

## Counterfactual Impacts of Selected Demographic Factors on Welfare Measures and Inequality

Tables 3-8 present the same summary statistics as table 2, except that we have isolated the impacts on the various welfare measures of one demographic factor in each table using our estimated statistical model. Again, we emphasize that we are statistically controlling for one demographic characteristic at a time, which is not the same as eliminating a specific demographic group from the dataset, say one-person households, and then recalculating the welfare statistics. This is because any demographic group would embody more than one demographic characteristic, like race and region of residence. Rather, our technique lets us statistically isolate the net effect of various demographic characteristics. We can then isolate the income disadvantage (in the case of coefficients with a negative sign) of these households by the technique discussed earlier. We then recalculate our poverty statistics for those households who remain eligible for food stamps and report the percentage change from our base table (table 2). It is important to note that decreasing the population eligible for food stamps is generally consistent with increasing average household income for the total population and thus with total welfare. Hence, in this report we emphasize the impact on the headcount ratio of netting out a demographic effect, but we also recalculate the other welfare measures to determine the

potential economic well-being of those households remaining in the food stamp-eligible population.

Table 3 shows the welfare measures for food stamp-eligible households under the counterfactual case where race provides no income disadvantage to the household. In other words, if the net income disadvantage associated with Black households, all other household characteristics held constant, could be redressed, the welfare measures would deviate from the base measures by the figures reported in the table. The headcount ratio indicates that the proportion of low-income households would decline about 11 percent for 1981 and about 9 percent for 1995, and would average a decline of about 8 percent relative to the baseline analysis. Likewise, the income gap for the remaining households eligible for food stamps would be about 9 percent less in 1981 and about 8 percent less in 1995 and average approximately 9 percent less over the sample period. Interestingly, the Gini coefficient for this table is about the same as the baseline calculation in that it rises by no more than 3.2 percent over the baseline and averages an increase of 1.2 percent. However, the Sen index does decline since both the headcount and income gap measures declined. Relative to the baseline, real income is lower in both household and per capita terms. Hence, if the income disadvantage of Black households could be isolated from the population, only modest reductions in the headcount ratio would be realized.

**Table 3—Welfare measures of food stamp-eligible households under the counterfactual case where race provides no income disadvantage**

Year	Components of Sen index			Sen index	Real household income	Per capita income	Household size
	Headcount ratio	Income gap	Gini coefficient				
<i>Percent changes from base</i>							
1981	-11.1	-9.1	0	-10.5	-5.1	-0.8	-4.3
1983	-7.7	-9.5	0	-10.8	-4.1	.3	-4.3
1985	-8.0	-9.5	0	-8.3	-4.0	-4.0	0
1987	-9.1	-9.8	3.2	-11.4	-3.5	-3.5	0
1989	-9.5	-7.5	3.2	-8.8	-3.2	1.0	-4.2
1991	-4.3	-7.3	0	-5.7	-2.7	-2.7	0
1993	-8.3	-7.5	0	-8.6	-4.0	-4.0	0
1995	-9.1	-7.9	3.1	-9.0	-3.0	-3.0	0
Average	-8.4	-8.5	1.2	-9.1	-3.7	-2.1	-1.6

Source: U.S. Department of Agriculture, Economic Research Service.

Table 4 contains the welfare measures after removing the net income disadvantage for households associated with the characteristic “female-headed.” If the female-headed household effect could be removed, the number of households eligible for food stamps would decline by approximately 10 to 14 percent for each year in the sample and would average a decline of about 12 percent over the entire period. The income gap would also decline by approximately 2 to 8 percent each year and would average a decline of about 5 percent over the sample period. Again, the Gini coefficient would be little changed, although it would average an increase of about 2 percent between 1981 and 1995. However, the Sen index would decline by approximately 5 to 9 percent each year, with an average decline of about 7 percent. While real household income declines relative to the baseline, per capita income increases between 3 and 7 percent each year. These results are very similar to those for race.

Table 5 presents the welfare measures after removing the net income disadvantage for households associated with the characteristic “one-person, other than older single females.” The effect on the headcount ratio is rather dramatic. The headcount ratio would have declined by approximately 44 percent in 1981 and 41 percent in 1995 and would average approximately 40 percent for all years. This would be a large reduction in the number of households eligible for food stamps. However, the effect on the income gap is rather mixed. In the early to mid-1980s, the income gap would have declined by approximately 7 to 16 percent. Thereafter, the income gap would have remained about the same

as the baseline, but would average a decline of 5 percent for all years. The Gini coefficient increases for all years except 1985 and 1995, when it is the same as the baseline, and averages an increase of about 5 percent. Because of the dynamic decline in the headcount, the Sen index also declines. This would have ranged from approximately 26 percent in 1981 to about 9 percent in 1995, with an average decline of about 14 percent. On a per capita basis, income was lower relative to the baseline by an average of about 18 percent, but note that per capita income would have increased by a modest 3 percent between 1981 and 1995 for these remaining households. In summary, if this demographic effect could be redressed, there would be a large reduction in the number of households eligible for food stamps, but this would leave behind some hardcore poor households, as measured by the decline in per capita income relative to the baseline.

Table 6 contains the welfare statistics after removing the net income disadvantage for households associated with the characteristic “single females 50 years or older.” The reduction in the headcount is not as great as that associated with all other one-person households. Yet, the headcount ratio would have fallen by approximately 19 to 23 percent in each year, with an average decline of about 21 percent. Interestingly, the income gap of those who remained eligible for food stamps would have increased by about 5 percent in each year except for 1989 (about 8 percent). Likewise, the Gini coefficient is larger every year relative to the baseline, with an average increase of about 5 percent. The end result is that the Sen index is very close to

**Table 4—Welfare measures of food stamp-eligible households under the counterfactual case where female-headed households provide no income disadvantage**

Year	Components of Sen index			Sen index	Real household income	Per capita income	Household size
	Headcount ratio	Income gap	Gini coefficient				
<i>Percent changes from base</i>							
1981	-11.1	-2.3	2.8	-5.3	-2.1	7.3	-8.7
1983	-11.5	-4.8	3.0	-8.1	-2.7	6.6	-8.7
1985	-12.0	-2.4	0	-5.6	-10.4	4.8	-4.2
1987	-13.6	-7.3	3.2	-8.6	.3	4.6	-4.2
1989	-9.5	-5.0	0	-5.9	.4	4.7	-4.2
1991	-13.0	-7.3	0	-5.7	2.3	6.5	-4.2
1993	-12.5	-7.5	3.1	-8.6	-1.1	3.0	-4.2
1995	-13.6	-5.3	0	-6.1	.9	5.1	-4.2
Average	-12.1	-5.2	1.5	-6.7	-1.6	5.3	-5.3

Source: U.S. Department of Agriculture, Economic Research Service.

**Table 5—Welfare measures of food stamp-eligible households under the counterfactual case where one-person households (all one-person households except females 50 years or older) provide no income disadvantage**

Year	Components of Sen index			Sen index	Real household income	Per capita income	Household size
	Headcount ratio	Income gap	Gini coefficient				
<i>Percent changes from base</i>							
1981	-44.4	-15.9	0	-26.3	22.7	-14.5	43.5
1983	-42.3	-11.9	9.1	-21.6	15.6	-31.2	39.1
1985	-44.0	-7.1	0	-13.9	18.1	-14.1	37.5
1987	-36.4	-2.4	12.9	-11.4	10.9	-19.4	37.5
1989	-42.9	-2.5	6.5	-8.8	16.5	-17.8	41.7
1991	-39.1	4.9	3.1	-5.7	16.3	-16.9	40.0
1993	-33.3	-5.0	9.4	-14.3	11.2	-15.8	32.0
1995	-40.9	0	0	-9.1	17.3	-16.2	4.0
Average	-40.4	-5.0	5.1	-13.9	16.1	-18.2	34.4

Source: U.S. Department of Agriculture, Economic Research Service.

**Table 6—Welfare measures of food stamp-eligible households under the counterfactual case where one-person households who are females 50 years or older provide no income disadvantage**

Year	Components of Sen index			Sen index	Real household income	Per capita income	Household size
	Headcount ratio	Income gap	Gini coefficient				
<i>Percent changes from base</i>							
1981	-18.5	4.5	2.8	-2.6	4.9	-3.5	8.7
1983	-19.2	4.8	6.1	-2.7	4.7	-7.4	13.0
1985	-20.0	4.8	3.0	0	4.2	-7.3	12.5
1987	-22.7	4.9	6.5	0	4.8	-10.2	16.7
1989	-19.0	7.5	6.5	0	4.8	-10.2	16.7
1991	-21.7	4.9	6.3	0	5.3	-9.2	16.0
1993	-20.8	5.0	3.1	-2.9	5.1	-9.4	16.0
1995	-22.7	5.3	3.1	0	6.4	8.3	16.0
Average	-20.6	5.2	4.7	-1.0	5.0	-6.1	14.5

Source: U.S. Department of Agriculture, Economic Research Service.

that of the baseline index, on average only 1 percent below the baseline. Hence, the headcount would fall, the income gap would widen, the dispersion of household income would increase, and while real household income would increase modestly, real per capita income would fall relative to the baseline. Thus, the net result of removing the income disadvantage of single females 50 years or older would not be as dramatic as for all other one-person households, but it would still have a rather large impact on the total number of households eligible for food stamps (the headcount).

Table 7 contains the welfare measures for food-stamp-eligible households after removing income disadvantage for households associated with the characteristic “household head does not have a high school diploma.” Relative to the baseline, the headcount ratio would decline between 37 and 50 percent and would show an average decline of about 43 percent between 1981 and 1995. The income gap presents rather mixed results. Between 1983 and 1987, the income gap for households remaining eligible for food stamps would have risen about 2 percent, while it would have declined

about 2 percent in 1991 and 1993. On average, the income gap would increase by about 1 percent. As a result, the Gini coefficient increases slightly each year except for 1989 and 1995, when it is the same as the baseline, and averages an increase of about 3 percent. The net effect of this is to reduce the Sen index by an average of about 10 percent for all years. Household income for those still eligible for food stamps fell about one percent between 1981 and 1995, whereas per capita income, which is above that of the baseline, rose about 3 percent. Hence, if we could remove the income disadvantage of household heads without a high school education, we would see a rather dramatic decline in the number of households eligible for food stamps.

Table 8 contains the welfare measures for households eligible for food stamps after removing the income disadvantage for households associated with the characteristic “household head has a high school diploma.” Once again, this causes a large reduction in the headcount ratio; in fact, it is larger than removing the income disadvantage of households whose heads do not have a high school diploma. Between 1981 and 1995, the head count would have declined between

approximately 45 to 54 percent, with an average decline of about 48 percent. However, other than in 1981, the income gap appears to be very similar to the baseline, with an average decline of about 2 percent. Excluding 1981, the Gini coefficient ranges between a decline of about 9 percent and an increase of about 3 percent. Over the entire period, the Gini coefficient declines by about 5 percent. The Sen index is well below that of the baseline, and averages a decline of about 12 percent. Income for those households still eligible for food stamps is very mixed in terms of being above or below that of the baseline, although on average, it is about 1 percent below the baseline on a household basis and about 3 percent below the baseline on a per capita basis. As noted above, it is somewhat surprising that removing the income disadvantage of this variable produces slightly larger changes in welfare measures than removing it for households without a high school diploma. Undoubtedly, a large number of high school graduates are unprepared to make an adequate living upon leaving high school. Still, if this effect could be addressed, there would be a very large decline in the number of households eligible for food stamps.

**Table 7—Welfare measures of food stamp-eligible households under the counterfactual case where heads of households without a high school education provide no income disadvantage**

Year	Components of Sen index				Real household income	Per capita income	Household size
	Headcount ratio	Income gap	Gini coefficient	Sen index			
<i>Percent changes from base</i>							
1981	-37.0	4.5	5.6	-7.9	-4.9	4.2	-8.7
1983	-46.2	2.4	3.0	-10.8	-2.7	1.7	-4.3
1985	-44.0	2.4	6.1	-8.3	-1.1	3.2	-4.2
1987	-50.0	2.4	6.5	-8.6	-1.7	-1.7	0
1989	-42.3	0	0	-8.8	-.6	3.7	-4.2
1991	-43.5	-2.4	3.1	-11.4	1.5	1.5	0
1993	-37.5	-2.5	3.1	-11.4	.6	4.8	-4.0
1995	-40.9	0	0	-9.1	-1.2	2.9	-4.0
Average	-42.7	.9	3.4	-9.5	-1.3	2.5	-3.7

Source: U.S. Department of Agriculture, Economic Research Service.

**Table 8—Welfare measures of food stamp-eligible households under the counterfactual case where household heads with a high school education provide no income disadvantage**

Year	Components of Sen index			Sen index	Real household income	Per capita income	Household size
	Headcount ratio	Income gap	Gini coefficient				
<i>Percent changes from base</i>							
1981	-44.4	-18.2	-18.3	-26.3	-9.3	-9.3	0
1983	-46.2	-2.4	-6.1	-13.5	2.0	2.0	0
1985	-52.0	0	-9.1	-8.3	1.4	-2.7	4.2
1987	-45.5	-2.4	-3.2	-11.4	1.0	1.0	0
1989	-47.6	-2.5	0	-11.8	2.1	-1.9	4.2
1991	-47.8	0	-3.1	-8.6	-0.7	-0.7	0
1993	-54.2	2.5	-3.1	-8.6	-2.1	-5.8	4.0
1995	-45.5	5.3	3.1	-6.1	-0.4	-4.3	4.0
Average	-47.9	-2.2	-5.0	-11.8	-0.8	-2.7	2.1

Source: U.S. Department of Agriculture, Economic Research Service.