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**Paperless Food Assistance: The Impact of Electronic Benefits on  
Program Participation**

Sibel Atasoy  
Department of Agricultural and Applied Economics  
Virginia Polytechnic Institute and State University  
Blacksburg, VA, 24060  
E-mail: [sibela@vt.edu](mailto:sibela@vt.edu)

Bradford F. Mills  
Department of Agricultural and Applied Economics  
Virginia Polytechnic Institute and State University  
Blacksburg, VA, 24060  
E-mail: [bfmills@vt.edu](mailto:bfmills@vt.edu)

Christopher F. Parmeter  
Department of Agricultural and Applied Economics  
Virginia Polytechnic Institute and State University  
Blacksburg, VA, 24060  
E-mail: [parms@vt.edu](mailto:parms@vt.edu)

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# Paperless Food Assistance: The Impact of Electronic Benefits on Program Participation

Sibel Atasoy, Bradford F. Mills, Christopher F. Parmeter  
 Department of Agricultural and Applied Economics, Virginia Tech, Blacksburg, Virginia 24060

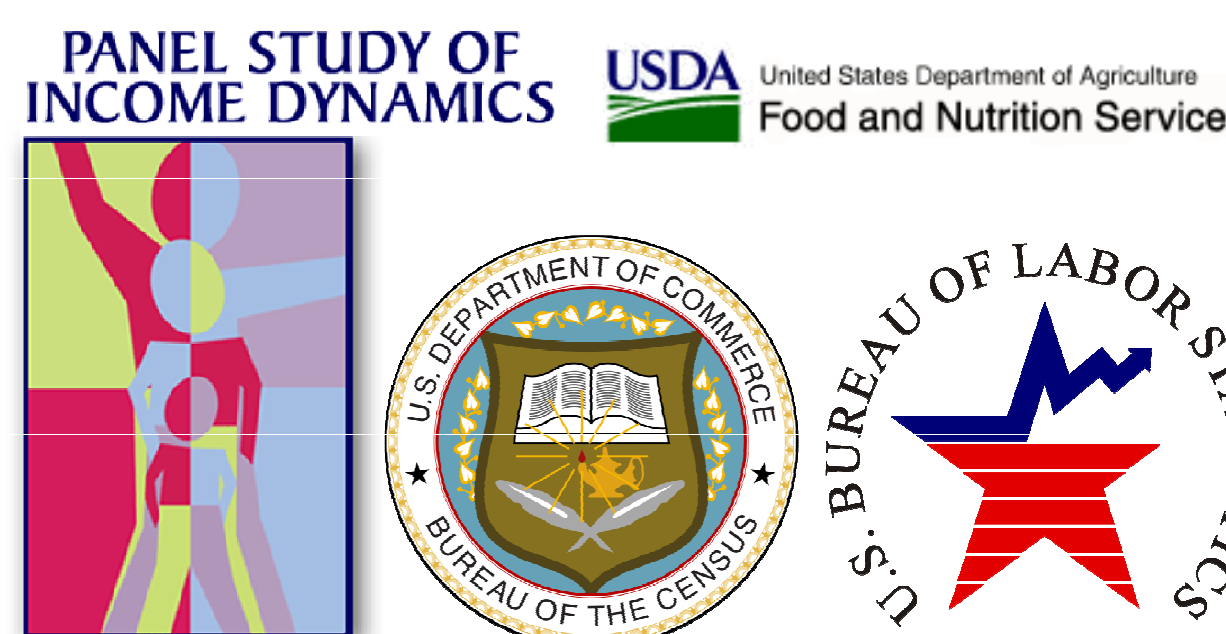
## Introduction

- ❑ The USDA's Food Stamp Program (FSP) (now known as the Supplemental Nutrition Assistance Program (SNAP)) was launched in 1965 to provide food benefits to low-income households.
- ❑ In June 2004, the USDA announced that all states successfully converted from paper coupons to plastic Electronic Benefits Transfer (EBT) cards for delivering food stamp benefits.
- ❑ A primary reason for this transition was to improve access to the FSP, which has suffered from low rates of participation among families eligible for benefits.
- ❑ EBT cards are arguably more convenient for recipients and they reduce the social stigma felt by recipients when using paper coupons and are expected to encourage participation in the FSP.
- ❑ This study examines the impact of EBT on FSP participation decisions among low-income households.

## Objectives

- ❑ Examine the impact of the EBT system on household FSP participation behavior across the entire period of nationwide adoption (Figure 1 shows EBT adoption over time)
- ❑ Model FSP participation decisions at the household level using a structural model to disentangle household, FSP program policy and local economic effects on FSP participation
- ❑ Develop and use a measure of state-level EBT penetration as the percentage of food stamps issued via EBT cards in a given year

## Data Sources



## Methods

- ❑ We use a panel data binary choice model with individual specific effects to specify the household FSP participation decision:

$$S_{it} = Z_{it}\beta + a_i + \varepsilon_{it}, \text{ if } P_{it} = 1[S_{it} \geq 0]$$

where  $S_{it} = F_{it} - F^*$ ,  $F_{it}$  is the FSP benefits available to the household,  $F^*$  is the minimum level of benefits required for the household to participate,  $Z_{it}$  includes household characteristics,  $a_i$  captures unobserved household characteristics, and  $\varepsilon_{it}$  is the error term.

- ❑ The econometric difficulties with estimating this model include:
  - ❑ We only observe whether a household participated in the FSP and FSP benefits for participants
  - ❑ We do not observe the minimum amount of FSP benefits required for the household to participate
- ❑ We address these issues by
  - ❑ Estimating T cross-sectional probits and obtain inverse Mills ratios for each period
  - ❑ Using a pooled linear regression and generating predicted FSP benefits for households who receive and do not receive food stamps to obtain consistent estimates of the FSP benefits equation including the inverse Mills ratios
  - ❑ Estimating the structural participation equation with a correlated random effects specification that includes predicted FSP benefits as an explanatory variable

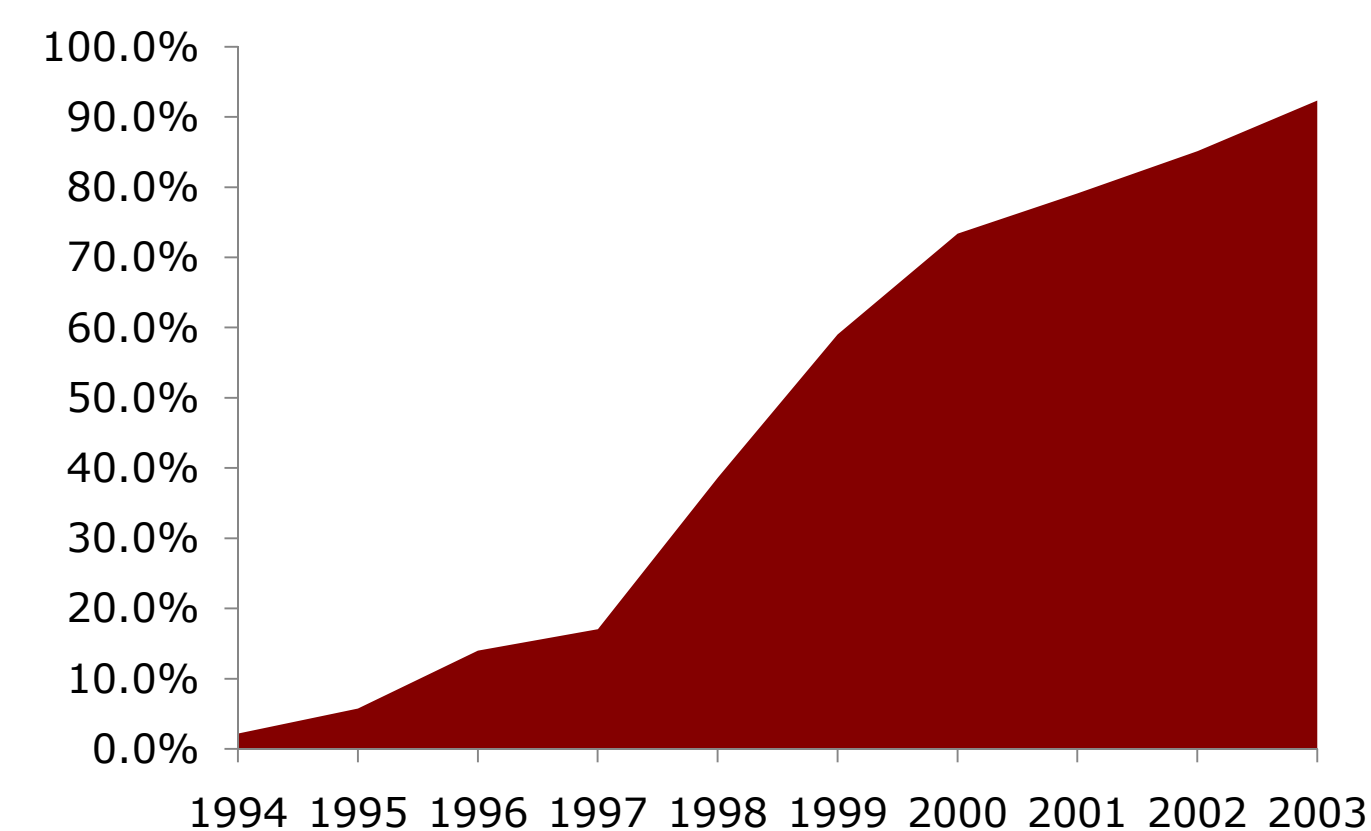


Figure 1: Percentage of FSP Benefits issued via EBT Cards

## Results

- ❑ State-level EBT penetration rates have a positive impact on the probability of food stamp receipt among low-income households.
- ❑ The average low-income household propensity to participate in the FSP increases by 4 percent with the complete switch from paper coupons to EBT cards (e.g. when state EBT penetration rates go up from 0 to 100 percent)
- ❑ After controlling for predicted FSP benefits, participation is also a function of number of children, age of head, racial status, educational attainment, single motherhood, distance to the FSP office, county unemployment and county-wide FSP participation rates

Table 1: Structural FSP Participation Equation Parameter Estimates

Variable	Parameter		Average Partial Effect (APE)
State EBT Penetration Rate (%)	0.002	***	0.0004
Predicted FSP Benefits (\$1,000)	0.565	***	0.09
Rural South	-0.198	**	-0.03
Number of Adults	-0.059		-0.009
Number of Children	0.053		0.008
Age of Head (10 years)	-0.554	***	-0.088
Head is African American	0.429	***	0.076
Head is Other Race	0.02		0.003
Head is High School Graduate	-0.661	***	-0.1
Head has College No Degree	-0.84	***	-0.125
Head has College Degree	-1.111	***	-0.164
Head is Single Mother	0.751	***	0.144
County Unemployment Rate (%)	-0.004		-0.001
Average Certification Period (months)	0.02		0.003
County FSP Participation Rate (%)	0.049	***	0.008
Distance to Closest FSP Office (miles)	-0.021	**	-0.003

Note: \*\*\*, \*\*, and \* indicate significance at 1%, 5%, and 10%, respectively.

- ❑ The effect of EBT on participation probabilities is largest among households residing in the rural South, those not headed by a single mother, and those with a White household head
- ❑ These differences may be attributed to larger reductions in stigma levels attached to program participation with the switch to electronic cards

Table 2: The Differential Impact of EBT Across Household Groups

Subgroups	Differential Impact of EBT
(Single Mother) - (Not Single Mother)	-0.0007
(Non-White) - (White)	0.0005
(Rural South) - (Not Rural South)	0.0004

## Conclusions

- ❑ In this study, we explore the impact of the EBT systems on household FSP participation behavior.
- ❑ Contrary to previous studies mainly using state caseload data and discrete indicators for EBT presences in a given year, we find that state-level EBT penetration rates have a positive impact on FSP participation among low-income households.
- ❑ This finding implies that the switch from paper coupons to EBT cards was successful in reducing stigma and inducing participation in the program.
- ❑ We also find that EBT penetration rates have an uneven impact on subpopulations, possibly due to differences in the stigma levels attached to program participation across different household groups.
- ❑ The effect of the other covariates on FSP participation reflects both real costs of participation and stigma. Further research is needed to disentangle these effects.
- ❑ Efforts to increase FSP participation rates will need to focus on reducing both access costs and stigma. The EBT system has been a positive step in that direction.



## Contact Information

For further information, please contact Sibel Atasoy at [sibela@vt.edu](mailto:sibela@vt.edu).  VirginiaTech  
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This poster is based on one of the essays in the primary author's PhD dissertation entitled "Three Essays on Food Stamp Program Participation and Poverty Dynamics". An abstract of the dissertation is available at <http://scholar.lib.vt.edu/theses/available/etd-10122009-162211/>.