

HOW DID PUBLIC ASSISTANCE POLICY REFORMS AFFECT WOMEN'S WELFARE PROGRAM PARTICIPATION?

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ABSTRACT

We examine the effects of introducing and changing individual public assistance policy instruments on women's welfare participation decisions with controls for changes in the public health insurance program. Due to the large public deficits, state governments used several policy instruments to encourage welfare recipients towards work and self reliance. Our analysis indicates activity sanctions, welfare guarantee reductions, and family caps decreased welfare participation, which achieved the program's objectives. Financial incentives and offering additional job-related activities increased participation into the assistance programs. If the government's focus is to reduce program participation, administrators may want to modify these latter two instruments.

INTRODUCTION

The United States dramatically changed public assistance policies during the 1990s. The passing of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) converted the welfare program, Aid to Families with Dependent Children (AFDC), to Temporary Assistance for Needy Families (TANF). Government control of AFDC was relatively centralized. TANF, on the other hand, gives states increased freedom to tailor welfare policies. Similarly, the provision of public health insurance has been a state initiative since the early 1990s. The State Children's Health Insurance Program (SCHIP) was enacted as part of the Balanced Budget Act of 1997, which expanded public health insurance coverage to children who previously did not qualify for Medicaid. Several states began to offer health insurance to working adults in the mid-1990s.

This paper examines how policy instruments in welfare programs affect women's program participation. Motivated by a drastic decrease in welfare caseloads in the mid-1990s, the literature has thoroughly explored the effects of welfare reforms on welfare participation/caseload (CEA, 1997, 1999; Levine and Whitmore, 1998; Moffitt, 1999; Wallace and Blank, 1999; Ellwood, 2000; Schoeni and Blank, 2000; Mead, 2000; Ziliak et al., 2000; Blank, 2001; Grogger, 2003a, 2003b, 2004; Grogger and Michalopoulos, 2003; see also the survey by Bell, 2001). After peaking in 1994, welfare caseloads had dropped at record rate of 50 percent by 1999. This decline in welfare caseloads is mainly explained by economic growth after a recession in 1990-01 and changes in welfare policy. Previous works agree that the strong economy played an important role in the caseload decline of the 1990s through improved labor market conditions. However, there are fewer consensuses on the influences of

individual instruments such as time limits and work sanctions. Specifically, previous works consider the impacts of welfare reform, as a whole, using a dummy variable for its implementation, while a few works examine the effectiveness of selected policy instruments on welfare use. While the examination of individual instruments is of increasing research interest, a comprehensive analysis regarding the effectiveness of policy instruments in public assistance programs does not exist (Moffitt, 2001; Danielson and Klerman, 2004).

In an attempt to fill this gap, we study the effects of various policy instruments on women's welfare participation decisions. Specifically, our analysis examines the effects of welfare policy instruments after controlling for the effects of public health insurance policy instruments. The analysis relates two branches of the literature. The first is the effects of welfare reforms on welfare caseload. The second is the effects of public health insurance reforms on welfare participation. Several articles study possible effects of Medicaid expansions for children on welfare participation decisions (see the survey by Gruber and Madrian, 2002). Very few attempts have been made at analyzing the effects of both welfare and public health insurance programs together on women's welfare participation decisions.

Considering the current large public deficits, the state governments are under pressures to reduce expenditures. Generally programs for the poor such as the public assistance program expenditures are targeted. Governments' goal was to revise the public assistance program and develop a welfare system that promotes work without impairing the welfare of the poor. While balancing efficiency and equity is a politically sensitive and difficult issue to tackle, it is a pressing problem for state governments to select effective policies to attain the goal. The literature that studies only the effects of the conversion from AFDC to TANF and/or selective individual policies does not provide guidance on which policies are effectively operating. To answer the question, we conduct a comprehensive analysis on the relationships between policy instruments in public assistance programs and women's welfare participation.

The results of the analysis may be disappointing for some state governments. We select nine welfare policy instruments and two public health insurance instruments. Only five of these 11 instruments are found to affect women's welfare participation decisions. Three among the five instruments operated in the way governments initially intended. Activity sanctions, welfare guarantee reduction, and family caps discouraged welfare participation. These results are consistent with previous work. Both welfare guarantees and activity sanctions played a role in welfare caseload reduction after TANF implementation (Grogger, 2003b; Danielson and Klerman, 2004). Two among the five instruments operated against governments' intention. Several states provided financial incentives (low benefits reduction rate and high earned income disregards) in order to motivate non-working welfare participants to find employment and discontinue welfare participation. However, the current incentives increased welfare participation. Our estimates imply that current working non-welfare participants reduced their work to obtain welfare benefits (Blank et al., 2000; Moffitt, 1997; Moffitt, 2001). Similarly, offering additional job-related activities increased welfare participation, due to moral hazard.¹ Other instruments, including time limits, diversion programs, public health insurance, and income eligibility tests, did not affect women's decisions on welfare participation at statistically significant levels.

The analysis provides governments with potentially useful guidance for coordinating several policy instruments in public assistance programs. The results suggest that governments may want to reduce or abolish financial incentives (low benefits reduction rate and high earned income disregards) and offer additional resources to promote the obtainment of employment. Specifically, the former result is consistent with the literature pointing out its ineffectiveness. Other instruments are not detrimental in terms of welfare dependence. Since these instruments may have other objectives (e.g. providing public health insurance coverage to the poor), governments may want to retain them until further works judge their effectiveness.

BACKGROUND

AFDC was implemented under the Social Security Act of 1935. This program provided cash assistance to needy families with children. States created and administered AFDC programs in accordance with federal regulations and guidelines. Since 1962, states have been allowed to implement changes to their individual welfare programs. States were allowed to deviate from the federal regulations by obtaining waivers from the Department of Health and Human Services. Examples of state specific stipulations include family caps, time limits on benefits, and benefits sanctions on welfare recipients who do not comply with job-related activity requirements. In 1996, the PRWORA replaced AFDC with TANF. States were given complete freedom in determining and administering their own welfare programs. By 1998, all states had implemented a TANF program.

AFDC participants, in addition to receiving cash handouts, were also given Medicaid coverage and food stamps as part of the benefits package. Medicaid was established to cover AFDC participants with the Social Security Amendments of 1965. However, the link between AFDC and Medicaid was severed through various legislative actions in the mid-1980s. The federal government expanded Medicaid income eligibility requirements beyond AFDC income eligibility thresholds to provide health insurance coverage to poor pregnant women and children (Yelowitz, 1995). Starting in the mid-1990s, states began to institute either separate or state specific health insurance programs, as was typical under TANF implementation. By 1996, 18 states submitted Medicaid waivers. These 18 states expanded eligibility to a larger population of children. In 1996, nine states (California, Colorado, Connecticut, Delaware, Massachusetts, New Jersey, New York, Pennsylvania, and Virginia) instituted separate, state funded health insurance programs. As part of the movement toward state initiated healthcare programs, the State Children's Health Insurance Program (SCHIP) was enacted as part of the Balanced Budget Act of 1997. States were given flexibility in establishing state specific SCHIP. States can expand their Medicaid program (M-SCHIP), establish a separate state program (S-SCHIP), or establish a combination of the two (COMBO).² In addition to expanding healthcare benefits for children, several states employed either Medicaid waivers and/or state funds to offer health insurance to working adults in the mid-1990s. In 1996, eight states (Delaware, Hawaii, Minnesota, Oregon, Rhode Island, Tennessee, Vermont, and Washington) offered some form of public health insurance to working adults. In 2000, 15 states and the District of Columbia offered some form of public health insurance to adults in poor families.

In sum, we observe that both welfare and public health insurance programs began to vary at the state level in the mid-1980s. All states obtained autonomy in designing their welfare and public health insurance programs by the mid-1990s.

DATA

We use the March Annual Demographic files of the Current Population Survey (CPS) covering the years of 1996 to 2000. The CPS is a nationally representative cross-section survey that contains an average of 60,000 households per year. The CPS provides national data on public assistance for individual families as well as detailed demographic characteristics. The survey is commonly used in the literature (e.g., Moffitt, 1999; Schoeni and Blank, 2000; Grogger, 2003a). We consider the time period after which state autonomy in designing welfare programs was complete. Since states have been autonomous in designing welfare and public health insurance programs, there have been variations in employed policy instruments.

Our analysis uses the full sample of women as in Moffitt (1999) and Schoeni and Blank (2000). This results in a sample containing 185,682 women, ages 16-54. Table 1 below presents the summary statistics of our sample.

**TABLE 1
SUMMARY STATISTICS OF DATA**

Variable	Mean	Std. Dev.
All Years		
Work	0.770	0.420
Welfare Use	0.034	0.180
1996		
Work	0.761	0.425
Welfare Use	0.049	0.215
1997		
Work	0.768	0.422
Welfare Use	0.038	0.191
1998		
Work	0.770	0.421
Welfare Use	0.031	0.173
1999		
Work	0.778	0.416
Welfare Use	0.027	0.162
2000		
Work	0.775	0.418
Welfare Use	0.023	0.149
	Fraction	Std. Dev.
Age Categories		
Ages 16-25	0.233	0.423
Ages 26-34	0.234	0.423
Ages 35-44	0.293	0.455
Ages 45-54	0.240	0.427

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Race		
White	0.837	0.369
Black	0.109	0.311
Asian, Pacific Islander	0.040	0.197
American Indian, Eskimo	0.014	0.117
Education		
Less than a High School Diploma	0.183	0.387
High School Graduate	0.303	0.459
Some College or an Associates Degree	0.291	0.465
Four Year College Graduate	0.162	0.369
Masters, Professional, Ph.D.	0.061	0.239
Age of the Youngest Child in the Family given that a child exists	7.012	5.182
Total Number of Children in the Family given that a child exists	1.905	0.968
Number of Observations		185,682

Note:

Std. Dev. denotes the standard deviation. We classify a woman as a welfare participant if she is reported as receiving income from the public assistance or welfare program. We classify a woman as a worker if her usual weekly hours are reported as positive.

There are a couple of observations worthy of note. First, the women's labor force participation rate is stable at approximately 77 percent each year. Second, between 1996 and 2000, we observe a decrease in welfare participation rates. Some works restrict their analysis to a sub-sample of single mothers, since married mothers and single non-mothers are not eligible for the welfare program. However, the literature states that there is evidence that welfare policies affect fertility and marital decisions.³ Grogger (2003a) says that restricting the sample may introduce sample selection bias (p. 395). Selecting a full sample of women avoids this problem.⁴

Information on policy instruments is extracted from various sources, which is presented in Table 2. Our analysis considers nine policy instruments in welfare programs. The nine policy instruments are activity requirements, activity sanctions, diversion programs, time limits on benefits, family caps, welfare guarantees, earned income disregards, benefits reduction rates, and income eligibility tests.⁵ Brief explanations for each policy instrument are as follows. States provide various job training programs to welfare recipients in order to promote working. "Activity requirements" measure the degree to which each state makes such efforts. Welfare recipients must participate in these programs to maintain their welfare benefits. Otherwise, their benefits are discontinued. "Activity sanctions" measure how strict states are in sanctioning those who do not satisfy the requirements. Several states established a diversion program throughout the sample period.⁶ These programs aim to divert either eligible applicants and/or current recipients from welfare participation via benefits such as cash payments. "Diversion programs" measure the effectiveness. We also include an indicator for time limit policies on receiving welfare benefits. Most states set time limits on receiving benefits to reduce the duration of welfare participation. The remaining variables capture the state's level of generosity with respect to welfare benefits. "Family caps" are sets of policies that limit the marginal

TABLE 2
DATA SOURCES

AFDC AND TANF POLICIES

We use the Urban Institute's Welfare Rules Database to characterize states' welfare policies for a specific year. The database provides a detailed account of welfare rules across all 50 states and the District of Columbia for 1996 to 2000.

FOOD STAMP PROGRAM

The U.S. Department of Agriculture, Food and Nutrition Service. Various Years. Characteristics of Food Stamp Households. Unpublished reports.

PUBLIC HEALTH INSURANCE PROGRAMS (MEDICAID, SCHIP, MEDICALLY NEEDY, AND ADULT)

We extract data on the public health insurance programs from Yelowitz's dataset and the Center for Medicare and Medicaid Services' website (<http://www.cms.gov/>). We extract the Medically Needy programs and the adult public health insurance programs information from various sources: Centers for Medicare and Medicaid Services (2002), FamiliesUSA (2001), Guyer and Mann (1999), Health Care Financing Administration (2001) (<http://www.hcfa.gov/init/kidssum.htm>), Kaiser Family Foundation's website (<http://www.statehealthfacts.kff.org/>), Lambrew (2001), Rosenbach et al. (2001), Rosenbaum et al. (1999a), Rosenbaum et al. (1999b), Rosenbaum et al. (2001a), Rosenbaum et al. (2001b), and Rosenbaum and Smith (2001) and Various State Department of Human Services.

FEDERAL POVERTY GUIDELINES

The dollar amounts of federal poverty guidelines are available from the U.S. Department of Health and Human Services website (<http://aspe.hhs.gov/poverty/poverty.htm>).

EARNED INCOME TAX CREDIT (STATE AND FEDERAL)

The National Bureau of Economic Research, TAXSIM program's website (<http://www.nber.org/taxsim>), and Feenberg and Coutts (1993).

STATE LEVEL MINIMUM WAGE RATES

We obtain the data from David Neumark and Bill Wascher.

PER CAPITA DISPOSABLE PERSONAL INCOME (STATE)

The U.S. Department of Commerce, Bureau of Economic Analysis website (<http://www.bea.gov/>).

THE CONSUMER PRICE INDEX (CPI)

The U.S. Department of Labor, Bureau of Labor Statistics website (<http://www.bls.gov>). We deflate all monetary values with the CPI to 2000 dollars.

UNEMPLOYMENT RATES

The U.S. Department of Labor, Bureau of Labor Statistics website (<http://www.bls.gov>).

increase in welfare benefits for families that conceive an additional child while receiving aid. "Welfare guarantees" are the amount of welfare benefits for a non-working welfare participant. "A benefits reduction rate" is a rate at which welfare benefits decrease as earned income increases. "Earned income disregards" calculate financial incentives for non-working welfare participants who start and maintain full-time employment for one year at a state minimum wage rate. Finally, each state implements different income eligibility tests for welfare benefits. Table 3 below delineates the policy instruments for reference purposes.

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**TABLE 3
POLICY INSTRUMENTS**

TANF POLICY INSTRUMENTS	
INSTRUMENTS	DESCRIPTION
Activity Sanctions	States provide various job training programs to welfare recipients in order to promote working. "Activity requirements" measure the degree to which each state makes such efforts.
Activity Requirements	Welfare recipients must participate in these programs to maintain their welfare benefits. Otherwise, their benefits are discontinued. "Activity sanctions" measure how strict states are in sanctioning those who do not satisfy the requirements.
Diversion Programs	Diversion programs aim to divert either eligible applicants and/or current recipients from welfare participation via benefits such as cash payments. "Diversion programs" measure the effectiveness.
Time Limit on Welfare Benefits (Indicator)	Most states set time limits on receiving benefits to reduce the duration of welfare participation.
Real Value of Welfare Benefits (1000s)	The amount of welfare benefits for a non-working welfare participant.
Benefits Reduction Rates	A rate at which welfare benefits decrease as earned income increases.
Earned Income Disregards (1000s)	Financial incentives for non-working welfare participants who start and maintain full-time employment for one year at a state minimum wage rate.
Family Caps	Sets of policies that limit the marginal increase in welfare benefits for families that conceive an additional child while receiving aid.
Income Tests	Income threshold for public assistance programs as the percentage of poverty guidelines
PUBLIC HEALTH INSURANCE POLICY VARIATION CONTROLS	
Public Health Insurance Notches	The monetary value of public health insurance benefits. We use the maximum of either the Medicaid notch or the SCHIP notch as the public health insurance notch.
Working Adult Public Health Insurance Programs	An indicator for public health insurance offerings to working adults

The analysis controls for the effects of two instruments in public health insurance programs. One is an indicator for public health insurance offerings to working adults. The other is the monetary value of public health insurance benefits. The latter is the so called public health insurance notch (Yelowitz, 1995; Meyer and Rosenbaum, 2000). We use the maximum of either the Medicaid notch or the SCHIP notch as the public health insurance notch.

Regarding the trends of the policy instruments, states became more generous in offering public health insurance during our sample period. The public health insurance notch increased drastically. This large increase is due to increased income eligibility for public health insurance after SCHIP implementation. Several states also instituted a public health insurance program for working adults during the sample period. Regarding the welfare program, there is trade-off among policy instruments. With the introduction of TANF, states became more aggressive in activity sanctioning, but the number of activity requirements remained fairly constant. The real value of earned income disregards increased by 58 percent and income eligibility threshold fell by almost half. However, the real value of welfare guarantee fell and benefits reduction rates increased. The latter changes make the welfare program less attractive. The former changes make the welfare program more attractive.

RESULTS OF THE ANALYSIS

We use a Probit Model to examine the effects of welfare program instruments on women's welfare participation decisions. In addition to the nine welfare program instruments described above, our model includes additional policy instruments that could affect women's welfare participation. They are annual salary level earned at the state's minimum wage rates, the state and federal earned income tax credits, and an indicator for Medically Needy programs.⁷ These variables control for the effects of the earned income tax credit and minimum wage policy reforms during the sample period. Our analysis also controls for demographic differences such as age, education, and race. Furthermore, we incorporate unobservable factors that could be related to women's welfare participation decisions and/or a policy endogeneity problem. Year fixed effects are time varying elements that affect all states in a given year. State fixed effects are time invariant elements that differ across states. Different labor market conditions over time and across states are captured by four indicators: a state level unemployment rate, a lag of the state unemployment rate, an employment growth rate, and a lag of the employment growth rate. The model may yield inconsistent estimates if time-varying factors across states affect the timing of the policy instruments used in each state. Previous works suggest adding state-specific trends (CEA, 1997, 1999; Moffitt, 1999; Schoeni and Blank, 2000; Grogger, 2003a; Ziliak et al., 2000) to incorporate such unobservable factors. Our model uses linear state-specific trends as in the literature. Table 4 presents the results of the analysis.

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**TABLE 4
THE RESULTS OF THE ANALYSIS**

	(1) Model with Benefits Reduction Rates	(2) Model with Earned Income Disregards	(3) Model with Both
Public Health Insurance Notches	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Working Adult Public Health Insurance Programs (Indicator)	0.041 (0.047)	0.046 (0.048)	0.048 (0.048)
Activity Sanctions (higher number indicates more sever sanctions)	-0.060 (0.026)*	-0.061 (0.026)*	-0.064 (0.026)*
Activity Requirements (higher number indicates more allowable activities)	0.012 (0.008)	0.013 (0.008)	0.013 (0.008)
Diversion Programs (higher number indicates more generous program)	0.011 (0.011)	0.013 (0.012)	0.013 (0.012)
Time Limit on Welfare Benefits (Indicator)	0.034 (0.029)	0.020 (0.029)	0.023 (0.029)
Real Value of Welfare Benefits (1000s)	0.046 (0.031)	0.068 (0.034)*	0.057 (0.033)
Benefits Reduction Rates	-0.001 (0.001)		-0.001 (0.001)
Earned Income Disregards (1000s)		0.022 (0.008)**	0.019 (0.008)*
Family Caps (higher number indicates more aggressive policy)	-0.02 (0.022)	-0.038 (0.020)	-0.036 (0.019)
Income Tests (the percentage of poverty guidelines)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Observations	185,682	185,682	185,682

Note:

The standard errors in parentheses are corrected for clustering within state-year cells as in Moulton (1986).

The first model excludes earned income disregards. The second model excludes benefit reduction rates. The two instruments measure a similar effect (i.e., financial incentives to promote work) and are correlated. The last model includes both instruments.

All regressions include age, education, and race dummies as well as time and state dummies and state specific trends. We also include an unemployment rate and its lag, an employment growth rate and its lag, the real value of the annual salary calculated at the minimum wage rate, the real value of the state and federal earned income tax credits for a family of three, and an indicator for the Medically Needy Program.

* at the 5% level; ** at the 1% level

Five among the 11 instruments affected women's welfare participation decisions at statistically significant levels. The results show that sparing welfare policy discouraged women's welfare usage. A stricter activity sanction reduced welfare participation of a woman. Negative impacts agree with findings in the literature (CEA, 1997, 1999). The current trend of welfare guarantee reduction has expected impacts through a pure income effect. Reducing welfare guarantees by \$1,000 decreased a woman's welfare participation by about 6 percentage points. Family caps also discouraged women's welfare participation. On the other hand, enhancing financial incentives, via either decreased benefits reduction rates or increased earned income disregards, increased a woman's welfare participation. Financial incentives have trade-off effects on welfare participation via the impacts on both participants and non-participants. While increasing earned income disregards creates an incentive for non-working welfare participants to start work, current working non-welfare participants may reduce their work to obtain welfare benefits. Our estimates suggest that the latter motive dominated the former. Adding activity requirements also increased welfare participation of a woman. Various programs may cause moral hazard. Current welfare program participants abused the opportunity and kept taking classes. Moffitt (1997) provides another explanation by using changes in opportunity costs. Providing more activities increased incentives for current non-participants to join the program. Non-participants can increase their human capital by participating in job training programs.

Six of the 11 instruments did not affect women's welfare participation decisions at statistically significant levels. Some of the results are not necessary expected. The effects of time limits could have been already captured by activity sanctions term, as the two instruments are highly correlated. CEA (1997), which finds significant impacts of activity sanctions, shows the same results regarding time limits. State governments find the estimates on diversion programs disappointing. The results could be due to errors in the CPS. We define a female who received any income from the welfare program as a welfare participant. Those who received cash payments as part of a diversion package may have misreported (or misunderstood) that they received income as public assistance, but not from diversion programs. To internalize this possible confusion, we conduct another specification by including four indicators for public assistance. The indicators say whether a woman received public assistance for 3, 6, 9, or 12 months. The time length is chosen since a diversion payment is usually less than one year in duration. However, the results are qualitatively similar.

Public health insurance program instruments did not affect women's decisions regarding welfare program participation. Our results are consistent with the findings in previous works (Blank, 1989; Winkler, 1991; Ham and Shore-Sheppard, 2001), although our model specification (with various policy instruments) and time period chosen are different from the ones in the literature.

We examine the robustness of our findings using alternative specifications. The further analysis introduces public health insurance notches for an infant (age less than 1), a 7-year-old child, and a 17-year-old child. Overall, female welfare participation is not sensitive to any particular age group notches. We also control for states' business cycle effects using the current and lagged per capita real disposable income and the current and lagged real value of the Gross State Product. Previous results remain robust in the presence of additional control variables or under alternative specifications. Furthermore, we test the effects of Medicaid and M-SCHIP

separately from the effects of S-SCHIP. This compares the effectiveness of separate state programs (S-SCHIP) to relatively centralized programs such as Medicaid. The results show that women responded to changes in S-SCHIP notches but not to changes in Medicaid and M-SCHIP notches.

CONCLUSION

This paper examines whether welfare policy instruments affected women's decisions regarding welfare program participation, specifically, after controlling for the effects of instruments in public health insurance programs. We consider the time period after which state autonomy in designing public assistance programs was complete. Since states have been autonomous in designing welfare and public health insurance programs, there have been variations in the policy instruments employed. Our analysis sheds light on policy implications of public assistance programs, specifically focusing on post welfare and public health insurance reform periods.

We examine nine welfare policy instruments and two public health insurance instruments. Only five of these 11 instruments affected women's welfare participation decisions. Three among the five instruments affected women's decisions making the way governments initially intended. Activity sanctions, welfare guarantee reduction, and family caps discouraged welfare participation. Two among the five instruments operated against governments' intention. Several states provided financial incentives (low benefits reduction rate and high earned income disregards) in order to motivate non-working welfare participants to find employment and, thus, to leave welfare programs. However, the current incentives increased welfare participation. The results imply that current working non-welfare participants reduced their work to obtain welfare benefits. Similarly, offering additional job-related activities increased welfare participation, due to moral hazard. The results may be disappointing for some state governments. Other instruments, including time limits, diversion programs, public health insurance, and income eligibility tests, did not affect women's decisions on welfare participation at statistically significant levels.

The U.S. economy experienced a macroeconomic bubble during the time period used for the analysis. Unemployment rates were artificially low and P/E multiples were artificially high. Since this period, the economy experienced a business cycle as it has been through a recession and recovered. While the unemployment rate is currently at its usual levels, one may want to be careful about blindly applying the results of our analysis on the current post-recovery period. Further analysis using post-recovery data would provide governments with useful guidance, together with the current analysis.

Our analytical framework is applicable to other situations. We consider all women to avoid sample bias. Nonetheless, an analysis of a sub-sample could be of interest. The use of a sub-sample helps avoid parameter heterogeneity, as alluded to by Grogger (2003a, 2003b). If the degree to which welfare policy affects fertility and marital decisions is negligible, the current empirical analysis may underestimate the effects of policy instruments (i.e., parameter heterogeneity is a more serious issue than sample bias). Namely, our results are robust only if welfare policy affects fertility and marital decisions, as is commonly believed. Studying a sub-category of single women extends the current study to address these issues. Our analysis provides aggregate impacts of policy instruments on female welfare participation. The effects of public assistance programs may vary among different socio-economic groups.

Using various sub-samples and comparing results would provide better understanding of the policy effects and their implication beyond what was already found in this paper. These topics represent potential future lines of research.

ENDNOTES

¹ Individuals that maintained income near the welfare program's income thresholds would sufficiently reduce their income levels to obtain the job-related services offered through the welfare program that would otherwise be unavailable.

² In March of 2000, 15 states created an S-SCHIP, 19 states had an M-SCHIP, and 17 states had a COMBO. As of April of 2002, Maryland, South Dakota, and Texas had switched to a COMBO, and West Virginia had dropped M-SCHIP.

³ Specifically, some suspect that single women increase child production to increase welfare benefits. The introduction of the family cap policy was to deter such situations.

⁴ Following the standard approach in the literature, our analysis uses the sample of all women to test our hypothesis. As a referee indicated, the Heckman's two-stage estimation is an alternative method that can be utilized to control for sample bias. Specifically, we may use a Probit model for marital status decisions in the first stage and include a variable obtained from the first stage in order to control for the marital decisions of women in the second stage. The literature may have used all women due to technical difficulties in incorporating fertility and marital status decisions together and/or data limitation, although we are unsure regarding this matter.

⁵ Policy instruments such as welfare guarantees, earned income disregards, benefits reduction rates, income eligibility tests, and time limits, are often a main focus in the literature. The AFDC literature examines the effects of the AFDC guarantees and benefits reduction rates (Hoynes, 1997). Moffitt (1999) uses welfare guarantees for a family of three, earnings disregards, lifetime limits, family caps, and sanctions.

⁶ For example, Florida established a diversion program in 1997, Connecticut in 1999, and California in 2003.

⁷ Under the Medically Needy program, states can extend Medicaid coverage to individuals who are in families with income above the Medicaid income threshold.

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