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Incorporating Labor Supply Responses into the Estimated Effects of an Assured Child Support Benefit

Daniel R. Meyer
Institute for Research on Poverty
School of Social Work
University of Wisconsin–Madison

Rebecca Y. Kim
School of Social Work
University of Wisconsin–Madison

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Abstract

Assured child support benefits are an important component of many proposals to reform the child support system. The authors estimate the likely effects of assured benefits on poverty and welfare participation when (a) parents eligible for child support work the same number of hours as they currently work and (b) parents eligible for child support change the number of hours they work in order to maximize their income and leisure time. They find that in each situation assured benefits will reduce poverty rates and the poverty gap; welfare caseloads and expenditures will also fall. When parents are allowed to change the number of hours they work, the impact of assured benefits will be about the same, but the costs of the assured benefit program will increase.

Incorporating Labor Supply Responses into the Estimated Effects of an Assured Child Support Benefit

Over half of all children who live in families headed by women without spouses are poor (U.S. Bureau of the Census, 1993 [p. 14, Table 5]). One of the reasons why the percentage is so high is that many of these families do not regularly receive child support. Several proposals to reform the child support system have been made to improve this situation. A particularly important one is the assured child support benefit (see, for example, Garfinkel & McLanahan [1986], Ellwood [1988], Lerman [1989], and the National Commission on Children [1991]). An assured benefit is a specific amount of child support guaranteed by a public entity; efforts are made to collect child support from the noncustodial parent; if that parent contributes less than the amount of the assured benefit, the difference is paid from public funds. There are several variants of assured benefit proposals; they differ in the amount of the guaranteed benefit, who is eligible, whether the benefit will be taxed, and how the benefit will interact with the main cash program for single parents, Aid to Families with Dependent Children (AFDC).

Proponents have claimed that this reform would increase the well-being of many families who are economically vulnerable, would be superior to means-tested cash programs, and may not cost a great deal if accompanied by other reforms that increase the amount of child support collected from the noncustodial parents of AFDC recipients (e.g., Garfinkel et al., 1990). They have argued that an assured benefit would decrease AFDC recipiency for at least two reasons. First, for some single parents who receive welfare, assured benefits will be greater than AFDC payments; such parents are predicted to leave AFDC in response to an assured benefit. Second, even if assured benefits are smaller than AFDC grants, some welfare recipients will still be induced to leave AFDC and seek paid employment: combining the assured benefit with increased earnings would make life off welfare preferable to life on welfare. An assured benefit is therefore predicted to increase the work effort of custodial parents who are AFDC recipients; however, it is predicted to decrease the work effort of

custodial parents who are not AFDC recipients, because any increase in unearned income is thought to lead to decreased hours of work for those who do not receive welfare.

A standard governmental approach to new policy proposals like the assured benefit is to estimate their effects through microsimulation models. The basic model, TRIM, has been used extensively and has been selected to eventually estimate the impacts of assured benefits. However, TRIM does not currently incorporate labor supply changes, and, as noted above, labor supply changes may be an important effect of an assured benefit.

Our work here builds on previous efforts of researchers at the Institute for Research on Poverty (IRP) who have estimated the labor supply effects of several types of assured benefits (Garfinkel et al., 1990; Meyer, Garfinkel et al., 1991; Meyer et al., 1992; Kim, 1993). We have improved the model those researchers used and employ a different data source, the 1987 panel of the Survey of Income and Program Participation. The estimates we report in this paper were made in response to a request by the U.S. Congressional Budget Office, which was interested in the ability of the IRP model—both in its original and its improved form—to predict labor supply effects. (Indeed, the IRP model is the only current model that estimates labor supply effects.)

The theory underlying this improved model and the methods of obtaining these estimates are briefly explained in section I. In section II we present the estimated effects of three levels of assured benefits on poverty, welfare participation, labor supply, and costs. In section III we show how the results would differ if we changed the form of the assured benefit. Section IV presents information on the sensitivity of our results to changing the way we estimate labor supply responses. We offer conclusions in section V.

I. THEORY, METHODS, AND DATA

Direct Effects of an Assured Benefit

In the absence of labor supply changes, an assured child support benefit will increase the incomes of custodial-parent families, which will decrease the number in poverty and shrink the poverty gap. An assured benefit could also decrease AFDC recipiency if the amount of the assured benefit fully offset AFDC and was larger than the amount of AFDC currently received. Similarly, food stamp recipiency could be decreased. Estimation of these effects is relatively straightforward, and several estimates have been completed (e.g., Lerman, 1989).

Incorporating Labor Supply Changes

An assured benefit might change the number of hours custodial-parent families work, however, and this could affect estimates of poverty reduction, welfare use, and costs. The traditional static model of labor supply in microeconomics holds that individuals select the number of hours they will work after considering the tradeoff between increased income and decreased leisure that results from working more hours. This theory predicts that custodial parents not receiving AFDC who begin to receive an assured benefit will decrease the number of hours they work. (Any increase in unearned income should decrease labor supply because individuals could achieve the same total income as before while working fewer hours.)

However, AFDC recipients may increase the number of hours they work. The traditional microeconomic model of labor supply has also been applied to AFDC recipients (e.g., Graham & Beller, 1989). It assumes that individuals considering AFDC recipiency make a decision on welfare recipiency and labor supply simultaneously, selecting whether to receive AFDC and how much to work based on how much leisure and income they would have under all possible scenarios. The standard model predicts that some nonworking AFDC recipients may find that combining an assured

benefit and earnings would make them better off than continuing to receive welfare. Thus, the theory predicts potential increases in hours for AFDC recipients (Garfinkel et al., 1990). Because theory predicts opposite effects for AFDC recipients and nonrecipients, the direction of the aggregate effect on labor supply is ambiguous.

The degree to which individuals change their labor supply in response to changes in other income is the subject of many empirical articles (for reviews, see Killingsworth and Heckman [1986] and Pencavel [1986]). Our approach here is to take one of these formulations of the way labor supply is affected by changes in income and use it to estimate the labor supply effects of an assured benefit.

Microsimulation Methods

A model that attempts to predict the labor supply responses to a policy change needs to have a basis on which to make these predictions. Our model is based on microeconomic theory and previous research: we assume that individuals consider the amount of leisure they would have (with a preference for more leisure) and their net income (with a preference for more net income) in making decisions about whether to work and how much to work. We assume that individuals make decisions about their labor supply (and whether they will receive AFDC, the assured benefit, or both) on the basis of the choice that provides them the highest level of utility. We borrow from the previous research of Johnson and Pencavel (1984), who have estimated an equation that can be used to calculate utility for individuals based on their income and the number of hours they work. More technical information on this utility function is provided in Appendix I.

Our approach employs several steps. We first identify the current hours of work of each family in the sample. Net income is then calculated by summing earnings, child support, AFDC, food stamps, the Earned Income Tax Credit (EITC), and other income, and then subtracting income and payroll taxes. These amounts are used to calculate current utility.

An assured benefit is then introduced. In the "no labor supply response" estimates, we begin with a simple determination of whether the family is eligible for the assured benefit. If it is not, the policy has no effect. If it is, we assume the family receives the assured benefit, and recalculate AFDC and food stamp benefits and net income. Note that these estimates do not rely on the utility formulation.

The "labor supply response" procedures are more complicated. Again, if the family is not eligible for the assured benefit, the policy has no effect. If the family is eligible, we assume the family considers several possible hours of work. The family selects the number of hours of work based on the option that provides the highest utility. In the model, this involves calculating net income at several potential hours points (which involves determining whether the family is eligible for AFDC and food stamps at each point), calculating utility at each point, and assuming that the family selects the point of highest utility.

In the final simulation step, these individual predictions of income, program participation, hours worked, and assured benefits are multiplied by the sample weights and then totaled to calculate the predicted aggregate effects of the assured benefit.

This model improves upon our previous simulation model that predicted the effects of an assured benefit (Garfinkel et al., 1990; Meyer, Garfinkel et al., 1991, 1992) by incorporating a different labor supply response methodology. In the previous models, we drew an exact budget line for each woman and calculated maximum utility on each segment of the budget line. But the calculation of the exact line is quite difficult when there are multiple programs, so the early work ignored food stamps and the EITC. The method used here does not try to map an exact budget line, but simply calculates income at each potential hours point, including income from any program for which a family is eligible. This approach allows us to incorporate the full range of income transfer programs. Second, in previous models we assumed that the labor supply response parameters for

single mothers were appropriate for remarried custodial mothers. We now use different responses for wives and single mothers. Third, we are now assuming that husbands and wives make their labor supply decisions jointly. Finally, in previous models, we estimated the existence of a child support award and the amount of child support each family received. We are now using each family's report on whether or not there is an award and on the amount of child support paid, when we have this information, and only imputing this when it is not available.[1]

Data

The data used are drawn from a nationally representative survey, the 1987 panel of the Survey of Income and Program Participation (SIPP). Our base sample is drawn from wave 6 of the 1987 panel, which includes data from September 1988, because wave 6 includes information on child support. Information from wave 2 was also used because it includes information on the interrelationships of every member of the household and thus enables us to identify stepparent families that would not be identifiable from wave 6.[2]

For this research, we select family units with children under the age of eighteen who have a living nonresident parent. The sample includes 1441 families, including 925 single-mother families; 131 single-father families; 318 two-parent families in which mothers had children from absent fathers; 40 two-parent families in which fathers had children from absent mothers; and 27 two-parent families in which both mothers and fathers had children demographically eligible for child support.

SIPP has several advantages over other potential data sets. It was particularly designed to collect detailed information on transfer program recipiency, and thus has questions about benefit payments under AFDC and food stamps for each month. This monthly information is valuable, because eligibility for these welfare programs is determined on a monthly rather than an annual basis. SIPP also includes a special set of questions on child support, including whether a child support agreement exists, what year it was agreed to, the amount of the award, how payments were to be

made, and the amount received. SIPP is a better data set than the Current Population Survey–Child Support Supplement (CPS-CSS) used in previous models. The CPS-CSS misses the following groups of custodial parents: (a) mothers who had no children from the most recent divorce or separation but had children from an earlier divorce or separation; (b) mothers who are currently married but had children out of wedlock; and (c) custodial fathers. In this study these missing custodial parents are included by using the topical module on household relationships. As expected, the SIPP estimate for the total number of custodial parents (12.1 million, including both mothers and fathers of children under eighteen) is much larger than that of the CPS-CSS data (9.4 million, including only mothers of children under twenty-one).

We have made several changes to the data recorded in the SIPP. First, because AFDC recipiency is seriously underreported, we impute AFDC amounts and AFDC recipiency to some female-headed families.[3] When food stamps are reported by a family, we calculate the amount determined by the food stamp formula, and use this amount, rather than the amount reported.[4] We estimate income taxes and the EITC according to the 1988 tax law, assuming that all families take the standard deduction. We also estimate wages of nonworkers in our sample.[5] For custodial families without child support information, we also impute the existence of an award and the amount of child support collected.[6] Finally, we calculate annual income by multiplying September 1988 income by twelve.

Table 1 provides information on our sample, comparing the characteristics of the sample when using reported information and when using the information after our adjustments have been incorporated. Note that the simulated AFDC caseload and benefits are closer to administrative record data than are reported amounts: administrative records show an average monthly caseload in the AFDC-single-parent program of 3.5 million families and benefits of $15.2 billion in fiscal year 1988 (U.S. House of Representatives, 1993).

TABLE 1
Sample Characteristics: Child-Support-Eligible Families with Children under 18

	Based on Reported Information	Based on Simulated Information
Poverty[a]		
Total people in poverty (millions)	12.48	12.51
% people in poverty	33.7%	33.8%
Total poverty gap (billions)	$16.76	$11.46
Income distribution—% of families whose incomes are:		
Below the poverty line	33.3%	33.2%
Between 100% and 200% of the poverty line	25.5%	31.1%
Between 200% and 300% of the poverty line	16.4%	19.0%
More than 3 times the poverty line	24.8%	16.7%
AFDC		
Total caseload (millions)	2.16	3.28
% families on AFDC	17.9%	27.1%
Total benefits (billions)	$9.40	$13.92
Total benefits minus CS collections (billions)	$8.74	$12.63
Food stamps		
Total caseload (millions)	2.69	3.39
% families receiving food stamps	22.2%	28.0%
Total benefits (billions)	$5.45	$6.34
Private child support[b]		
Among custodial-mother families (n=10.7 million)		
% custodial families with awards	56.5%	55.3%
% total award that is collected	74.7%	72.6%
Mean award amount for those with awards	$2656	$2713
Mean payment for those with awards	$1986	$1969
Among custodial-father families (n=1.4 million)		
% custodial families with awards	n.a.	27.3%
% total award that is collected	n.a.	44.1%
Mean award amount for those with awards	n.a.	$2272
Mean payment for those with awards	n.a.	$1002
Sample size	1441	
Total families (millions)	12.11	

Source: 1987 Survey of Income and Program Participation.

[a]The poverty items based on reported information use an income definition in which reported earnings, child support, AFDC and food stamp benefits, and all other taxable and nontaxable income are included. The poverty items based on simulated information define income as the sum of reported earnings and all other taxable and nontaxable income, predicted child support payments, and calculated AFDC, food stamp, and EITC benefits minus calculated income and payroll taxes. Note that this differs from the reported income in three ways: (1) child support payments, AFDC benefits, and food stamp benefits are imputed; (2) earned income tax credits are calculated and included; and (3) income and payroll taxes are calculated and subtracted.

[b]We use reported child support information when it is available and impute the existence of awards, the amount of an award, and the amount of child support collected for three groups: (a) mothers who had no children from the most recent divorce or separation but had children from an earlier divorce or separation; (b) mothers who are currently married but had children out of wedlock; and (c) custodial fathers.

Limitations

Despite its improvements on previous research, this study is limited in several areas. First, our labor supply response model has some limitations. We assume that parameters estimated in the 1970s can be used as a starting point for estimating responses in the 1990s. In addition, we ignore the possibility that some would like to work (or work more) but may not be able to find employment (the demand side of the labor market is ignored). Moreover, although we present findings based on different parameter values, we do not present results based on alternative forms of the utility function. We also do not incorporate fixed costs of working in our model. Finally, we do not allow for stigma effects of AFDC, and these could be substantial (Garfinkel et al., 1990).

Second, the model is static, rather than dynamic. Thus, although policies for an assured benefit would include some rules about recouping public costs in later periods, these have been ignored here. This model examines only the effects of an assured benefit on individual labor supply and welfare use; possible effects on remarriage or fertility are not incorporated. Possible effects beyond the individual family level are also ignored. Effects on noncustodial parents are also neglected.

Although this model is an improvement over previous models in that it incorporates food stamps and the EITC, it does not incorporate Medicaid. To the extent that Medicaid provides an important benefit available only to those on AFDC, we overestimate the number of women who will leave AFDC because of the assured benefit. Kim (1993) found that ignoring Medicaid values overstates the number of families who leave AFDC. However, as Medicaid has been made more available to low-income families through recent policy changes, this omission becomes less serious.

At least two types of costs are not included: administrative costs (or savings) and child care costs.

Finally, some cautions are needed if policy implications for the year 1994 are to be drawn from 1988 estimates. The EITC has changed dramatically since 1988 and is now much more generous. Changes have occurred in the child support system that should result in increased prevalence of awards and increased collections of private child support. Medicaid is now more available to low-income families. Tax changes have also occurred. In order to apply these estimates to the current year, such changes should be kept in mind, but the effect of these changes is not clear. The expanded EITC

provides an example of the ambiguity that could result: perhaps many of the families that we predict to leave AFDC because of the assured benefit would have already left due to the expanded EITC, meaning that the estimates of caseload reductions presented here are too high. On the other hand, perhaps some families that we predict to stay on AFDC after being exposed to an assured benefit would exit if they have both an assured benefit and an expanded EITC available, meaning that these estimates of caseload reductions are too low.

II. BASIC RESULTS

We estimate three baseline schemes, as follows:

"Low Benefit, Award Required": the benefit for one child is $1500/year; $2000/year for two children; and $2500/year for three or more children. Only cases with current child support awards are eligible for the assured benefit.

"Middle Benefit, Award Required": the benefit for one child is $2000/year; $3000/year for two children; $3500 for three children; and $4000 for four or more children. Only cases with current child support awards are eligible for the assured benefit.

"Middle Benefit, Cooperators Allowed": the benefit for one child is $2000/year; $3000/year for two children; $3500 for three children; and $4000 for four or more children. Cases with current child support awards and those who "cooperate" with the child support agency are eligible. We define cooperators as all AFDC recipients and 30% of those who do not receive AFDC and do not have current awards.

These assured benefit schemes were suggested by the CBO and are being used in the CBO's estimates of the effects of various child support proposals.[7] All assured benefit levels are in 1988 dollars. In these baseline results, the assured benefit is not subject to income taxation, is not limited to the poor, and, for AFDC recipients, reduces AFDC benefits dollar for dollar. The assured benefit is also counted as income for determining food stamp benefits. In all these results, all custodial families who are eligible for the assured benefit receive the maximum amount (i.e., the assured benefit is not capped at the dollar amount of the child support award).

For each of these schemes, we present results without and with labor supply effects. In each section, we first review our estimates without labor supply responses, and then discuss the difference made by incorporating labor supply behavior.

The first panel of Table 2 presents changes in poverty and welfare participation. Looking first at the results when labor supply is not incorporated (the "NLS" columns), we see that the low-benefit scheme has very little effect on the number of people in poverty (down 1.8%) or the poverty gap (down 2.8%). (Note that the poverty estimates are for custodial-parent families only, not for all families with children.)[8] The poverty gap decreases more than the number of people in poverty because many people in poverty receive the benefit but are not brought above the poverty line. AFDC caseloads decline by 4%, and AFDC costs decrease even more, over 9%. AFDC costs decline by a higher percentage than the caseload because not all AFDC recipients who receive the assured benefit leave AFDC, but the amount they receive in AFDC decreases. Food stamp caseloads and payments decline by only a small amount, in part because any family that remains on AFDC has no change in income (the assured benefit is completely offset by a decline in the AFDC amount) and thus no change in food stamp benefits.

The middle-benefit scheme available only to those with awards results in moderate declines in poverty among custodial-parent families (down 4%) and the poverty gap (down 5%); moderate

TABLE 2

Baseline Results: Poverty, Welfare Participation, and Labor Supply Responses to an Assured Child Support Benefit

Award	Low Benefit, Award Required		Middle Benefit, Cooperators Required		Middle Benefit, Allowed	
	NLS	LS	NLS	LS	NLS	LS
Percentage changes in poverty and welfare participation:						
People in poverty	-1.8%	-2.1%	-3.7%	-4.5%	-7.1%	-8.0%
Poverty gap	-2.8%	-2.9%	-4.9%	-5.4%	-11.6%	-13.4%
AFDC caseloads	-3.9%	-4.7%	-7.8%	-8.7%	-27.0%	-32.0%
AFDC payments	-9.4%	-9.5%	-14.0%	-14.1%	-48.6%	-49.3%
Food stamp caseloads	-1.0%	-1.0%	-2.9%	-3.1%	-4.1%	-6.2%
Food stamp payments	-1.8%	-2.1%	-3.3%	-4.1%	-8.0%	-10.0%
Labor supply effects:						
Among women originally on AFDC (current mean hours/yr=212)						
Post-reform mean hours	212	219	212	225	212	263
% nonworkers who begin to work	0.0%	1.1%	0.0%	2.8%	0.0%	8.0%
Among women originally not on AFDC (current mean hours/yr=1483)						
Post-reform mean hours	1483	1465	1483	1456	1483	1447
Among men originally not on AFDC (current mean hours/yr=1964)						
Post-reform mean hours	1964	1958	1964	1954	1964	1950
Among all women (current mean hours/yr=1109)						
Post-reform mean hours	1109	1098	1109	1093	1109	1098
Among all men[a] (current mean hours/yr=1942)						
Post-reform mean hours	1942	1936	1942	1932	1942	1928
Costs and savings (1988 dollars, in millions)						
Total gross cost[b]	$4434	$4434	$7608	$7608	$15,983	$15,983
AFDC savings	$1304	$1323	$1942	$1959	$6761	$6863
Food stamp savings	$115	$133	$212	$261	$509	$634
EITC savings	$0	$-39	$0	$-64	$0	$-87
Income tax savings	$0	$-244	$0	$-349	$0	$-434
Net cost[c]	$3014	$3261	$5454	$5800	$8713	$9008

Source: Authors' computations based on 1987 Survey of Income and Program Participation.
Notes: NLS = no changes in labor supply are allowed; LS = changes in labor supply are allowed. Poverty estimates are for custodial-parent families only.
[a]This category includes a few men originally on AFDC.
[b]Total gross cost is the total cost of the public share of the assured benefit.
[c]Net cost is defined as the total gross cost minus all savings presented.

declines in AFDC caseloads (down 8%) and AFDC costs (down 14%); and smaller effects on food stamp caseloads (down 3%) and food stamp costs (down 3%). When "cooperators" (some of those without awards) are allowed to receive the assured benefit, the decline in poverty is greater (7% for the number of people in poverty and 12% for the poverty gap), and the decline in AFDC caseloads (27%) and costs (49%) is substantial. Because all AFDC recipients are defined as "cooperators," all are eligible for the assured benefit, and thus many are predicted to leave AFDC.

Incorporating labor supply responses into our estimates of the effects of the low-benefit scheme makes little difference except in the percentage who are predicted to leave AFDC. In fact, incorporating labor supply affects estimates of AFDC caseload reductions more than AFDC benefit reductions in all three schemes. This is because estimates without labor supply count those who would receive only a very small dollar amount of AFDC benefits as recipients. When these individuals are allowed to change their labor supply, some of those who are close to the breakeven point are predicted to work more and move off welfare, decreasing the caseload by a higher percentage than decreases in costs. In both middle-benefit schemes, the incorporation of labor supply responses results in further reductions in poverty and welfare use, as expected. The labor supply effect is increased when cooperators are allowed to receive the assured benefit: for example, incorporating labor supply decreases the poverty gap by 0.5 percentage points when awards are required and by 1.8 percentage points when cooperators are allowed to receive the benefit.

The next panel shows labor supply effects for five groups: women receiving AFDC, women not receiving AFDC, men not receiving AFDC, and all women and men. As expected, women originally receiving AFDC do not work a great deal prior to the reform (an average of 212 hours/year). Under the low scheme, we estimate that about 1% of these women who were not working would begin working. The estimates under the middle scheme/award only are a little larger, 3%, but increase to 8% when cooperators are eligible. Women and men not currently receiving AFDC are predicted to decrease work, because they now have some added income available to them. Again, the effect is fairly small for the low scheme and, while larger for the two middle schemes, is still modest (a mean decrease of 2% of the hours worked by women not on AFDC and 1% of the hours worked by men not

on AFDC in the middle-cooperators scheme). The increase in hours worked by women receiving AFDC almost exactly offsets the decline in hours by women not receiving AFDC, so that average hours worked by all women decline by about 1% in all three schemes.[9]

The final panel of Table 2 shows estimates for some costs and savings, in millions of 1988 dollars (recall that administrative costs and savings are ignored). Looking first at the NLS columns, we see that the first line shows the gross amount of the assured benefit, $4.4 billion in the low scheme, $7.6 billion in the middle scheme–award only, and $16.0 billion in the middle scheme with cooperators, all without labor supply responses. This cost is predicted to be offset somewhat by AFDC savings ($1.3 billion, $1.9 billion, and $6.8 billion in the three schemes), and, to a much lesser extent, by food stamp savings ($0.1 billion, $0.2 billion, and $0.5 billion, respectively), making a net cost of $3.0 billion, $5.5 billion, and $8.7 billion. Note that allowing cooperators to be eligible for an assured benefit increases the cost of a middle-level benefit from $5.5 billion to $8.7 billion, about $3.2 billion.

Incorporating labor supply effects increases the net cost somewhat. While there are higher AFDC and food stamp savings when labor supply responses are allowed, there are also increased costs in two areas. When more low-income families begin to work, costs of the EITC program increase, up to $87 million in the middle scheme with cooperators. (Note that the EITC parameters used are those in effect during 1988, not the current parameters, which are much higher, which would increase costs.) Further, the lower work hours of custodial parents not receiving AFDC translates into lower income taxes collected. All these factors combined increase the cost estimates by $247 million, $346 million, and $295 million, respectively.

III. DIFFERENT TYPES OF ASSURED BENEFITS

Making the Assured Benefit Subject to Income Taxation

The first panel of Table 3 repeats selected information from Table 2 to facilitate comparisons. The second panel shows the effects if the public portion of the assured benefit (that is, the part not

paid by the noncustodial parent) is subject to income taxes. In the results without labor supply responses (NLS), this change has no effect on the decline in the poverty gap, primarily because poor families have incomes too low to pay taxes. (Recall that our poverty definitions are based on after-tax income, so taxing the benefit could have an effect on poverty if poor families paid income taxes.) Similarly, there is no effect on AFDC caseload reductions: because most AFDC families have incomes too low to pay income taxes, an untaxed assured benefit and a taxed assured benefit have the same effect. By comparing the NLS results between the first and second panel, we see that the taxation of the public portion of the assured benefit saves $0.5 billion, $0.9 billion, and $1.3 billion, respectively.[10]

Incorporating labor supply responses has about the same effects whether or not the benefit is subject to income taxation. The same percentage of nonworking women on AFDC are predicted to begin to work, since these women are generally not making enough money to pay income taxes. Recall that non–AFDC recipients are predicted to decrease their hours in response to an assured benefit. If the benefit is taxed, a smaller decline in their labor supply occurs, since these families are eligible for a smaller benefit. But these changes are fairly small, and the aggregate labor supply effect of a benefit that is taxed is quite similar to one that is not.[11] Finally, the labor supply results

TABLE 3
Effects of Making the Assured Benefit Subject to Income Taxation or an Income Test

	% Change in Poverty Gap	% Change in AFDC Cases	% Nonworking Women on AFDC Who Begin to Work	% Change in Mean Hours		Net Cost in Millions (1988 Dollars)
				Women	Men	
Baseline: No income taxes on assured benefit						
Low benefit, award required						
NLS	-2.8%	-3.9%	0.0%	0.0%	0.0%	$3014
LS	-2.9%	-4.7%	1.1%	-1.0%	-0.3%	$3261
Middle benefit, award required						
NLS	-4.9%	-7.8%	0.0%	0.0%	0.0%	$5454
LS	-5.4%	-8.7%	2.8%	-1.4%	-0.5%	$5800
Middle benefit, cooperators allowed						
NLS	-11.6%	-27.0%	0.0%	0.0%	0.0%	$8713
LS	-13.4%	-32.0%	8.0%	-1.0%	-0.7%	$9008
With income taxes on assured benefit						
Low benefit, award required						
NLS	-2.8%	-3.9%	0.0%	0.0%	0.0%	$2535
LS	-2.8%	-4.7%	1.1%	-0.9%	-0.2%	$2740
Middle benefit, award required						
NLS	-4.9%	-7.8%	0.0%	0.0%	0.0%	$4590
LS	-5.3%	-8.7%	2.8%	-1.4%	-0.4%	$4945
Middle benefit, cooperators allowed						
NLS	-11.6%	-27.0%	0.0%	0.0%	0.0%	$7388
LS	-13.3%	-31.1%	8.0%	-1.2%	-0.5%	$7745
With income test on assured benefit						
Low benefit, award required						
NLS	-2.8%	-3.9%	0.0%	0.0%	0.0%	$1797
LS	-2.9%	-4.7%	1.1%	-0.4%	-0.2%	$1873
Middle benefit, award required						
NLS	-4.9%	-7.8%	0.0%	0.0%	0.0%	$3346
LS	-5.4%	-8.7%	2.8%	-0.5%	-0.4%	$3455
Middle benefit, cooperators allowed						
NLS	-11.6%	-27.0%	0.0%	0.0%	0.0%	$5641
LS	-13.4%	-32.0%	8.0%	+0.1%	-0.5%	$5627

Source: Authors' computations based on 1987 Survey of Income and Program Participation.
Note: NLS=no changes in labor supply are allowed; LS=changes in labor supply are allowed.

are identical to the non-labor-supply results in that a taxed benefit saves up to $1.3 billion over the untaxed benefit.

Income Testing the Assured Benefit

The bottom panel of Table 3 shows the effects if the assured benefit is available only to the poor and near-poor. There are several methods of limiting eligibility; the particular provision we simulate allows all families with incomes up to twice the poverty line to receive full benefits.[12] Families with incomes over twice the poverty line have the assured benefit decreased by 21 cents for each dollar of additional income (the current EITC benefit-reduction rate). These provisions ensure that custodial families with high incomes do not receive a benefit.

Comparing the NLS rows in panel 1 and panel 3 reveals that income testing has no effect on the poverty gap or AFDC recipiency. It does affect costs, however. In the NLS rows, the income test is predicted to save $1.2 billion, $2.1 billion, and $3.1 billion in the three schemes.

Turning to the estimates with labor supply effects, we see that income-tested benefits have the same effect as non-income-tested benefits on the percentage of nonworking women on AFDC who begin to work. This occurs because this income-testing scheme does not affect low-income families. Because the assured benefit is not available to higher-income custodial-parent families, the decrease in labor supply of these families predicted with the baseline benefit does not occur with the income-tested benefit. (However, the decrease in labor supply for low-income and moderate-income non–AFDC families continues.) These effects translate into smaller declines in aggregate hours, and, for the middle scheme with cooperators, the aggregate labor supply of custodial mothers actually increases.[13] Comparing the first and third panels, the labor supply results suggest a little larger savings from income testing than did the results without labor supply: adding the income test results in a decline in costs of $1.4, $2.3, and $3.4 billion in the results with labor supply compared to $1.2 billion, $2.1 billion and $3.1 billion in the results without labor supply. Looking just at the bottom panel, the cost estimates with and without labor supply are quite similar for the income-tested benefit: in fact, the cost estimates from the labor supply results are lower than for the results without labor supply in the

middle scheme with cooperators. (Recall that incorporating labor supply increases some costs and decreases others; whereas the increases usually outweigh the decreases, an overall decrease is quite possible.)

The two changes shown in Table 3 can be thought of as two different ways to target more of the benefits to the poor and near-poor. In the second panel this is done indirectly, through the tax system; in the third panel this is done directly. Note that both these methods save funds but decrease poverty and AFDC recipiency by the same amount as the untargeted benefit. As expected, an explicit income test saves more funds than making the benefits taxable. Of course, costs, poverty reductions, and welfare reductions are not the only factors to consider in whether to make the benefit income tested; for example, income testing typically leads to higher administrative costs per case, leads to high marginal tax rates for some, and may lead to stigma (see Meyer et al. [1992] for a discussion of the advantages and disadvantages of income testing the benefit).

IV. SENSITIVITY TO LABOR SUPPLY ASSUMPTIONS

In Table 4 we test two alternative ways to predict labor supply changes. The first two panels show results presented before: without and with labor supply responses under three schemes. The next panel shows the result of a simple change: changing the number of options individuals have in the number of hours they can work. In the baseline labor supply model, we allowed women to select from the current number of hours per week, every hour per week for 5 hours below and above the current number of hours, and every 5 hours elsewhere between 0 and 60 hours/week.[14] We allowed men to select from the current number of hours per week, every 5 hours between 0 and 30 hours/week, every hour/week between 30 and 50/week, and every 5 hours between 50 and 60

TABLE 4

Sensitivity of Baseline Results to Labor Supply Assumptions

	% Change in Poverty Gap	% Change in AFDC Cases	% Nonworking Women on AFDC Who Begin to Work	% Change in Mean Hours		Net Cost in Millions (1988 Dollars)
				Women	Men	
No change in labor supply						
Low benefit, award required	-2.8%	-3.9%	0.0%	0.0%	0.0%	$3014
Middle benefit, award required	-4.9%	-7.8%	0.0%	0.0%	0.0%	$5454
Middle benefit, cooperators allowed	-11.6%	-27.0%	0.0%	0.0%	0.0%	$8713
Change in labor supply: Baseline[a]						
Low benefit, award required	-2.9%	-4.7%	1.1%	-1.0%	-0.3%	$3261
Middle benefit, award required	-5.4%	-8.7%	2.8%	-1.4%	-0.5%	$5800
Middle benefit, cooperators allowed	-13.4%	-32.0%	8.0%	-1.0%	-0.7%	$9008
Change in hours points allowed[b]						
Low benefit, award required	-2.9%	-4.1%	0.0%	0.0%	-0.1%	$3012
Middle benefit, award required	-5.0%	-8.1%	0.0%	0.0%	-0.2%	$5464
Middle benefit, cooperators allowed	-12.3%	-30.1%	0.8%	0.8%	-0.3%	$8589
Change in elasticities: Lower elasticities[c]						
Low benefit, award required	-2.8%	-4.4%	0.7%	-0.7%	-0.1%	$3175
Middle benefit, award required	-5.0%	-8.2%	0.8%	-1.1%	-0.3%	$5736
Middle benefit, cooperators allowed	-12.2%	-29.8%	3.7%	-0.9%	-0.4%	$9007
Change in elasticities: Higher elasticities[d]						
Low benefit, award required	-2.9%	-5.0%	1.2%	-1.1%	-0.3%	$3253
Middle benefit, award required	-6.4%	-11.0%	5.0%	-1.2%	-0.7%	$5765
Middle benefit, cooperators allowed	-16.9%	-36.7%	15.1%	-0.2%	-1.0%	$8892

Source: Authors' computations based on 1987 Survey of Income and Program Participation.

[a]The baseline employs labor supply parameters estimated by Johnson & Pencavel (1984), which imply total income elasticities of -.128 for female heads, -.124 for wives, and -.211 for husbands, and imply uncompensated wage elasticities of .236 for female heads, .398 for wives, and .107 for husbands. The baseline also allows a different set of hours points for men and women. For men, we allow the current hours, and every 5 hours/week between 0 and 30 and between 50 and 60, and every hour between 30 and 50/week. For women, we allow the current hours, and every hour/week for five hours below and above the number of hours that each woman currently works, and every 5 hours elsewhere.

[b]In this run, we allow the current hours, and 0, 10, 20, 30, 40, 50, & 60 hours/week for all individuals.

[c]For a sensitivity test to labor supply parameters, we change the uncompensated wage elasticities. In this run, we assume .117 for female heads, .256 for wives, and .019 for husbands.

[d]This run assumes uncompensated wage elasticities of .468 for female heads, .754 for wives, and .213 for husbands.

hours/week. In the variant shown in the third panel, we assume that the only hours available to an individual are their current number of hours, 0, 10, 20, 30, 40, 50, or 60 hours/week. We anticipated that this would dampen the labor supply effects, since small changes in the number of hours are not allowed. The results are consistent with this expectation. There is a small dampening of the poverty-reducing effect and the AFDC-reducing effect in all schemes. A larger dampening is seen in the labor supply responses of women receiving AFDC and not working: fewer than 1% of these women begin to work in the middle scheme with cooperators, compared to 8% in our baseline results. (However, the ones who do begin to work, work more hours in this scenario than in the scenario that allows more potential hours points.) The decline in labor supply among non–AFDC men and women is also dampened, however, and now we predict a small increase in mean hours over all women and a small decrease among men. The assured benefit is predicted to cost somewhat less than the baseline labor supply estimates ($0.2 billion, $0.3 billion, and $0.4 billion less, respectively). This occurs primarily because the declines in labor supply among higher-income non–AFDC couples are not as pronounced, so income tax revenues are not reduced by as much as they are in the baseline run.

The final two panels show the results when we alter the degree to which labor supply responds to changes in wages (the uncompensated wage elasticities). (We do not test alternate income elasticities.) We present one set of results using smaller elasticities and one with higher elasticities, as follows:

		Baseline	Lower Elasticities	Higher Elasticities
Female Heads	Income Elasticity	-.128	-.128	-.128
	Uncompensated Wage Elasticity	.236	.117	.468
Wives	Income Elasticity	-.124	-.124	-.124
	Uncompensated Wage Elasticity	.398	.256	.754
Husbands	Income Elasticity	-.211	-.211	-.211
	Uncompensated Wage Elasticity	.107	.019	.213

For single females and wives, the lower elasticities were set at about half the baseline.[15] The higher elasticities were set at about double the baseline. These are still within the range estimated by some economists (see Killingsworth & Heckman [1986] and Pencavel [1986]).

Comparing the results in panel 4 with those in panel 2, we find that the lower elasticities result in somewhat fewer families leaving AFDC, as expected. Aggregate hours change a little, but the predicted costs are quite similar. Through comparing panel 5 with panel 2, we see that the higher elasticities result in a larger decline in the poverty gap, more families leaving AFDC, and more nonworking AFDC recipients beginning to work. Because of the opposing effects on AFDC and non–AFDC families, the estimated aggregate hours of work are sometimes above and sometimes below the baseline estimates. Net costs are predicted to be quite similar to the baseline labor supply runs.

In general, the results for the three different elasticities are more similar than they are different, perhaps increasing the confidence in these estimates. Extensions of this work could use a completely different specification of the utility function, rather than relatively simple changes in elasticities.

V. CONCLUSION

This paper has presented microsimulation estimates of various effects of an assured child support benefit. The effects are generally similar to previous microsimulation estimates, except that we are

now predicting that an assured benefit would be more costly. (These estimates are compared to previous estimates in Appendix II.)

Two types of labor supply responses are predicted in response to the assured benefit: some individuals receiving AFDC are predicted to work more, and some individuals not receiving AFDC are predicted to work less. These effects tend to offset one another, so aggregate labor supply is not predicted to change a great deal.

The size of the estimated labor supply effects depends on the type of assured benefit being tested. If the assured benefit is low and available only to women with awards, the incorporation of a labor supply response has very little effect on the estimates. In the two other schemes tested, the effect is somewhat larger, increasing the poverty-reducing and welfare-reducing effects of an assured benefit, and increasing its estimated costs. Estimated costs increase for two reasons: first, non–AFDC custodial families work less and therefore pay less in taxes; second, more working low-income families mean higher expenditures in the EITC program. Estimates of welfare caseloads are affected more than estimates of welfare costs, primarily because the labor supply model predicts that women receiving a small benefit are likely to move off welfare and into the labor force.

Incorporating labor supply has about the same effects whether or not the benefit is subject to income taxation. If the assured benefit is income-tested, the decrease in hours among non–AFDC recipients is dampened, leading to a prediction of very similar costs between the results with and without labor supply.

Because these estimates rely on the same labor supply response function, we presented information on three alternate methods for determining labor supply response. These tended to produce very similar results.

In summary, incorporating labor supply does change some estimates, generally in directions that could be predicted. Perhaps the estimated increase in net costs is most significant: the incorporation of labor supply adds between $200 million and $300 million to estimates of the net cost.

While there have been no pilot tests of an assured benefit that is available to all custodial-parent families, a version of an assured benefit, the Child Assistance Program, or CAP, has been

experimentally tested in New York. The assured benefit in the CAP program is available only to those who were once AFDC recipients who have child support awards, is income tested, and is higher than the amount of the assured benefits tested here ($4200/year for two children).[16] Based on data from the first two years, Hamilton et al. (1993) find a significant labor supply effect of CAP: those in the experimental group had 25% higher hours of work and 17% higher employment rates than those in the control group. A second significant finding is that the percentage of custodial parents with child support awards increased by 24%. However, there was no significant effect on child support payments, the percentage receiving cash assistance (mainly AFDC), or on cash benefit amounts. These experimental results suggest that an assured benefit will have positive effects on the labor supply of AFDC custodial parents, just as we have predicted here. The potentially offsetting decreases in labor supply for non–AFDC recipients are not tested by CAP, since it is available only to former AFDC recipients.

In previous simulation estimates conducted at the IRP, we assumed that there would be increases in the prevalence of child support awards, the amount of awards, and the collection rate. In these results, we do not assume any of these increases, although allowing cooperators is the same as estimating an increased prevalence of awards without any increased collections. Indeed, this is what has been found in CAP, suggesting that the cost estimates presented here may be more accurate in the short run. If improvements in the collection of child support can be achieved, the costs in the long run would be lower. And even if the short-run cost estimates are accurate, they should be weighed against the benefits shown here, particularly the benefit of decreasing poverty among a very vulnerable group of children and their families.

APPENDIX I

The Labor Supply Response Model

The static microeconomic theory of labor supply assumes that individuals choose the number of hours they will work and whether they will receive welfare benefits based on the alternative that provides the highest utility.

The form of the utility function that we use to determine the response to an assured benefit is the augmented Stone-Geary direct utility function used by Garfinkel et al. (1990), Meyer, Garfinkel et al. (1991), and Meyer, Phillips, and Maritato (1991), and is given as follows:

$$U(C,H,\epsilon) = (1-\beta)\ \ln(\frac{C}{m} - \delta) + \beta\ln(\alpha - \frac{H}{R} + \frac{\epsilon}{R*(1-\beta)}) \quad (1)$$

for single-mother families; and

$$U(C,H_1,H_2,\epsilon_1,\epsilon_2) = (1-\beta_1-\beta_2)\ \ln(\frac{C}{m} - \delta) + \beta_1\ln(Z_1) + \beta_2\ln(Z_2) \quad (2)$$

for married-couple families; where

$$Z_1=\alpha_1-\frac{H_1}{R_1}+\frac{(1-\beta_2)*\epsilon_1}{R_1*(1-\beta_1-\beta_2)}+\frac{\beta_1*W_2*\epsilon_2}{R_1*W_1*(1-\beta_1-\beta_2)}$$

$$Z_2=\alpha_2-\frac{H_2}{R_2}+\frac{(1-\beta_1)*\epsilon_2}{R_2*(1-\beta_1-\beta_2)}+\frac{\beta_2*W_1*\epsilon_1}{R_2*W_2*(1-\beta_1-\beta_2)}$$

In these equations:

C	=	annual consumption of market goods;
H_n	=	annual hours of work (1 for husband, 2 for wife; when not subscripted this refers to single women);
β_n	=	marginal propensity to consume leisure;
δ	=	subsistence consumption;

α_n = total time available for work;
m and R = indexes that normalize C and H in accordance with the size and composition of the household;
ε_n = an error term representing tastes for work; and
W_n = the hourly net wage.

Maximization of the utility formulation subject to a budget constraint yields an optimal number of hours:

$$H = \alpha(1-\beta)R - \beta(n - \delta m)/w + \varepsilon$$

for single-mother families, and

$$H_1 = \alpha_1(1-\beta_1)R_1 - \beta_1(n - \delta m + w_2*\alpha_2*R_2)/w_1 + \varepsilon_1$$

$$H_2 = \alpha_2(1-\beta_2)R_2 - \beta_2(n - \delta m + w_1*\alpha_1*R_1)/w_2 + \varepsilon_2$$

for married-couple families, where n = net unearned income (and thus $C = n + w_1H_1 + w_2H_2$).

Because directly estimating the parameters of this utility function is beyond the scope of the present paper, we draw on results from the existing labor supply literature. For our estimates of the labor supply effects, we use the results obtained by Johnson and Pencavel (1984) in their analysis of the labor supply response to the Seattle and Denver Income Maintenance Experiments (SIME-DIME). In particular, for single women we assume $\beta = .128$, $\delta = -2{,}776$, $\alpha = 2{,}151$, $m = 1-.401*\ln(1+K)$ (K being the number of children in the family under the age of eighteen), and $R = 1-.071P$ (P being 1 if there are preschool-age children in the family, 0 otherwise). For married couples we assume $\beta_1 = .2113$, $\beta_2 = .1238$, $\delta = 1{,}616$, $\alpha_1 = 2{,}587$, $\alpha_2 = 2{,}012$, $m = 1+1.069*\ln(1+K)$, $R_1 = 1$, and $R_2 = 1-.051P$.

Because the optimal hours of work predicted by the equation do not match the observed hours of work for individual families, the epsilon terms (which can be thought of as representing "tastes" for work) are defined as the difference between optimal hours and observed hours. The epsilon terms are then incorporated into the utility function as shown in equations 1 and 2, and this forces observed hours to be optimal hours for more than 97% of the individuals in our sample.

Individuals not working present two particular complications: first, we have no wage for them, so we must estimate wages (the estimating equations are available upon request). Second, individuals not working are typically not on the margin of going to work, so a random epsilon term is

drawn from a standard normal distribution. Additional details on this procedure can be found in Garfinkel et al. (1990).

The labor supply model contains the following steps:

1) The amount of each family's unearned income is determined.

2) Net wages are determined for workers and estimated for those who are not working.

3) A version of the optimal hour equation (without the epsilons) is used to determine the epsilon terms.

4) Net income under the assured benefit regime but at the current number of hours of work is calculated. Utility is then calculated.

5) Net income under the assured benefit regime is calculated at several possible hours points. Utility at each point is calculated, with the family selecting the number of hours of work that provides the highest utility. The number of hours selected implicitly determines whether the family receives AFDC or food stamps.

6) These individual predictions are multiplied by the sample weights and then totaled to calculate the predicted aggregate effects.

APPENDIX II

Comparison of These Results with Previous Results

A few simulation studies have provided estimates of the effects of an assured benefit (Lerman, 1989; Meyer, Garfinkel et al., 1991). To compare our estimates with those from other studies, we select a similar level of assured benefit from each study; unfortunately, the levels are not exactly comparable. We compare our baseline results with two studies that also have assured benefits that are limited to custodial parents with awards and are not income-tested.

Simulation Estimates	Our Study	Meyer, Garfinkel et al. (1991)	Lerman (1989)
Data (Year)	SIPP (1988)	CPS (1985)	SIPP (1985)
Assured Level			
1 child	$1500	$1100	$1188
2 children	$2000	$2199	?
3 children	$2500	$3299	?
4 children	$2500	$3849	?
5+ children	$2500	$4399	?
% Change in Poverty Gap	-3%	-2%	-2%
% Change in AFDC Caseload	-5%	-3%	-4%
% Change in Mean Hours Worked by Women on AFDC	3%	4%	N.A.
Net Costs (billions)	$3.3	$0.4	$1.2

All dollar amounts are expressed in 1988 figures for comparison.

The estimated effects of assured benefits on the poverty gap and on AFDC recipiency in this study are similar to those in the other studies. As indicated earlier, our estimated cost is higher than the previous estimates reported in Meyer, Garfinkel et al. (1991), although the amount of our assured benefit is slightly lower on average. Two sources contribute to this difference. First, our sample from SIPP includes additional custodial parents who are not counted in the CPS-CSS, which leads to higher cost estimates. The second source is the new method of determining child support, as noted in

endnote 1: while Meyer, Garfinkel et al. imputed child support variables for all custodial parents based on estimating equations, we use reported child support information whenever it is available. Since many custodial parents with awards actually receive nothing, the use of imputed child support amounts underestimates the public cost of an assured benefit and thus the net cost as well. For these reasons, we believe that our cost estimates are more realistic than those of Meyer, Garfinkel et al.

Endnotes

[1]Because we wanted the original simulation model to incorporate potential changes in awards and payments, we designed the original methodology to use estimating equations for the child support variables. Specifically, we divided each case into three parts, one part that always had a child support award, one part that was predicted to gain an award because of various child support reforms, and one part that did not have an award and was not predicted to gain one. This division was based on a multivariate equation that predicted the probability of having an award. For the two subparts with a child support award, we then predicted the award amount based either on the current system or on estimated noncustodial-parent income (which uses a multivariate estimating equation) and the Wisconsin percentage-of-income standard. Finally, we predicted the percentage of that award that is paid, again using a multivariate equation. This method made changing the probability of gaining an award, changing award amounts, or changing the collection ratios fairly easy.

We have discovered that this methodology did not work very well when we tried to estimate the current system. In general, our method tended to decrease the variance in payments because we were using estimated amounts. When the current system is being evaluated, it is relatively straightforward to change the model to use actual award status, award amounts, and payment amounts. These estimates are presented here. (The problem of reincorporating some variance into various predictions for the basic IRP model is one that we continue to work on.)

Because this change results in many cases with child support awards but without any child support payments (or very low child support payments), estimates of the net public cost of an assured benefit are now higher: net costs of a low-level assured benefit (described below) that is available only to custodial-parent families with child support awards using these data and the old method were estimated to be $1.2 billion. Using the new method, net costs are estimated to be $3.3 billion.

[2]Merging wave 2 with the main sample of wave 6 results in 149 cases which have information in wave 2 but not in wave 6. These cases were eliminated. Another problem in wave 6 is that it does not have information on shelter costs, which is needed to determine the appropriate amount of food

stamps. To get this information, wave 7 is also merged into the main sample, which provides amounts of rent and utilities paid during the survey month. Some missing cases again result; we keep these families in the sample and assign them the sample mean of shelter costs.

[3]We determine whether a family is income-eligible for AFDC by using the maximum benefit in each state, the family size, and an implicit tax rate estimated by Fraker, Moffitt, and Wolf (1985). Families that reported AFDC and were income-eligible were assumed to be recipients and to receive the amount of AFDC specified by the formula. Families that reported AFDC but were not income-eligible according to the formula were assumed to be recipients and to receive the amount they reported, but were not allowed to change their labor supply. Because AFDC recipiency is underreported, we imputed AFDC to some female-headed families who did not report it. Families that did not report AFDC but were income-eligible according to the formula were considered recipients if their predicted payment was at least $1000. This imputation corrects for underreporting. If the predicted payment was less than $1000, we assumed they were not recipients, since all income-eligible families do not receive AFDC, perhaps due to stigma. Further, because families with low amounts of AFDC can move off AFDC fairly easily due to the assured benefit, this $1000 threshold ensures that declines in AFDC caseloads are not primarily due to our imputation procedures.

[4]We impute food stamp recipiency to 86% of the families to whom we impute AFDC recipiency. (This approximates the percentage of AFDC families who receive food stamps.) We do not impute food stamp recipiency to any other families because the aggregate caseload that results from our imputations is close to the caseload shown in administrative records.

[5]These estimating equations are available upon request.

[6]The groups that require imputation are custodial fathers, mothers who are currently married but had children out of wedlock, and mothers who had no children from the most recent divorce or separation but had children from an earlier divorce or separation. For custodial-father families, we use the mean percentage with awards (27%) and the mean amount of child support ($1002), based on a Wisconsin survey. For the other two types of families, we impute the probability of award and child support payments by using a multivariate estimating equation based on SIPP data (see Kim [1993] for

estimating equations). This imputation method is described more fully in Meyer, Garfinkel et al. (1991) and Kim (1993).

[7]Actually, the CBO requested that we provide estimates for the first and third scheme. We have decided to also present the second scheme so that the effects of a larger benefit can be differentiated from the effects of allowing cooperators to receive the benefit. In the research for the CBO, we also estimated a scheme in which cooperators were allowed to receive an even higher assured benefit: $3000/year for one child; $4000 for two children; $5000 for three children; $6000 for four children; and $7000 for five or more children. For simplicity, we do not present these results here; they are available upon request, however.

[8]Note also that we compare the official poverty line to cash income plus food stamps minus taxes for each family, and thus these figures are not directly comparable to official poverty rates.

[9]As noted above, because an assured benefit has opposing effects on AFDC and non–AFDC cases, the net effect on the hours worked of all women is not predictable a priori. Similarly, increasing the amount of the assured benefit should magnify both the positive effect for AFDC cases and the negative effect for non–AFDC cases, and thus the direction of changes in the aggregate labor supply of all women under increasing assured benefits is not predictable. Further, making more people eligible for an assured benefit (allowing cooperators) should also magnify the positive effect for AFDC cases and the negative effect for non–AFDC cases, again leading to unpredictable aggregate effects. We predict here that mean hours decline by five hours annually when moving from the low-award-only scheme to the middle-award-only scheme. When cooperators are allowed in the middle scheme, mean hours increase by five hours annually.

[10]Almost all of these savings result from increases in tax collections. A small amount (less than $100 million in each scheme) comes from other savings.

[11]Although the percentage of nonworking AFDC recipients who begin to work is the same under the taxed and the untaxed benefit for all three schemes, the change in hours for AFDC recipients decreases a little under the taxed benefit in the two middle-level schemes (not shown on table). Under the taxed benefit, AFDC women are not predicted to increase hours by as much as under the untaxed

benefit, and non–AFDC women are not predicted to decrease hours by as much as under the untaxed benefit. The former effect outweighs the latter, leading to lower aggregate hours of work in the middle scheme-cooperators.

[12]We include earnings and unearned income but do not include welfare or child support in the calculation of income that determines the benefit reduction range and the breakeven point for this assured benefit.

[13]Recall that because of the opposing effects on AFDC and non–AFDC families, allowing cooperators does not necessarily lead to a particular direction in the aggregate effect.

[14]For example, assume that a woman works 12 hours a week; then: "current number of hours per week" = 12; "every hour per week for 5 hours below and above the current number of hours" = 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, or 17 hours a week; "every 5 hours elsewhere between 0 and 60 hours/week" = 0, 5, 20, 25, 30, 35, 40, 45, 50, 55, or 60 hours a week (10 and 15 hours a week are covered in the previous item).

[15]The way we changed the elasticities for the lower elasticity runs was through the delta term in the utility function (see Appendix I). Because this term is the same for wives and husbands, setting the elasticity for wives sets the elasticity for husbands. In the test of higher elasticities, we doubled the rate for female heads. If we had followed the same procedure for wives, the elasticity for husbands would have become much higher than is thought feasible. Therefore, we also adjusted the alpha term in the utility equation. Further information is available on request.

[16]CAP also provides the cash value of food stamps rather than the food coupons and provides some child care assistance.

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