

EXECUTIVE SUMMARY

In the debate over alternatives to the current welfare system the effect of income maintenance programs on the work effort of low income people, particularly those who work and have family responsibilities, has proved a recurrent and politically significant question. Income support programs covering the so-called working poor have considerable appeal on equity grounds, but intuitive expectations and economic theory lead us to expect that they will cause recipients to decrease their work effort. To find out whether such a disincentive effect occurs, and the size of the effect, major social experiments have been conducted by the Office of Economic Opportunity and the Department of Health, Education, and Welfare.

In the recently-completed New Jersey Graduated Work Incentive Experiment the work reduction for married men as a result of income maintenance payments of a type that might be enacted proved to be less than 10 percent. The reduction resulted solely from fewer hours worked; no evidence appeared of husbands quitting entirely to live on the experimental payments. The percentage of wives in the labor force fell sharply as a result of experimental payments, but since wives worked very few hours to begin with the effect on total family labor supply was small. The experiment appeared to have little effect on the attitudes and nonwork behavior of recipients.

The New Jersey Experiment dealt exclusively with urban families, and researchers doubted that the results, or the administrative techniques, could be applied to the rural poor. The poor appear to face very different labor market opportunities in rural areas than in urban

areas, particularly since many are self-employed farmers, and attitudes toward work may differ between rural and urban settings. Many additional problems arise in the treatment of self-employment income and highly seasonal income in rural areas which do not often occur in urban low-income populations.

Since the results of the urban-based experiments might fail to apply to rural areas, and since an accurate estimate of incentive effects was necessary for estimates of program costs, the Rural Income Maintenance Experiment was carried out to measure labor supply responses and other effects of a negative income tax in rural areas. The results of this experiment are reported here.

The effects of the Rural Experiment, like those of other income maintenance experiments, were measured by comparing the behavior of members of an experimental group, who received cash payments according to one of several benefit formulas, with that of members of a control group who received no benefits. Thus what are described as changes in behavior as a result of the experiment are differences in behavior between the experimental group and the control group rather than changes over time in the behavior of the experimentals. A statistical technique was used which allowed the researchers to hold constant the effects of other characteristics such as the age or education of respondents and thus to isolate the effect of the experimental treatment.

The benefit formulas had a structure which appears in many current transfer programs and in many proposals for reform. They consisted of

a basic benefit, a minimum level of income guaranteed to families with no other income; and an implicit tax rate, the rate at which the benefit was reduced as other income increased. Five different experimental treatments were used with basic benefit levels of from 50 to 100 percent of poverty level income and implicit tax rates ranging from 30 to 70 percent. Most of the results presented here are overall differences in response between controls and experimentals in all plans.

The experiment was carried out in two locations, one in Iowa and one in North Carolina. Families were selected randomly from within the experimental sites and, if eligible, were randomly assigned to a control group or to one of the five experimental treatments. Eligibility required a family income at the beginning of the experiment of less than one and one-half times the official poverty line. Of 809 original families, 729 remained in the program for the entire three years of the experiment.

Work and income responses to the experiment were examined separately for rural families whose income derived primarily from wages and for those whose main source of income was self-employed farming. On the basis of analyses which indicated significantly different response patterns by site and race, North Carolina whites, North Carolina blacks, and Iowa families (all white) were analyzed separately. In addition, effects of the experiment on attitudes and on nonwork behavior such as family stability, various forms of consumption, and school performance of children were examined for the whole group.

Income and Work Response of Wage Earners

Experimental effects on several measures of income and work effort were examined for families whose main source of income was wages. The labor supply responses are shown in Table 1. The first three columns show responses for each of the geographic and racial groups; the fourth column shows an aggregate response weighted to represent the low-income rural nonfarm population of the eight Midwestern and Southern states which the experimental sites were chosen to represent. Responses are calculated on the basis of an average plan having a 45 percent implicit tax rate and an 80 percent basic benefit level.

For all family members combined, hours worked for wages were lower for experimental group members than for controls by a weighted average of 13 percent after holding constant nonexperimental differences. The differential was statistically significant for two of the three groups. The experiment had a similar negative effect on total family income and number of earners per family.

Labor supply responses varied greatly among family members. Hours worked by husbands moved in differing directions among the groups but on average remained essentially unchanged. No statistically significant evidence appeared in any of the groups of husbands withdrawing from the labor force in response to the experimental payments. For wives, large negative experimental effects, averaging 27 percent, appeared for hours worked, but they were statistically significant only for North Carolina blacks. Statistically significant negative effects on employment, averaging 28 percent, occurred for every group of wives. Among children

TABLE 1
EXPERIMENTAL LABOR SUPPLY RESPONSE OF
FAMILIES OF RURAL WAGE EARNERS

	Control/Experimental Differential as Percent of Control Mean ^a			
	N.C. Blacks	N.C. Whites	Iowa	Eight-State ^b Aggregate
All Family Members				
Total hours worked for wages per quarter	-10	-18	- 5	-13
Husbands				
Total hours worked for wages per quarter	- 8	+ 3	- 1	- 1
Percent employed during qtr.	- 1	- 1	0	- 1
Wives				
Total hours worked for wages per quarter	-31	-23	-22	-27
Percent employed during qtr.	-25	-28	-38	-28
Dependents				
Total hours worked for wages per quarter	-16	-66	-27	-46

^aResponses standardized to a 45 percent tax/80 percent basic benefit plan.

^bThe experimental sites were chosen to represent the low-income rural population of eight Midwestern and Southern states. See p. 37 for weighting procedure used to derive this estimate.

living at home the experimentally-induced differential in hours of work averaged a negative 46 percent, but the difference was statistically significant only for North Carolina white children.

Most of the experimental effects on work effort appeared to increase as implicit tax rates rose. The basic benefit level, however, appeared to have no significant effect on work effort.

Income and Work Responses of Farmers

For farm operators and managers experimental effects on farm profit, labor supply on and off the farm, and farm efficiency and production were examined. Profit, defined as gross revenue less cash costs, was used as a measure of farm income. Both Iowa and North Carolina experimental groups showed declines in farm profit relative to controls, but the differentials were only marginally statistically significant.

Farm work by farm operators, however, showed a positive experimental effect of 11 percent in both states. The differential was significant in North Carolina but not in Iowa. Farm hours declined over time for all groups, but at a faster rate for controls than for experimentals. Experimental wives also tended to work more hours on the farm than controls. Implicit tax rates and benefit levels appeared to have no effect on the level of farm work.

In three-fourths of the North Carolina farm families and half of the Iowa farm families one of the spouses worked for wages. Experimentally-induced declines in hours of wage work occurred in every group, and for wives the effect was large. But the only statistically significant

effect was that for North Carolina wives, which resulted from a large increase in wage work by the control group which was not matched by the experimental group. Because of the small sample sizes the results for wives must be treated with caution.

Total earnings and total hours worked, including both farm and wage work for operators and wage work for wives, fell for experimental farm families relative to controls in North Carolina but not in Iowa. But the relative decline in hours in North Carolina occurred mostly because of the estimated decline in the wage work of wives.

Efficiency of farm operations, measured by the amount of output produced with a given amount of inputs, declined for experimental farms relative to controls. In North Carolina efficiency decreased as implicit tax rates rose. Total output declined by a small amount on experimental farms relative to controls in both North Carolina and Iowa.

The decline in output appears inconsistent with the increase in farm hours. One plausible explanation is that the experiment provided an incentive either to defer sales of output until after the end of the experiment, or to engage in investment activities which have a payoff in the long run but not during the three years of the experiment. Alternatively, the implicit tax on money income might have encouraged a shift from production in the market to production for consumption at home, or to less productive activities which were more enjoyable, either of which would appear as a decline in measured efficiency. The experiment may also have caused a shift in methods of production, possibly to more risky techniques, which might have required higher labor inputs, at least during the transition period.

Other Responses to the Experiment

In addition to labor supply and income responses, the study examined the effects of experimental payments on nutrition; various forms of consumption; health and health care; geographic mobility; debt and asset holding; psychological well-being; marital dissolution and family interaction; and attitudes, delinquency, and school performance of children. Significant experimental effects were found in only a few cases, possibly because of the short duration of the experiment.

Increases in consumption of several kinds occurred as a result of the experiment. Interestingly, nutrition improved significantly as a result of the experiment among North Carolina families but not in Iowa, in part because the level of nutrition was initially much higher in Iowa. The probability of buying a house was slightly greater for experimentals than for controls, with most of the effect occurring in North Carolina, and houses were bought about three years earlier in the life cycle by experimentals than by controls. No difference was found in the price of homes bought. Expenditures on health care were unaffected by the experiment, and changes in health showed no consistent pattern.

The study examined holdings of durable goods and cars and acquisition of debt. Wage earners' stocks of consumer durables, cars, and liquid assets appeared to increase as a result of the experiment; effects on store debt and loan debt varied among the groups studied.

Experimental payments appeared not to increase the probability of leaving a job but did increase the amount of unemployment experienced by

experimental group members. Members of the experimental group appeared more likely to change residence than control group members.

The experiment had very little effect on any of several measures of psychological well-being. Slight evidence appeared, however, that the level of the basic benefit, regardless of payments actually received, was positively related to psychological well-being, presumably through providing a greater sense of security to participants.

The experimental program appeared to have no important effect on the quality of family relationships. It had no effect on the number of marital dissolutions or on satisfaction with marriage or parent-child relationships as reported by wives and teen-agers. Division of labor in the household may have been affected slightly.

The aspirations, school attitudes, and school behavior of teen-agers were not affected by the experiment. Neither was self-reported delinquent behavior by teen-agers, nor their attitudes toward delinquency.

School performance did improve for grade school children in North Carolina, both black and white, as a result of the experiment. Children in grades 2 through 8 in the experimental group performed significantly better than the control group in attendance, comportment, academic grades, and standardized test scores. Similar improvements did not occur, however, for North Carolina children in grades 9 through 12 or for Iowa children. The lack of effect for Iowa children may be explained by the fact that they experienced richer home environments and performed better prior to the experiment than North Carolina children.

Administration of a Negative Income Tax Program in Rural Areas

The experiment provided experience with the problems of administering an income-conditioned cash transfer program in a rural area. These included the treatment of income and assets for self-employed farmers and questions of comprehension of the program and accuracy of reporting by poorly-educated participants.

The experiment established rules for the definition of self-employment and developed a method of calculating income for the purposes of a cash transfer program which differed from the IRS rules in disallowing accelerated depreciation and the investment tax credit, adding the value of rent-free housing to income, and imputing to income a percentage of assets above a given level. A one-month accounting period with a twelve-month carryover provision was developed to deal with the seasonal variability of farm income. Experience in administering the program led to additional recommendations to require the accrual method of accounting rather than the cash method and to treat both realized and unrealized capital gains as income.

Participants' understanding of the experimental rules proved very poor. Only about half of the families understood the basic benefit level, implicit tax rate, and breakeven level they faced, and the understanding of these program characteristics did not improve over time despite careful instruction of participants.

Benefits were calculated on the basis of family size, assets, and income as reported by the families. Data on family size, wage income, and transfer income were reported with acceptable accuracy, but assets and farm income were seriously underreported. On the basis of these

results, in fact, underreporting by farmers could be expected to affect program costs far more than any likely response in their labor supply.

Summary of Responses

Many of the results of the Rural Income Maintenance Experiment resemble closely the results of the New Jersey Experiment. In wage earners' families, income of experimentals declined relative to that of controls somewhat more than in New Jersey, but still by a modest amount. In the Rural Experiment husbands' hours did not decline consistently as a result of the experiment, and those declines that were found tended to be even smaller, on average, than in New Jersey. As in New Jersey, husbands did not withdraw from the labor force, but the percentage of wives working fell considerably. A new result of the Rural Experiment was that wage work of dependents also fell. But since wives and dependents worked only a small number of hours initially the effect on total family work effort was small. As in New Jersey, the experiment had very little effect on various psychological and social variables.

The Rural Experiment provided considerable new information about the work response of farm families. Hours of wage work by experimental farm families declined relative to controls only for one group, and this differential appears to have been caused by large increases in hours by control wives. Hours worked in farming in North Carolina increased while profits and efficiency declined. The latter result may be explained by the incentive to shift work effort away from tasks yielding money income and toward investment or production of directly-consumable commodities.

Other interesting new results were the relative improvements in nutrition and in school performance of grade school children among North Carolina experimental families. A positive experimental effect also occurred for many forms of consumption, including purchase of cars, durable goods, and houses, and acquisition of loan debt.

The results of the experiment suggest, as did the New Jersey Experiment, that a universal income-conditioned cash assistance program would cause only a modest decline in the labor supply of families of wage workers. Husbands who worked primarily for wages would decrease their hours of work slightly or not at all and would not leave the labor force. Wives would be less likely to work than in the absence of payments, but the effect on the families' hours of work would be small since wives' hours of wage work in low-income families tend to be few. The desirability of wives' working less depends on one's view of the value of wives' time devoted to work in the market rather than work at home.

An income maintenance program would be unlikely to affect most social or psychological variables. It would be likely to have a positive effect on the school performance of elementary school children and on various forms of consumption, including adequacy of nutrition, at least in families where these variables are at low levels initially.

The results of the experiment also indicate that special care must be taken in defining administrative and reporting procedures for self-employed farmers in order to avoid serious problems of underreporting and misreporting of income and assets. Problems associated with accurate measurement of farm income and assets may be of greater importance among this population than any likely labor supply response.