November 1 First Official Estimate
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To: South Carolina Budget and Control Board

Subject: November 1 First Official Estimate for FY 1991-92

In accordance with Section 11-9-880 of the 1976 Code, as amended, the Board of Economic Advisors submits the first official estimate for Fiscal Year 1991-92.

For the first time since recovery in late 1982 from the 1981-82 recession, the forecast is being made in an environment concerned not with degrees of continued expansion, but with rates and duration of contraction. The uncertainties inherent in any forecast are being multiplied by national and international political and military events that have been developing over the past few months. What prior to August 1 had been forecast by most economists as a period of very low growth is now being treated increasingly as a period of recession having had its initiation probably as early as this summer. The coming period is distinguished by an unprecedented number of uncertainties, much more so than in previous periods. Some will be resolved within a relatively short time such as the budget situation which has just passed. Others presumably will evolve over a much longer time span. These include the progress of the national...
economy, the Middle East situation and international trade policies and U.S. competitiveness.

Through this maze of unpredictable events, the most likely scenario is a rate of growth in real G.N.P. of less than 2% for Fiscal Year 1991-92, reaching 3.0% by the end of the forecast period, following negative change for at least one or two quarters in this fiscal year. Inflation as measured by the Consumer Price Index should be at a rate of 4% for FY 1991-92, down to 3.5% by the end of the forecast period, after reaching a rate more than twice that in the final quarter of the current calendar year. These movements are based on the consensus forecast of a relatively mild recession of relatively short duration, with recovery beginning after the close of the current fiscal year. The probability of the recession being more severe is given a 20% chance, with a worst case scenario probability of 10%. An optimistic scenario based on more favorable oil price movements resulting in stronger economic growth is given a 20% probability. Contrarily, should a full blown war ensue, the consensus forecast with the derivative probabilities would no longer be a possibility.

Given the consensus outlook, it can be assumed that the economy of South Carolina will fare about the same as the nation, aided in some sectors by the weaker dollar but hindered in others by dependence on areas of the economy, both State and national, experiencing competitive difficulties. The rate of Personal Income increase in South Carolina as in the nation can be expected to be 5.5% in Fiscal Year 1991-92.
On this basis, the Board of Economic Advisors is estimating revenues of $3654.0 million for Fiscal Year 1991-92, an increase of $61.4 million over the Fiscal Year 1990-91 Appropriation Act of $3592.6 million. In order to have the benefit of the most current data, the Board of Economic Advisors will assign quarterly shares following receipt of October results.

Given the uncertainties of the economic situation worldwide and the inherent difficulty of identifying turning points of the economic cycle, the situation for Fiscal Year 1991-92 will be monitored closely as receipts this fiscal year in relation to the estimate which is due December 31, 1990 are evaluated.

Board of Economic Advisors

W.R.P.

November 1, 1990
## TABLE I
**GENERAL FUND REVENUES**
Forecast FY1991-92
(In Millions of Dollars)

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<thead>
<tr>
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<tr>
<td>Total General Fund (1)</td>
<td>3294.8</td>
<td>3592.6</td>
<td>3654.0</td>
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<td>Total Regular Sources (1)</td>
<td>3252.8</td>
<td>3544.8</td>
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<td>Sales Tax (1)</td>
<td>1155.8</td>
<td>1205.3</td>
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<td>1380.2</td>
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<td>Corporation Income Tax</td>
<td>140.9</td>
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<tr>
<td>All Other</td>
<td>575.9</td>
<td>620.0</td>
<td>592.0</td>
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<td>Miscellaneous Sources</td>
<td>42.0</td>
<td>47.8</td>
<td>46.5</td>
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<tr>
<td>Education Improvement Fund</td>
<td>301.362</td>
<td>301.321</td>
<td>320.875*</td>
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<td>Interest on Education Improvement Fund</td>
<td>2.110</td>
<td>1.900</td>
<td>1.900</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>303.472</td>
<td>303.221</td>
<td>322.775</td>
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<table>
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<th>Rates of Change**</th>
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<tr>
<td><strong>TOTAL GENERAL FUND</strong></td>
<td>9.0%</td>
<td>1.7%</td>
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<tr>
<td>Total Regular Sources</td>
<td>9.0</td>
<td>1.8</td>
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<tr>
<td>Sales Tax</td>
<td>4.3</td>
<td>6.5</td>
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<tr>
<td>Individual Income Tax</td>
<td>9.6</td>
<td>4.9</td>
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<tr>
<td>Corporation Income Tax</td>
<td>46.9</td>
<td>-30.0</td>
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<tr>
<td>All Other</td>
<td>7.7</td>
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<tr>
<td>Miscellaneous Sources</td>
<td>13.8</td>
<td>-2.6</td>
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<tr>
<td>Education Improvement Fund</td>
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<td>Interest on Education Improvement Fund</td>
<td>-10.0</td>
<td>0.0</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>-0.1</td>
<td>6.5</td>
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(1) Net of Education Improvement Fund.
* One-fifth of total sales tax.
** Percent change based on unrounded figures.

Board of Economic Advisors
November 1, 1990
REVENUE FORECASTING PROCEDURES
BOARD OF ECONOMIC ADVISORS
FISCAL YEAR 1992

The procedures and methodology of the Board of Economic Advisors in the preparation of the first official revenue forecast for Fiscal Year 1991-92 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 business and financial experts and professional economists for economic intelligence gathering. This included a meeting held on October 26, 1990 in Columbia with the National Advisory Council to the Board of Economic Advisors. Present at the meeting were: J. Alfred Broaddus, Jr., Ph.D., Senior Vice President and Director of Research, Federal Reserve Bank of Richmond; 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 Research Director, Data Resources, Inc.; and Bruce Yandle, Jr., Ph.D., Alumni Professor of Economics, Clemson University.

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 Executive Director with numerous outstanding national economists at the 32nd Annual Meeting of the National Association of Business Economists held September 23-27, 1990 in Washington, D.C. and BEA staff representation at the 45th Annual FTA Conference on Revenue Estimating and Tax Research held September 30-October 3, 1990 in San Francisco, California.
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 economic model consists of 51 equations, of which 37 are stochastic* and 14 are identities. SCOPE attempts to reflect the diversity of the South Carolina economy by including 19 industrial sectors of manufacturing and nonmanufacturing employment, and a series of equations for wages, personal income and unemployment.

Durable Manufacturing Employment

The durable manufacturing employment block consists of ten 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 Wood Products, Stone, Clay and Glass, Primary and Fabricated Metal Products, Electrical and Nonelectrical Machinery and Other Durables which includes Furniture and Fixtures, Transportation, Instruments and Related Products.

Nondurable Manufacturing Employment

The nondurable manufacturing employment block consists of seven 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 eight stochastic equations: Mining, 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 12 equations, one equation for the unemployment rate, one equation to adjust for nonresidents, 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 is being structured to emphasize 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 core economic model is completed and operative. The equations are currently being respecified to account for major revisions in historical data from the U.S. Department of Commerce. Reformulation and respecification of the revenue model is in progress.

Board of Economic Advisors
November 1, 1990
SCOPE MODEL
SOUTH CAROLINA OPERATIONS, PLANNING & EVALUATION MODEL

NATIONAL ECONOMY

U.S. FINANCIAL POLICY

U.S. FISCAL POLICY

SECTOR ACTIVITY

SECTOR EMPLOYMENT

INCOME & SECTOR WAGES

SOUTH CAROLINA FISCAL POLICY

SOUTH CAROLINA POPULATION

SUB MODELS

SATELLITE MODELS

Exogenous Variables

Exogenous Policy Variables

Endogenous Variables

Board of Economic Advisors
November 1, 1990