Either water resource investments are poor tools for stimulating economic growth, or the methodology for measuring these effects falls far short of accomplishing the purposes for which it was designed. Many of the studies cited have failed to consider the importance of interdependencies among other important factors within a region which affect employment and income changes. Changes in investment levels that shift the supplies of critical factors, i.e., investments in water resources, often occur concurrently with changes in the demands for products, supplies of other resources, firm production possibilities, and shifters of the supply of firms. Equilibration in product and factor markets is affected by programs designed to change the supplies and/or productivity of resources, and this in turn causes changes in product and factor markets which affect the level of employment and income within the recipient region.

A general approach that can be used in considering these additional changes has been presented by Tolley and Schrimper [27] and Schrimper [31]. This approach simultaneously considers aggregate and micro adjustments in product and factor markets. A variant of the general model was used by Schrimper [32] to determine the extent to which changes in various exogenous factors explained changes in the number of farms between 1954 and 1959 for six comparable groups of farms among states as well as among counties within North Carolina and Illinois. Eddleman [10] proposed another variant of the model to analyze the effects of resource development on regional employment. The model used in this study has adapted these approaches so that absolute changes in number of employees and firms in an industry can be examined.

ECONOMIC THEORY

Changes in the production of products and utilization of resources in a region occur at several levels in the economic structure of the region. At the firm level, the demand for production factors and supplies of products made available by the firm are influenced by changes in the price of the factors and the technology available for production. The aggregate effects on all firms are also important. Variation in the demand for the firms' products and the supplies of factors available for use in production are also important. However, since local employment and firm number changes are under consideration for this report, each region was considered to have only one critical factor.