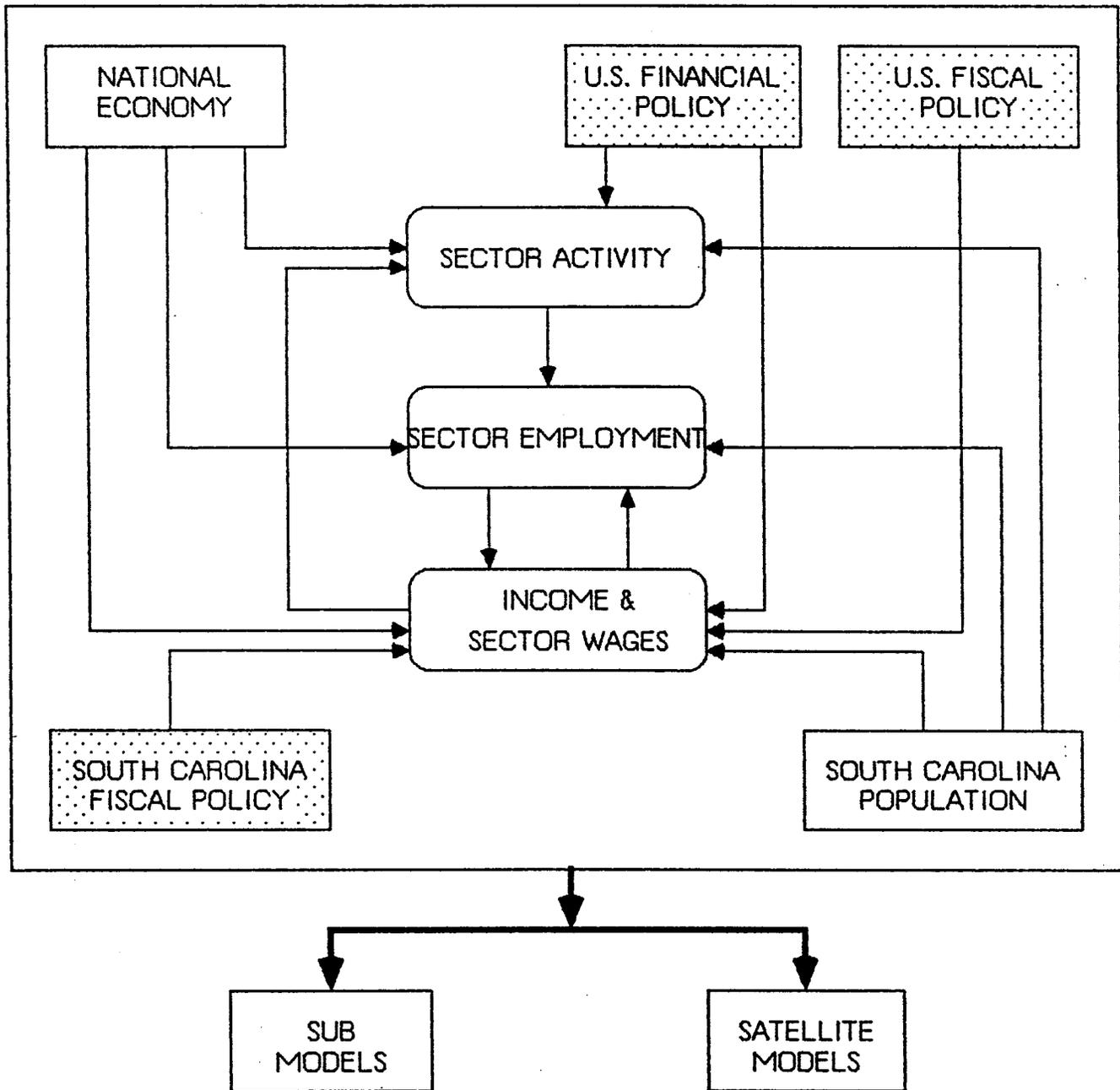
## Revenues

The revenue section of the model emphasizes 4 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 2 stochastic equations for taxable sales and refunds.

Board of Economic Advisors  
February 12, 1988

# SCOPE MODEL

SOUTH CAROLINA OPERATIONS, PLANNING & EVALUATION MODEL



-  Exogenous Variables
-  Exogenous Policy Variables
-  Endogenous Variables