

The Effects of Food Stamp and WIC Programs on Nutrient Intakes of Children

Steven T. Yen, Ph.D., University of Nevada, Reno

This study investigates factors determining participation in the Food Stamp Program and WIC, and the effects of these programs on nutrient intakes of small children. In previous studies program participation was often investigated exclusively of the decisions on food and nutrition intakes. These single-equation and exogenous-program approaches may not be appropriate as consumers typically make food choices from a bundle of commodities and each food item typically contains multiple nutrients. Further, participation in the Food Stamp Program and WIC is likely the results of individual decisions, made simultaneously with the food/nutrient intake decisions. Statistical estimation procedures ignoring cross-equation correlation can cause loss of efficiency and failure to accommodate simultaneity also leads to biases in empirical estimates.

This study addresses both participation and effectiveness of the Food Stamp Program and WIC in a multi-equation framework for nutrient intakes with endogenous Food Stamp Program and WIC participation. This model is a multivariate generalization of the sample selection model and can be viewed as a restricted form of switching regression for a system of equations.

In this study the author examines

1. The simultaneity between program (Food Stamp Program and WIC) participation, among food/nutrient intakes, and among program participation and nutrition intakes.
2. The effects of income and other explanatory variables on program participation.
3. The effects of programs on nutrition intakes.
4. The effects of income and other explanatory variables on nutrient intakes.

Empirical analysis is conducted for formula-fed infants and children using data from the 1994-96 Continuing Survey of Food Intakes by Individuals (CSFII 1994-96) and the 1998 supplemental Children's Survey (CSFII 1998). The findings indicate that the decision to participate in the Food Stamp Program and WIC, as well as nutrient intake decisions, are made simultaneously. WIC participation is found to increase the intakes of most nutrients, whereas the effects of FS are mixed. Overall, participation in both programs increases the intakes of all nutrients except protein. The methodology developed in this study is worthy of further of further consideration in future studies of the effects of other government programs such as the National School Lunch Program on food intakes, nutrient intakes, and other outcome variables.