Section III. Conceptual Model

Participation in the Food Stamp Program (FSP) brings both benefits and costs. A recent study by Lerman and Wiseman (2002) suggests that costs relative to benefits play a role in decisions to participate in the FSP. Individuals choose to participate in the FSP only if the benefits from participation outweigh the costs—the utility when participating in the program is higher than the utility when not participating.

The benefits and costs of participation depend on a variety of factors and both are expected to differ for the working and nonworking population. The working population is likely to have higher income, and thus is eligible for a lower food stamp benefit amount. This working population also faces more constraints on their time, thus a higher cost of participation, all else equal. Taken together, this suggests lower FSP participation rates among working individuals eligible for food stamps than among nonworking individuals eligible for food stamps. The various factors hypothesized to affect FSP participation are discussed below. The determinants of the benefits and costs of participation differ, so we discuss them separately.

Benefits: The primary benefit of FSP participation is that it provides households with nutritional assistance by making available resources to purchase food. Once eligible, the dollar value of food stamps a household receives is a function of six factors: earned income, unearned income, allowable income deductions, household composition, U.S. citizenship, and year. The food stamp benefit amount is higher for households with lower earned and unearned income, as well as for households with higher income deductions (e.g., excess shelter costs and medical expenses) (U.S. Department of Agriculture 2002a). Household composition plays a role, as the value of the food stamp benefit increases with the number of persons in a household.[9] Food stamp rules for non-citizens were changed with the 1996 federal welfare reform legislation, which made legal immigrants and refugees ineligible for food stamps. These restrictions were subsequently eased to allow, for example, legal immigrants (persons legally admitted into the U.S. for permanent residence) living in the U.S. on August 22, 1996 to be eligible for food stamps (U.S. Department of Agriculture 2002b). The year of food stamp receipt is also related to the benefit of participation, as there have been changes in policies over time and the dollar value of food stamp benefits also has changed over time.

[9] Zedlewski and Brauner (1999) find that food stamp take-up rates declined sharply with income relative to need. (Income relative to need is a function of both household income and household size.)

Household earned income and unearned income can be further disaggregated. Household *earned income* is the product of hours worked in the wage labor market and the wage rate. Total household *hours worked* in the wage labor market are determined by several factors: the wage rate of employed adults, non-earnings income, number of children in the household, number of adults in the household, age of the adults in the household, household members' health or disability status, state of the economy, and household preferences. The *wage rate* available to individuals in a household, another important determinant of household earned income, depends primarily on education level and on-the-job training level, as predicted by the human capital theory. The wage rate may also depend on household members' race and sex (if discriminated against), their age (again through either human capital theory or discrimination),[10] geographic location (higher wages in metropolitan areas), and the economy (a robust economy may result in higher wage labor market opportunities).

Household *unearned income* is primarily comprised of government transfers (such as TANF), private transfers, and asset income. The amount of government and private transfers a household receives is in part a function of preferences. Some individuals, for example, may simply prefer to get by without financial help. A preference for not receiving government transfers may be related to stigma associated with receipt, but not necessarily. The economy may also affect household unearned income as returns on investments will affect asset income.

By specifying these components of households' earned and unearned income, a more reduced form specification of the benefit of FSP participation can be expressed as:

Benefit = f[
Allowable Income Deductions (+);
Household Composition: [1]
number of children (+), number of adults (+/-);
Demographic Characteristics:
age (younger and older adults +), health or disability status (poor health +), education level and on the job training level (less education +), race (nonwhite +), sex (female +), U.S. citizenship (non-citizen -);
Geographic Location (MSA +, region indicators +/-)
Economic Conditions (poor economy +);
Year (+/-);
Preferences (prefer financial help+)].

[10] Human capital theory, first developed by Becker and Mincer, explains the pattern of individuals' lifetime earnings. In general, the pattern of earnings are such that they start out low (when the individual is young) and increase with age (Becker 1975, p. 43), and then earnings tend to fall somewhat as individuals near retirement.

where the hypothesized effect of each factor is shown in parentheses.

Costs: Along with benefits of FSP participation come costs. These costs are both monetary and nonmonetary. Nonmonetary costs include stigma and time costs, where time costs result from the time participants must spend applying for and recertifying eligibility for benefits. A study by Ponza et al. (1999) provides estimates of nonmonetary costs and finds that individuals spend an average of roughly five hours applying for food stamps and 2.5 hours recertifying for food stamp benefits (p. xvi). The authors also find that administrative hassles and stigma associated with the FSP are important reasons individuals eligible for the FSP program do not participate.[11] Consistent with this study, Zedlewski and Brauner (1999, p. 25) find that administrative problems or the hassle of maintaining benefits is the second most self-reported reason for *leaving* the FSP.[12] Monetary costs occur because, for example, some workers may have to miss work, and thus lose earnings, in order to recertify for benefits during office hours.[13]

The *time* FSP participants spend applying for and recertifying eligibility for food stamps is a cost of participation. Since the food stamp certification period is shorter, in general, for workers versus nonworkers, we expect employment status to affect time costs. We also expect employment characteristics to affect time costs. When an individual in a household changes employers, a household member is required to report the change to the local food stamp office. As a result, households with individuals who have frequent employment changes will experience a higher cost of participation than households whose members have steady jobs. Having multiple jobs in the household also can increase the cost of participation due to the more time intensive application and recertification process (e.g., additional time needed to verify income from multiple sources). As attachment to the labor force, as measured by work hours, increases, the opportunity cost of participation also increases because the adult household members have less time to spend on the application and recertification process. Finally, a household with individuals who tend to work during the daytime (i.e., the same hours the food stamp office is open) will have difficulty completing the application and recertification process, thereby making the cost of participation higher for households whose members work traditional hours. Having more adults in the household can lower the household's cost of FSP participation by providing more flexibility to apply for and recertify for food stamp benefits.

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[11] While Ponza et al. (1999) find that administrative hassles and stigma are important reasons cited for non participation in the FSP program, they find that the most important reason for non participation was misperceptions about FSP eligibility.

[12] Increased earnings or a new job is the most frequent self-reported reason for leaving the FSP.

[13] Individuals may also incur out-of-pocket monetary costs when they travel to and from the food stamp office. Ponza et al. (1999) estimate these costs are relatively small—about $10 for the application and $6 for the recertification (p. xvi).

Food Stamp Program policies also affect the time cost of application and certification. In the late 1990's, many states shortened the certification period for households with a history of earned income to reduce error rates (Gabor and Botsko 2001). However some food stamp offices have increased flexibility for their food stamp participants. For example, some offices now allow clients to recertify by mail or over the phone rather than in person.

As part of the 1996 federal welfare reforms, food stamp work requirement rules changed in a way that made FSP participation more time costly for 18-50 year old able-bodied adults who have no children. In order to receive food stamp benefits for more than three months in a 36-month period, these able-bodied adults must be working or in a training program other than job search (U.S. Department of Agriculture 2002a), increasing their cost of participation.

Prior experiences with public assistance also may affect the time cost of food stamp participation. Individuals who previously participated in a welfare program may have knowledge of the program, and therefore, have a lower cost of participation. Current TANF recipients also may have a reduced time cost of food stamp participation, as the application for food stamps is likely to be less time consuming after eligibility for TANF benefits is determined. TANF receipt is in turn related to many factors including earned income, unearned income, number of children, age, sex, educational attainment, marital status, and year (i.e., pre- or post-welfare reform). We control for the reduced form determinants of TANF receipt in our empirical model. We expect, for example, that a household headed by an unmarried mother is more likely than a household headed by a couple to participate in the TANF program, so this unmarried mother is expected to face a lower time cost of participation than the couple, all else equal.[14]

The *stigma* cost of FSP participation is likely related to prior welfare receipt, demographic characteristics, and time. Individuals who have previously received welfare benefits may associate less stigma with program participation. Demographic characteristics related to both prior welfare receipt and the stigma of participation include: age, gender, race, marital status, educational attainment, and health and disability status. With the higher rate of TANF receipt among never married mothers, we hypothesize that a young, never married household head faces a lower stigma cost of FSP participation than a middle-aged, married household head. The stigma of food stamp participation may also change with time. In particular, the stigma cost of participation may have increased since the 1996 federal welfare reforms that coincided with steep

[14] Without holding all else equal (e.g., number of adults and children in a household) the hypothesized effect is less clear. Unmarried mothers may be more likely to participate in TANF and so have a lower cost of participating in the FSP, but on the other hand, single-parent families have more limited time resources for dealing with paperwork.

declines in welfare caseloads. Fewer people on welfare may increase stigma for those on welfare.

By disaggregating the nonmonetary (time and stigma) components of cost, the cost of FSP participation can be expressed as:

Cost = f[E*mployment Characteristics:* [2]
employment status (employed +), employer change (+), multiple jobs (+), more hours of work (+), work traditional hours (+);
FSP Policies (+/-);
Household Composition:
number of children (-), number of adults (-), marital status (never married -), 18-50 year old able-bodied adult with no children (+);
Demographic Characteristics:
age (younger and older -), race (nonwhite -), sex (female -), education level (less education -), health or disability status (poor health -);
Year (post welfare reform +/-)].

Putting it Together: Combining the determinants of FSP participation benefits and costs, we arrive at the more reduced form determinants of Food Stamp Program participation:[15]

FSP Participation (P) = f[*
Employment Characteristics: [3]
employment status (employed -), employer change (-), multiple jobs (-), more hours of work (-), work traditional hours (-);
FSP Policies (+/-);
Household Composition:
number of children (+), number of adults (+/-), 18-50 year old able-bodied adult with no children (-);
Demographic Characteristics:
age of adults (younger and older +), health or disability status (poor health +), education level and on the job training level (less education, +), marital status (never married +), race (nonwhite +), sex (female +), U.S. citizenship (non-citizen -);
Allowable Income Deductions (+);
Economic Conditions (poor economy +);
Year (post welfare reform +/-);
Preferences (prefer government help+)].

The hypothesized effects (shown in parentheses) represent our hypothesized effect of the variable on food stamp participation. In many cases, there are factors pulling the hypothesized effect in both directions. For examples, individuals who are

[15] Note that a higher cost of FSP participation results in a lower likelihood of food stamp receipt.

disabled or in poor health may have less stigma associated with FSP, but they may also face greater challenges in applying and being recertified. Additionally, while individuals with low education levels may have lower opportunity cost of their time, and lower stigma cost associated with the FSP, they may also have limited skills in "navigating the system." This conceptual model has allowed us to identify relevant variables to incorporate into our empirical model.