

Medicaid Stigma

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Abstract

This paper uses the National Survey of America's Families (NSAF) to examine whether the low take-up rate for publicly provided health insurance is caused by welfare stigma that people associate with those programs. The NSAF asks several questions related to welfare stigma, including whether respondents believe that welfare makes people work less, or whether welfare helps people get back "on their feet." If stigma plays a role in take-up, then among eligible patients, those who neglect to enroll in Medicaid will have more negative attitudes towards welfare, all else equal. As a second approach, we test the predictions of a Moffitt (1983) utility function, with fixed and variable stigma from public benefits. In the end, we believe we can demonstrate that stigma plays a large and statistically significant role in deterring Medicaid take-up, but we cannot distinguish responses to Medicaid benefits (which should have no variable stigma) from responses to Food Stamps (which should have large variable stigma). Finally, the results of this research, while of academic interest in their own right, also have substantial policy implications. If low Medicaid take-up is caused by welfare stigma, the policy prescription is much different than if low take-up is caused by paperwork hassles, lack of information, or perceived low quality of care.

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Key words: Health care, Food Stamps, NSAF, program participation.

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1. Introduction

Many Americans fail to receive public benefits to which they are entitled, and Medicaid has among the lowest take-up rates (Remler and Glied, 2003). There are two common explanations for low participation. First, the transaction costs associated with public benefits such as cash assistance, Food Stamps, and Medicaid may be too large for some people to overcome. These costs can include gathering information, filling out paperwork, or finding transportation. An alternative explanation is that some form of social stigma deters participation in public assistance programs. This paper uses data from the National Survey of America's Families to measure the extent to which stigma reduces Medicaid participation.

Differentiating between the two explanations for low take-up (transactions costs and stigma) is important, because public policies designed to reduce one effect may exacerbate the other. For example, if the chief obstacle to participation is transactions costs, then an obvious policy solution would be combining the paperwork and infrastructure for as many public assistance programs as possible, so-called "one-stop shopping." However, if the participation obstacle is stigma, then the Medicaid infrastructure should be separated from other public assistance, so as to avoid the stigma associated with those programs. One-stop shopping would only worsen this problem. Differentiating stigma and transactions costs as causes of low take-up rates is thus critical to increasing Medicaid enrollment.¹

¹ Currie (2004) points out that some states have separated their State Children's Health Insurance Programs (SCHIP) from regular Medicaid, specifically to avoid collective stigma, while other states have pooled the programs to reduce administrative costs.

Finding the cause of under-participation in Medicaid is also important because it affects people's health. While it is true that patients can enroll in Medicaid retroactively if they become sick or need care, uninsured patients tend to delay seeking care, use less preventive services, experience more adverse health outcomes, and are four times as likely as insured patients to require both avoidable hospitalizations and emergency hospital care (ACP-ASIM, 2000).

Recently, a small amount of work has been done on stigma and Medicaid take-up rates. Remler and Glied (2003) survey this literature and conclude that there is little evidence that stigma adversely affects take-up. However, they note that most of the surveyed studies use proxies for stigma that are difficult to interpret, and this may explain the weak results.

Stuber *et al.* (2000) interview 1400 community health center patients nationwide. They find that 50 percent of patients reported some type of stigma associated with Medicaid participation. Furthermore, people's reported stigma dropped by half for those who applied for Medicaid in a place other than the welfare office, suggesting that the stigma attached to Medicaid participation may be derived from the welfare stigma associated with cash assistance. However, the authors then estimate a multivariate analysis of the determinants of take-up. Of the 22 perceived problems with Medicaid that the authors include as controls (lack of information, perceived poor quality, stigma, etc.), only five are described as significant, none of which are directly related to stigma.²

² It is not clear what controls aside from the 22 stigma variables were included (education, income, health status, etc.), and it is not clear by "significant" whether the authors mean statistically significant or large in magnitude. (The results deemed insignificant are not reported.) Moreover, with 22 stigma-like variables, multicollinearity likely generates statistically insignificant results, though their combined magnitudes may be empirically meaningful.

Our approach differs from previous efforts to identify the role of stigma in several ways. First, we use the National Survey of America's Families (NSAF), a large national survey that oversamples poor households in 13 states. The NSAF asks several questions related to welfare stigma, including participation in various programs, and whether respondents believe that working for pay is important, or whether welfare helps people get back "on their feet." If stigma plays a role in take-up, then among eligible patients, those who neglect to enroll in Medicaid will have more negative attitudes towards welfare, all else equal. The NSAF also asks about respondents' health, employment, and the quality of health care received. Second, we use Moffitt's (1983) preference-based model of welfare stigma to consider how fixed and variable stigma might differently affect take-up rates for Medicaid and Food Stamps, and then look for support for that theory in the data.

By contrast to the existing work we have seen, our examination of the NSAF suggests that welfare stigma plays a statistically and economically significant role in deterring Medicaid take-up. An eligible survey respondent who strongly agrees that welfare "makes people work less" is about 8 percent less likely to enroll than otherwise similar respondents who disagree with that statement. Similarly, eligible respondents who strongly disagree that welfare "encourages babies before marriage" are 8 percent more likely to enroll than respondents who agree.

2. Examining the data.

The NSAF is a part of the Urban Institute project titled Assessing the New Federalism. It is representative of the national, noninstitutionalized, civilian population under age 65. Though comparable in size to the Current Population Survey (CPS), the NSAF oversamples low-income

families and families in 13 states. The first two rounds of the survey were carried out in 1997 and 1999.

Importantly for our purposes, the NSAF asked respondents to evaluate eight statements relevant to welfare stigma:

- 1) Welfare encourages young women to have babies before marriage.
- 2) When children are young, mothers should not work outside the home.
- 3) Welfare helps people get on their feet when facing difficult situations.
- 4) A single mother can bring up a child as well as a married couple.
- 5) People who want children ought to get married.
- 6) Working for pay is one of the most important things a person can do.
(Not asked in 1999.)
- 7) A working mother can establish just as warm and secure a relationship with her children as a mother who does not work.
- 8) Welfare makes people work less than they would if there wasn't a welfare system.

Respondents selected one of four categorical responses to each statement: strongly agree, agree, disagree, and strongly disagree.

Table 1 presents some descriptive statistics from the pooled 1997 and 1999 NSAF surveys, limited to female-headed households earning less than 50 percent of the federal poverty line and who are therefore likely to be eligible for Medicaid.³ Those respondents in the sample who are not enrolled in Medicaid are more likely to believe that welfare encourages out-of-wedlock babies, and that mothers should not work. These unenrolled respondents are less likely to believe that single parents are as effective, and that working mothers are as good, and are more likely to believe that welfare discourages working.⁴ So among likely eligible NSAF

³ Predicting Medicaid eligibility is difficult, and involves complex family considerations and state variation in eligibility rules. Our simple criterion, 50 percent of the FPL, at least gets us comparable demographic groups.

⁴ Note that we have ranked the categorical responses from 1 to 4, with higher numbers associated

respondents, those who enroll in Medicaid have less negative views of the welfare system. This is at least consistent with welfare stigma deterring Medicaid participation.

Table 1 also documents other differences between enrollees and those not enrolled in Medicaid. The enrolled respondents are poorer, less healthy, more likely to participate in the Food Stamps program, and have more children. They are less likely to be married, and are more likely to live in the Northeast or the Midwest. To control for these other observable characteristics of respondents that may be correlated with their attitudes towards welfare and Medicaid participation, in Table 2 we estimate probit models of the likelihood of being enrolled as a function of observable demographics and other state characteristics.

Table 2 presents probit estimates of the likelihood of being enrolled in Medicaid, conditional on the characteristics in Table 1. In columns (1) through (7) we have included each attitude variable separately, in case multicollinearity renders them statistically insignificant together.⁵ In column (8) they are all included simultaneously. As it turns out, the pattern of signs and statistical significance of the attitude variables is identical in column (8) and the earlier models, though the magnitudes tend to be slightly larger when the attitude variables are included separately.

The results in Table 2 reinforce the evidence from the simple differences of means in Table 1. Respondents currently enrolled in Medicaid are less likely to agree with negative statements about welfare recipients than are otherwise-similar respondents who are not enrolled. These include "welfare encourages babies before marriage," "mothers of young children should

with stronger agreement with each statement. (This is opposite to the ranking assigned by the NSAF.)

⁵ The attitude variable "working for pay is important" was included in the 1997 NSAF, but not the 1999, so we have excluded it from the analysis here. Including it changes nothing about the results.

not work," and "welfare makes people work less." And, respondents enrolled in Medicaid are more likely to agree with positive statements such as "single mothers are as effective as a married couple."

Not only are the attitude variables statistically significant predictors of Medicaid participation, they are empirically significant. For example, poor respondents who strongly agree that welfare makes people work less are 8 percent less likely to enroll than respondents who disagree (twice the marginal effect of 0.04 in column (8) of Table 2). Similarly, respondents who strongly agree that welfare encourages out-of-wedlock births are 8 percent less likely to enroll than respondents who disagree.

These results stand in sharp contrast to the few studies to date, mostly based on small samples of individuals surveyed at medical clinics. These new findings that welfare stigma plays an important role in the low Medicaid take-up rates. If public policies could ameliorate this stigma, perhaps by separating Medicaid enrollment paperwork from other public assistance paperwork, that might increase Medicaid participation, and ultimately the health of the eligible population.

While these results do suggest that stigma plays an important role in determining Medicaid participation, several cautions are worth raising. First, we have interpreted "stigma" as the survey respondent's own attitudes towards welfare programs. An alternative would be to consider stigma to be the attitudes of non-participants towards those who do participate. We have explored this alternative by including in the table 2 regressions the state-wide average of the attitude variables for those respondents whose household incomes were *above* 50 percent of the poverty line. However, none of these proxies for local attitudes were statistically significant.

Second, because we have not precisely identified Medicaid eligibility, we cannot be certain about the direction of causality. It may be, for example, that poor people who are for some reason deemed ineligible for Medicaid harbor ill feelings towards the program, while poor people who receive benefits do not. Nevertheless, the fact that low-income, female-headed households with negative attitudes towards welfare are less likely to participate in Medicaid, even after controlling for observable household characteristics, leads us to believe that welfare stigma should be taken seriously as one of the causes of low Medicaid take-up rates.

3. A preference-based approach

The approach in the previous section is based on reduced-form regressions of Medicaid participation on individual characteristics, including attitudes towards welfare. It is based on no economic theory except for the simple idea that if people have negative attitudes towards welfare, they will be less likely to enroll in Medicaid even if they are eligible. To push a little further on the analysis, we would like to test whether patterns of Medicaid participation are consistent with simple economic theory about stigma.

Moffitt (1983) describes two types of stigma: a fixed stigma cost of receiving any benefits, and a variable stigma cost that increases with the size of the benefits. He examines the effects of these costs using a utility function

$$U=U(y + \gamma PB) - \phi P \quad (1)$$

where y is earned income, $(1-\gamma)$ represents the variable stigma cost of participation, P is an indicator for welfare participation, B is the size of benefits, and ϕ is the fixed stigma cost

incurred for any participation. Variable stigma costs are decreasing in γ , and fixed stigma costs are increasing in ϕ . Moffitt's utility function has two main empirical implications:

- (a) If there is a fixed stigma ($\phi > 0$), then people will participate if and only if

$$U(y+\gamma B)-U(y) > \phi \quad (2)$$

and the participation rate will increase with the benefit, B.

- (b) If there is no fixed stigma ($\phi = 0$), then people will participate if $\gamma > 0$, and participation will be independent of the benefit, B.

These two insights have important implications for Medicaid, which to a first approximation comes in a fixed quantity. Either a person is covered by Medicaid, or not. If two neighbors participate, one cannot have more benefits than the other.⁶ Because there can be no variable stigma cost associated with Medicaid benefits, any stigma will automatically have an effect on participation, and participation will be a function of benefit generosity.

Unfortunately, it turns out to be very difficult to assess the benefits of Medicaid participation. Benefits differ across states, with some states supplementing Medicaid and other states not. Benefits also differ across individuals, in the sense that Medicaid will be more valuable to a sickly person than to a healthy person.

To capture the variation across states, in Table 2 we have included a simple count of the number of optional services states have added to Medicaid benefits.⁷ These optional services

⁶ If all participants have the same underlying health risk, then *a priori* they have the same benefit from enrolling in Medicaid, and any stigma associated with participation is fixed. Once they become ill and see a doctor, there may be stigma costs associated with visiting Medicaid clinics, but those costs would be incurred after the enrollment decision has been made. More subtle issues arise when patients have different health risks.

⁷ These data were downloaded from the Urban Institute health care database: www.urban.org/pdfs/ANF_StateDatabaseVariables.pdf.

include dental care, mental health care, prescription drugs, nursing facilities, etc. Each additional benefit adds about 1.1 percent to the likelihood that eligible respondents participate in Medicaid, supporting the idea that Medicaid stigma comes in a fixed amount. Of course, we cannot rule out that there may be fixed administrative costs associated with Medicaid participation, and that the increase in participation associated with additional benefits is due to respondents judging that the additional benefits make it worthwhile to incur those fixed administrative costs.

To control for the heterogeneity of Medicaid benefits across individuals, we have included in table 2 a dummy variable for individuals with a "health disability that limits work." In column (9) we interact that health dummy with the number of additional Medicaid services offered by the respondent's state, with the idea being that less healthy respondents will place greater value on additional services. All of these proxies for Medicaid benefits, the number of state services, the health of the respondent, and the interaction between those two variables, indicate that Medicaid participation increases with benefits, suggesting that a fixed stigma cost may be deterring take-up.

By contrast, consider the Food Stamps program, where benefits range in size depending on the households' characteristics, and where recipients may feel stigma each time they use the benefits at a grocery store. Larger benefits may be associated with larger stigma. In other words, there may be a "variable" stigma associated with Food Stamps. Imagine a Moffitt-style utility function with both Food Stamp and Medicaid benefits:

$$U=U(y + \gamma_F P_F F + P_M M) - \varphi_F P_F - \varphi_M P_M \quad (3)$$

where γ_F is the variable stigma associated with Food Stamps, P_F is an indicator for participation in Food Stamps, F is the Food Stamp benefit, P_M is an indicator for participation in Medicaid, M is the size of the Medicaid benefit, ϕ_F is the fixed stigma for Food Stamps, and ϕ_M is the fixed stigma for Medicaid. Note that there is no variable stigma of Medicaid (γ_M), by assumption.

Assume further that there is no fixed stigma, ϕ_F , associated with Food Stamps. Stamps can be sent in the mail, so that nobody can identify recipients until they go to the grocery store.⁸ In this case, the two Moffitt predictions apply directly to the two programs: P_M will increase with M , and P_F will not increase with F . This will be true even though both programs have stigma associated with them.⁹

From table 2, it seems that Medicaid participation rates (P_M) are higher in states with larger benefits (M), as measured by the number of additional benefits provided in each state. This supports the notion that there is a fixed cost, which may be fixed stigma, associated with Medicaid. We would like to pursue the analogous question and ask whether Food Stamp participation rates (P_F) are higher for participants eligible for larger benefits (F).

To proceed, we need the dollar value of Food Stamp benefits, both for households that participate in Food Stamps, and for those that do not. The NSAF data contain the dollar value of annual Food Stamps received by participants.¹⁰ To predict the amount that would have been

⁸Of course, there could still be fixed administrative costs.

⁹This assumes that eligibility for and participation in the two programs are independent. In fact, the two programs tend to serve the same populations, and county welfare offices that process Food Stamp participants steer applicants towards Medicaid. Similarly, the fixed costs associated with visiting county welfare offices to enroll in Food Stamps may be indistinguishable from stigma-related fixed costs.

¹⁰ The value is blurred slightly to preserve confidentiality.

received by nonparticipants, we use the participants' data and information about the Food Stamps formula.

Benefits are determined by an administrative formula that depends on households' size, cash income, shelter costs that vary by state of residence, child care costs, and assets. Roughly speaking, the benefit is the difference between an annually adjusted monthly maximum benefit, which depends on family size, and the family's computed contribution to food. The family's contribution is 30 percent of household income less deductions.

We use this information to predict Food Stamp benefits for non-participants in two ways, presented in table 3. First we regress the actual annual Food Stamp benefit received by participants on variables that are in the federal Food Stamp program formula, including family size, number of children and elderly household members, family earnings, car ownership, and marital status. As an alternative approach, in column (2), we estimate the same regression using all of the arguably exogenous household characteristics, including race, education, and health, regardless of whether or not they are part of the Federal formula.¹¹

The next step is to predict Food Stamp program participation as a function of household characteristics including predicted household-specific benefits. Table 4 estimates probit models of Food Stamp participation. Column (1) uses the sample of female-headed households with incomes less than 100 percent of the poverty line, and uses the formula-based prediction of Food Stamp benefits from column (1) of Table 3. The attitude variables have similar signs and interpretations as in the Medicaid participation regressions. Women who strongly agree that

¹¹ The sample used for predicting Food Stamp benefit is all households with family income less than 100 percent of the Federal poverty line. Of the 4061 households in the sample, only 310 received zero Food Stamp benefits. To be sure there is not a left-censoring issue, we have estimated table 3 using a Tobit, with no significant changes in the results.

welfare encourages out-of-wedlock births are 1.8 percent less likely to participate in Food Stamps than women who disagree (twice the marginal effect). Women who strongly agree that welfare discourages work are 3 percent less likely to participate in food stamps.

The key variable in table 4 is the predicted Food Stamp benefit. The coefficient in column (1) (0.440) suggests that a 1000 dollar increase in annual Food Stamp benefits increases program participation by 4.5 percent. This is substantial, given that the mean Food Stamp benefit in the sample is around \$1900, and implies that the elasticity of Food Stamp participation with respect to benefits is about 8.5 percent.

Unfortunately, we have no good way of comparing our measure of the benefits elasticity of Food Stamps with the benefits elasticity of Medicaid, because our Medicaid benefits proxy is simply a count of the number of supplemental services in each state. Qualitatively, however, it seems to us that the Medicaid benefit effect on participation in table 2 is not larger than the Food Stamp benefit effect in table 4. For Medicaid, an increase of one supplemental benefit increases participation by about 1.1 percent, and the number of supplements ranges from 13 (Alabama) to 33 (Wisconsin) with a median of 27 optional services. For Food Stamps, a one standard deviation increase in benefits (\$1700) would increase participation by 7.6 percent.

If there is zero fixed stigma for Food Stamps, and no fixed administrative costs, then we would predict that there would be no effect of benefit size on Food Stamp participation. But we find that this is not the case. If there are fixed administrative costs, however, then participation in both Food Stamps and Medicaid will increase with benefits, and we have no means of differentiating the two types of stigma. In the end, we are left with one of two explanations for our Food Stamps results. We know from the attitude coefficients that stigma is associated with

lower Food Stamp participation. From the benefits coefficient, we know that the stigma either has a fixed component, or that there are associated fixed administrative costs generating a similar effect.

4. Conclusion

Stigma seems to play an important role in deterring Medicaid program participation. Women who have low incomes and are heads of households, and who therefore are likely to be eligible for Medicaid, are significantly less likely to enroll in Medicaid if they have pejorative attitudes towards welfare in general. The policy implications of this are straightforward. States that combine multiple welfare programs under one umbrella, in an attempt to minimize logistical obstacles to enrollees, may be foiled by an increase in stigma if Medicaid suffers a loss in reputation as a consequence of association with other need-based assistance programs. While we feel confident from this research that stigma is an important determinant of Medicaid take-up, we cannot say the degree to which that stigma is exacerbated by association with TANF or Food stamps, and we leave that question open for future analysis.

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Table 1: Descriptive statistics from the 1997 and 1999 NSAF
(Female headed household with income < 50 percent of the Federal poverty line)

	All		Not enrolled in Medicaid		Enrolled in Medicaid	
	Mean	Std.err	Mean	Std.err	Mean	Std.err
	(1)	(2)	(3)	(4)	(5)	(6)
Attitude variables:						
Welfare encourages babies	2.21	0.87	2.32*	0.86	2.15	0.86
Mothers should not work	2.59	0.81	2.63*	0.79	2.57	0.82
Welfare helps people get on feet	2.99	0.77	3.01	0.74	2.99	0.79
Single mothers are as effective	3.10	0.85	2.99*	0.87	3.16	0.84
People who want children should marry	2.71	0.82	2.73	0.78	2.69	0.84
Working for pay is important (1997)	3.38	0.61	3.37	0.63	3.38	0.59
Working mothers are as good	2.97	0.79	2.92*	0.78	3.00	0.80
Welfare makes people work less	2.73	0.89	2.83*	0.87	2.66	0.89
Satisfied with medical care	1.70	0.83	1.81*	0.90	1.63	0.78
Numbers of Medicaid optional services	24.62	5.62	22.91	5.96	25.70	5.11
Family earnings	1599.6	2405.6	2436.2*	2864.1	1076.1	1888.6
Participate in Food Stamp program	0.96	0.20	0.87*	0.34	0.98	0.13
Amount of Food Stamp benefit received	1932.0	1765.5	1024.2*	1601.3	2447.3	1642.9
Number of children	2.50	1.41	2.31*	1.41	2.62	1.39
Marital status (1=married)	0.13	0.34	0.22*	0.41	0.08	0.27
With high school degree	0.47	0.50	0.47	0.50	0.48	0.50
With some college education	0.11	0.32	0.10	0.33	0.12	0.33
With college degree	0.04	0.19	0.05†	0.50	0.03	0.18
Has health problem affecting work	0.21	0.41	0.16*	0.37	0.25	0.43
Northeast	0.25	0.43	0.15*	0.36	0.31	0.46
Midwest	0.19	0.39	0.13*	0.33	0.23	0.42
South	0.38	0.48	0.53*	0.50	0.28	0.45
West	0.18	0.39	0.19	0.40	0.17	0.38
N	2559		985		1574	
Year = 1997	1317		448		869	
Year = 1999	1242		537		705	

* Difference of means (or proportions) between two groups is statistically significant at 5 percent.

† Difference statistically significant at 10 percent.

(a) Respondents choose from 1 ("strongly disagree") to 4 ("strongly agree"), so higher values correspond to greater agreement with the statement. (This is a re-coding of the original NSAF scheme.)

Table 2: Probit Estimates of the Likelihood of being Enrolled in Medicaid
(Female headed households with income < 50 percent of the Federal poverty line)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Attitude variable									
Welfare encourages babies	-0.145*							-0.101*	-0.100*
	(0.032)							(0.034)	(0.034)
	-[0.055]							-[0.038]	-[0.038]
Mothers should not work		-0.132*						-0.124*	-0.125*
		(0.035)						(0.037)	(0.037)
		-[0.050]						-[0.047]	-[0.047]
Welfare helps people get on feet			-0.004					-0.011	-0.011
			(0.035)					(0.035)	(0.035)
			-[0.002]					-[0.004]	-[0.004]
Single mothers are as effective				0.090*				0.088*	0.089*
				(0.032)				(0.036)	(0.036)
				[0.034]				[0.033]	[0.033]
People who want children should marry					-0.019			0.041	0.042
					(0.033)			(0.035)	(0.035)
					-[0.007]			[0.016]	[0.016]
Working mothers are as good						0.061†		0.0001	-0.00005
						(0.034)		(0.040)	(0.040)
						[0.023]		[0.000]	[0.000]
Welfare makes people work less							-0.121*	-0.102*	-0.103*
							(0.031)	(0.033)	(0.033)
							-[0.046]	-[0.039]	-[0.039]
Number of optional Medicaid services	0.028*	0.028*	0.027*	0.027*	0.027*	0.027*	0.028*	0.029*	0.026*
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
	[0.011]	[0.011]	[0.010]	[0.010]	[0.010]	[0.010]	[0.010]	[0.011]	[0.010]
Family earning per-capita	-0.452*	-0.462*	-0.454*	-0.448*	-0.455*	-0.454*	-0.456*	-0.453*	-0.454*
	(0.046)	(0.047)	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)	(0.047)	(0.047)
	-[0.171]	-[0.174]	-[0.172]	-[0.169]	-[0.172]	-[0.172]	-[0.172]	-[0.171]	-[0.171]
Number of children	0.104*	0.108*	0.105*	0.105*	0.105*	0.107*	0.104*	0.106*	0.105*
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
	[0.039]	[0.041]	[0.040]	[0.040]	[0.040]	[0.040]	[0.039]	[0.040]	[0.040]

(continued)

(Table 2 continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Marital status (1 = married)	-0.634*	-0.631*	-0.657*	-0.625*	-0.652*	-0.645*	-0.647*	-0.588*	-0.585*
	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)	(0.082)	(0.082)
	[-0.248]	[-0.246]	[-0.256]	[-0.244]	[-0.255]	[-0.252]	[-0.253]	[-0.229]	[-0.229]
High school degree	0.071*	0.077*	0.082*	0.079*	0.082*	0.080*	0.083*	0.067*	0.066*
	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)
	[0.027]	[0.029]	[0.031]	[0.030]	[0.031]	[0.030]	[0.031]	[0.025]	[0.025]
Some college education	0.077*	0.099*	0.080*	0.079*	0.081*	0.074*	0.084*	0.096*	0.095*
	(0.091)	(0.091)	(0.091)	(0.091)	(0.091)	(0.091)	(0.091)	(0.092)	(0.092)
	[0.029]	[0.037]	[0.030]	[0.029]	[0.030]	[0.028]	[0.031]	[0.036]	[0.035]
With a college degree	-0.042*	-0.024*	-0.047*	-0.036*	-0.047*	-0.044*	-0.053*	-0.017*	-0.017*
	(0.147)	(0.146)	(0.146)	(0.148)	(0.146)	(0.147)	(0.146)	(0.148)	(0.148)
	[-0.016]	[-0.009]	[-0.018]	[-0.014]	[-0.018]	[-0.017]	[-0.020]	[-0.006]	[-0.007]
Health disability	[0.330]	[0.352]	[0.320]	[0.331]	[0.322]	[0.322]	[0.306]	[0.352]	
	[0.069]	[0.069]	[0.068]	[0.069]	[0.068]	[0.068]	[0.068]	[0.069]	
	[0.120]	[0.127]	[0.116]	[0.120]	[0.117]	[0.117]	[0.112]	[0.127]	
Number of options*health disability									0.014*
									(0.003)
									[0.005]
Per-capita GSP (000 \$)	0.039*	0.038*	0.034†	0.036*	0.033*	0.035*	0.037*	0.047*	0.047*
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
	[0.015]	[0.014]	[0.013]	[0.014]	[0.013]	[0.013]	[0.014]	[0.018]	[0.018]
State unemployment rate (%)	0.006	0.005	0.007	0.011	0.008	0.009	0.009	0.008	0.006
	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)
	[0.002]	[0.002]	[0.003]	[0.004]	[0.003]	[0.003]	[0.003]	[0.003]	[0.002]
Midwest	0.030	0.052	0.043	0.054	0.044	0.047	0.041	0.049	0.049
	(0.137)	(0.137)	(0.137)	(0.137)	(0.137)	(0.137)	(0.137)	(0.137)	(0.137)
	[0.011]	[0.020]	[0.016]	[0.020]	[0.017]	[0.018]	[0.015]	[0.018]	[0.018]
South	-0.345*	-0.362*	-0.379*	-0.363*	-0.377*	-0.376*	-0.353*	-0.305*	-0.306*
	(0.133)	(0.133)	(0.133)	(0.133)	(0.133)	(0.133)	(0.134)	(0.134)	(0.134)
	[-0.132]	[-0.138]	[-0.144]	[-0.138]	[-0.143]	[-0.143]	[-0.134]	[-0.116]	[-0.116]

(continued)

(Table 2 continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
West	-0.293*	-0.278*	-0.306*	-0.287*	-0.303*	-0.297*	-0.306*	-0.258*	-0.257*
	(0.099)	(0.099)	(0.099)	(0.099)	(0.099)	(0.099)	(0.099)	(0.100)	(0.100)
	[-0.113]	[-0.107]	[-0.118]	[-0.111]	[-0.117]	[-0.115]	[-0.118]	[-0.099]	[-0.099]
Year	-0.168*	-0.153*	-0.146*	-0.146*	-0.146*	-0.145*	-0.151*	-0.172*	-0.172*
	(0.033)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.033)	(0.033)
	[-0.063]	[-0.058]	[-0.055]	[-0.055]	[-0.055]	[-0.055]	[-0.057]	[-0.065]	[-0.065]
Constant	15.646*	14.187*	13.316*	12.975*	13.366*	12.985*	14.011*	15.922*	15.994*
	(3.013)	(2.996)	(2.988)	(2.983)	(2.980)	(2.984)	(2.985)	(3.066)	(3.064)
Pseudo-R2	0.160	0.158	0.154	0.156	0.154	0.155	0.159	0.167	0.167
Attitude variables (Chi-2)								6.40*	6.40*
N	2559	2559	2559	2559	2559	2559	2559	2559	2559

* Statistically significant at 5 percent; † significant at 10 percent.

(a) Respondents choose from 1 ("strongly disagree") to 4 ("strongly agree"), so higher values correspond to greater agreement with the statement. Standard errors in parentheses () and marginal effects in square brackets [].

Table 3: Predicting Food Stamp Benefits

Least squares estimates of the amount of Food Stamp benefit received
 (Sample: households with income < 100 percent of the Federal poverty line)

	(1)		(2)
Family size	227.4* (33.9)	Family size	263.7* (40.6)
Number of children	268.8* (38.4)	Number of children	264.5* (40.7)
Number of elderly	-407.5* (100.8)	Number of females	-4.8 (24.6)
Family earning	-65.39* (4.68)	Family earnings	-61.1* (5.8)
Own a car	-309.5* (45.1)	Own a car	-285.7* (47.8)
Female headed	89.2 (78.8)	Number of workers	-76.3† (41.4)
Year =1999	-86.1* (42.9)	Number of elderly	-371.3* (104.7)
Constant	1129* (105)	Household head:	
		Age	-1.0 (2.3)
		Marital status	42.0 (70.0)
		Female household head	80.1† (85.6)
		High school degree	66.02 (47.6)
		Some college education	158.3* (69.0)
		With a college degree	56.2* (113.7)
		Race = other	 (116.3)
		Race = white	-59.4* (50.2)
		Has disabilities that limit work	-84.87 (50.0)
		Housing: rent	123.3* (57.1)
		Housing: live for free	476.7* (103.5)
		Year = 1999	-22.1 (233.3)
		Constant	2240.9 (2620.6)
State fixed effects included		State fixed effects included	
F(7,5351)	178.3	F(18,5340)	60.89
N	4,061	N	4,061
R ²	0.22	R ²	0.25

* Statistically significant at 5 percent; † significant at 10 percent.
 Standard errors in parentheses.

Table 4: Probit Estimates of Likelihood of Being Enrolled in the Food Stamp Program

	Sample: Female headed households with income <100 percent of poverty line		Sample: Female headed households with income < 50 percent of poverty line	
	Benefit approximated using formula variables (1)	Benefit approximated using attribute variables (2)	Benefit approximated using formula variables (3)	Benefit approximated using attribute variables (4)
Attitude variables				
Welfare encourages babies	-0.087* (0.043) -[0.009]	-0.089* (0.043) -[0.009]	-0.067 (0.061) -[0.005]	-0.070 (0.061) -[0.005]
Mothers should not work	-0.123* (0.049) -[0.013]	-0.118* (0.049) -[0.012]	-0.085 (0.073) -[0.006]	-0.080 (0.074) -[0.006]
Welfare helps people get on feet	0.070 (0.045) [0.007]	0.075† (0.045) [0.008]	0.095 (0.066) [0.007]	0.097 (0.065) [0.007]
Single mothers are as effective	0.067 (0.052) [0.007]	0.065 (0.052) [0.007]	0.085 (0.070) [0.006]	0.082 (0.069) [0.006]
People who want children should marry	0.042 (0.047) [0.004]	0.046 (0.047) [0.005]	0.012 (0.072) [0.001]	0.015 (0.072) [0.001]
Working mothers are as good	-0.140* (0.061) -[0.014]	-0.141* (0.061) -[0.014]	-0.152† (0.088) -[0.011]	-0.145† (0.088) -[0.010]
Welfare makes people work less	-0.146* (0.044) -[0.015]	-0.150* (0.044) -[0.015]	-0.180* (0.068) -[0.012]	-0.185* (0.068) -[0.013]
Predicted Food Stamp benefit	0.440* (0.122) [0.045]	0.502* (0.113) [0.051]	0.461* (0.212) [0.032]	0.460* (0.176) [0.032]
Family earnings per-capita	-0.174* (0.037) -[0.018]	-0.159* (0.036) -[0.016]	-0.139* (0.106) -[0.010]	-0.126* (0.104) -[0.009]
Number of children	-0.122* (0.058) -[0.012]	-0.149* (0.056) -[0.015]	-0.068 (0.113) -[0.005]	-0.069 (0.097) -[0.005]
Marital status (1 = married)	-0.135 (0.110) -[0.015]	-0.154 (0.111) -[0.017]	-0.519* (0.169) -[0.053]	-0.535* (0.170) -[0.055]

(continued)

(Table 4 continued)

	(1)	(2)	(3)	(4)
High school degree	0.033 (0.086) [0.003]	-0.001 (0.086) [0.000]	-0.001 (0.129) [0.000]	-0.041 (0.126) -[0.003]
Some college education	0.175 (0.129) [0.016]	0.104 (0.128) [0.010]	0.122 (0.208) [0.008]	0.050 (0.204) [0.003]
With a college degree	0.343 (0.255) [0.027]	0.329 (0.256) [0.026]	0.333 (0.477) [0.017]	0.296 (0.475) [0.016]
State per-capita GSP (\$ thousands)	-0.023 (0.025) -[0.002]	-0.025 (0.025) -[0.002]	-0.014 (0.040) -[0.001]	-0.011 (0.039) -[0.001]
State unemployment rate	0.030 (0.046) [0.003]	0.029 (0.045) [0.003]	0.023 (0.075) [0.002]	0.024 (0.075) [0.002]
Midwest	-0.136 (0.165) -[0.015]	-0.129 (0.165) -[0.014]	-0.354 (0.261) -[0.030]	-0.346 (0.261) -[0.029]
South	-0.271 (0.184) -[0.030]	-0.292 (0.184) -[0.032]	-0.200 (0.286) -[0.015]	-0.194 (0.279) -[0.014]
West	-0.152 (0.134) -[0.017]	-0.149 (0.135) -[0.016]	-0.118 (0.219) -[0.009]	-0.120 (0.221) -[0.009]
Year (1999=1)	-0.023 (0.047) -[0.002]	-0.020 (0.047) -[0.002]	0.036 (0.075) [0.003]	0.029 (0.075) [0.002]
Constant	4.571 (4.432)	4.295 (4.437)	-1.563 (7.164)	-0.914 (7.111)
Pseudo-R2	0.113	0.117	0.096	0.098
Attitude variables (Chi-2)	8.63*	8.28*	2.93†	2.84†
N	2,933		1,529	

* Statistically significant at 5 percent; † significant at 10 percent.

(a) Respondents choose from 1 ("strongly disagree") to 4 ("strongly agree"), so higher values correspond to greater agreement with the statement.

Standard errors in parentheses () and marginal effects in square brackets [].