

Dissertation Awards

1997

The Role of AFDC Benefits in Location Choice:
Dissertation Summary

Carole Roan Gresenz
Brown University

The Role of AFDC Benefits in Location Choice

Carole Roan Gresenz

INTRODUCTION

Recent welfare reform legislation replaced the Aid to Families with Dependent Children (AFDC) program with a largely defederalized welfare program, Temporary Assistance to Needy Families (TANF). Benefit generosity, enforcement of program rules, availability of training, and other aspects of TANF are expected to vary widely across states as a result of the defederalization. That has led to concern that some welfare recipients will migrate to states that have more generous programs. The concern is not a new one. Before the legislation was passed, many questioned whether large inter-state differences in the AFDC benefit paid to families induced migration. This thesis examines whether that was the case: did AFDC benefit differentials affect individuals' location choices? Among other things, the answer will help us better understand how individuals may respond to variation in welfare programs under TANF.

The results of the study also have implications for academic research. Welfare analysts have used the variation in AFDC benefits across states to identify its effect on individuals' marital status, childbearing, and labor supply choices, for example. If AFDC benefits play a role in individuals' location choices, then the variation in benefits across states is endogenous and cannot be used to identify the effects of AFDC on other decisions.

There is a substantial literature on AFDC and migration, but unresolved theoretical and methodological issues have led to mixed results in studies to date. This thesis builds on the existing literature by developing a unique theoretical framework of decision making and by improving on two types of estimation strategies. In a departure from the previous literature, an individual's choice of location and choice of whether to work and/or receive welfare are modeled as sequential. The sequential model allows welfare benefits to act as insurance against a bad wage outcome in a particular location. The model yields hypotheses

about the effect of migration in response to AFDC benefit differentials on employment.

The theoretical model guides two estimation strategies. The first strategy uses a "location choice" model, in which individuals' location choices at a point in time are analyzed, to ascertain whether in equilibrium and holding all else constant, individuals are distributed more heavily in higher-benefit states. The second strategy uses a "mobility" model, in which individuals' decisions to move from or stay in a location are analyzed to determine whether changes in benefits over time bring about changes in location choices over time.

In the next section, the sequential model of decision-making is developed and its theoretical implications are discussed. In Section III, two empirical strategies are explained. Estimation results are summarized in Section IV, and Section V is the conclusion.

THEORETICAL MODEL OF LOCATION AND WORK/WELFARE CHOICE

The theoretical model encompasses two decisions. Individuals choose which state to reside in and they choose whether to work and/or receive welfare. An individual's location decision is made by comparing the utility of the initial location to the utility of each alternative location in the choice set. An individual chooses a particular location if the expected utility from living there, less the cost of moving there, is greater than the expected utility, net of moving costs, of each of the other locations. An individual's work/welfare choice is one of four alternatives: individuals can receive welfare, neither work nor receive welfare, only work, or do some combination of work and welfare. Individuals also decide upon work and welfare by maximizing utility.

Carole Roan Gresenz received her Ph.D. from Brown University. She is currently an associate economist with Rand. Ms. Gresenz's dissertation advisor was Robert Moffitt.

At the end of an initial time period, individuals must choose a location and work/welfare decision for the subsequent period. Both the choice of location and the work/welfare choice depend in part on what wages are in each location. Wages are determined by individual characteristics and regional economic characteristics, but they are also determined by a random component which reflects a premium or discount that certain individuals get when working for a particular employer, which can be thought of as "luck." As a result, when individuals are considering different locations, they have information about the mean wage and variance around the wage for each location, but they do not know the actual wage in each location. Wages are only revealed when individuals carry out job search activities in the chosen location. Because of the uncertainty in wages, individuals calculate an expected utility and expected probability of each work/welfare alternative at the time when the location decision must be made, but make no work/welfare decision. Thus, each individual first chooses a location, based on an expected work/welfare choice in each location, and then chooses a work/welfare alternative, once the location decision is made and carried out.

The sequential framework allows for a direct effect of benefits on individuals who later receive welfare and an indirect effect of benefits on individuals who later choose not to receive welfare. The latter may be thought of as an insurance effect: individuals who move to a state and later find employment may have been affected by the insurance AFDC benefits provided against the possibility of a poor wage draw. The empirical implications are twofold. First, the initial sample of individuals includes both individuals initially observed receiving welfare and those not receiving welfare. Both types of individuals are assumed to have some uncertainty about future work and welfare choices. Second, wages and benefits are allowed to affect the location choices of both those who receive welfare in the new location and those who work in the new location.

The advantages of the sequential framework can be clarified by comparing it to alternative models of decision making. In some studies, the work/welfare decision is not modeled at all, but rather "receipt of welfare" is included as a right-hand-side variable. The problem with that specification is that welfare receipt is endogenous. Other empirical analyses have included only those initially observed receiving welfare in the sample population. The exclusion of nonrecipients may underestimate the true effect of AFDC benefits on location choice. Simultaneous models have also been

implemented. These models assume individuals decide whether or not to receive welfare at the time the location decision is made despite uncertainty about what wages will be in different locations. The empirical result is that benefits are allowed to affect only those sample members who receive welfare in the chosen location. The simultaneous framework misses the effect of benefits on the location choices of individuals who consider welfare but who later choose not to receive it.

One hypothesis about the effect of migration on employment levels is that higher AFDC benefits induce some individuals to leave work in lower-benefit states to join the welfare rolls in higher-benefit states, decreasing overall employment levels. The implication from the sequential model of location and work/welfare choices—that benefits may act as insurance against a poor wage draw in a location—suggests certain modifications to that hypothesis.

Consider an individual who is deciding whether to move from a location *A* where wages are relatively low to a location *B* where wages are relatively high. Individuals are likely to have better information about the distribution of wages in the initial state *A* than in *B* because of information-sharing networks among neighbors, family, and friends, and because individuals may have investigated job opportunities in the local area in the past. Thus, the variance of wages in *B* is greater than the variance of wages in *A*. The higher variance in wages increases the individual's risk of a poor wage draw in *B* and decreases the probability that the individual will move to *B*. If benefits are relatively high in the high-wage state *B*, then benefits may facilitate migration to *B* by offsetting some of the risk of a bad wage draw. On the other hand, if benefits are relatively high in the low-wage state *A*, then they may mitigate labor-market-equilibrating migration to *B*. Thus, migration in response to benefits has the potential for increasing employment levels by facilitating movement to higher-wage states, as well as the potential for decreasing employment levels by impeding migration out of low-wage states. The effect of migration in response to benefits on employment is in part determined by the relationship between benefits and wages across states.

ESTIMATION

Location Choice Model

Location choice studies analyze individuals' choice of residence at a single point in time to ascertain whether in equilibrium and holding all else constant welfare recipients are distributed more heavily in

higher-benefit states. Blank (1988) employs this type of approach. She estimates a model of individuals' choice of one of twelve regions controlling for the characteristics of each region, including the expected wage rate, tax rate and unemployment level, in addition to the AFDC benefit level. Blank finds a positive effect of benefits on location choice. Two important methodological issues in her location choice study are the aggregation of location choice to the regional level and the validity of the implicit equilibrium assumption. As a result of aggregation, the effect of AFDC benefits on location choice is underestimated to the extent that benefit levels affect intraregional decisions. In addition, variation in distances between regions, variation in wages within regions, and variation in AFDC benefit levels within regions are not captured. The second methodological issue concerns the implicit assumption in the model that individuals are in equilibrium at the point in time in which they are observed. In Blank's analysis, there is no empirical support for the assumption. By using cross-sectional data, Blank observes individuals at different points in their welfare-eligible years. Those who have received welfare for many years are more likely to be in equilibrium than those who have only recently become eligible for welfare, as they may not have had a chance to react, in terms of choosing where to live, to the circumstance that brought about eligibility.

The first estimation strategy improves upon Blank's location choice analysis. One improvement is straightforward: I model an individual's choice of state rather than the aggregated choice of region, thereby avoiding problems of measurement error. Another improvement stems from innovations of the theoretical model. I allow for an insurance effect of benefits by including benefits as regressors for all sample members, rather than only for those who receive welfare in the chosen location. A third improvement is that I employ longitudinal data to empirically support the assumption in the location choice model that individuals are in equilibrium with respect to location. I assume that individuals are in *disequilibrium* during their first year of sample eligibility because they are not likely to have had a chance to change location in response to their eligibility. I then allow individuals five years to reach equilibrium. Thus, the sample consists of individuals' observations five years after their initial eligible observation.

Mobility Model

Studies of mobility analyze changes in individuals' location choices between two time periods, or their migration behavior. Clark (1990) estimates a model of

individuals' decisions to move or stay and includes as a determinant of that choice the AFDC benefit level in the state in which an individual is initially observed. Zimmerman and Levine (1995) compare the migration decisions of individuals eligible for AFDC to the migration decisions of individuals ineligible for AFDC. The foremost problem in these and other mobility studies is the endogeneity of the AFDC benefit level in the initial location—the benefit level is endogenous because individuals have chosen the location in which they are observed in time periods before observation. Thus, these studies may underestimate the effect of benefits on migration to the extent that migration in response to benefits occurred before observation.

In a second estimation strategy, I improve upon previous mobility studies. Two contributions are noteworthy. First, I deal with the problem of endogenous benefits by analyzing changes in location as a function of changes in covariates, which are exogenous, instead of levels, which are endogenous. Second, I parameterize individuals' choices with a dependent variable indicating which state the individual chose and a lagged independent variable indicating location in the initial time period. Previous mobility studies have parameterized individuals' choices as the dichotomous "move" or "stay" decision. The move/stay decision must be estimated with either probit or logit models, which are not able to incorporate controls for characteristics of all alternative locations. The model I employ can be estimated with a conditional logit model that readily incorporates characteristics of all locations.

The specification of right-hand-side variables in changes requires that individuals be in equilibrium with respect to location in the initial observation and in the terminal observation. If individuals are in equilibrium in their initial location, they will only react to shifts in variables that affect the utility of each location, not the levels of these variables. The shifts induce disequilibrium in location, and individuals respond by choosing a location that is optimal under the new conditions. As in the location choice model, I support the equilibrium assumptions with a specific sample selection methodology involving longitudinal data. In this model, I assume that individuals reach equilibrium quickly, by the year following their first eligible year. For the terminal equilibrium observation, I use each individual's observation five years later.

RESULTS AND DISCUSSION

In the location choice model, I find a positive but insignificant effect of AFDC benefits on location

choice. Even were the hypothesis that the AFDC effect is different from zero accepted, the practical effect of AFDC is negligible. The magnitude of the AFDC coefficient can be discussed in terms of its "retentive" and "attractive" powers, the former referring to the effect of an increase in benefits in the initial state on staying in the initial state and the latter to the effect of an increase in benefits in an alternative state on moving to the alternative state. The retentive effect is smaller than the attractive effect, but neither effect is large. A \$100 per month increase in AFDC benefits on average increases the probability of staying in the same location less than 1%. The retentive effect is small because the probability of staying is large to begin with—the mean probability of staying was 91%. The probability of choosing a location other than the original location rises on average 3.8% from a \$100 change in AFDC, while for half of the sample the average effect was more than 12.9%. But even an attractive effect of 13% is rarely enough of an effect to evoke a move, given the large probability of staying in the original location and low probabilities of choosing alternative locations. Thus, the effect of inertia is significantly stronger than the attractive effect of AFDC. In the mobility model, I find that changes in AFDC have a positive but insignificant effect on location choice, and the magnitude of the AFDC effect is comparable to that in the location choice. A \$100 increase in AFDC in a state other than the initial state increases the probability of choosing that location 2.6% on average.

What explains the absence of a strong positive and significant AFDC effect? Factors that limit individuals' ability to migrate and factors that limit migration given an ability to migrate are at work. One of the factors that limits mobility is liquidity constraints. Money to finance a move may not be readily available. Estimation results indicate that this may be the case: the effects on the probability of choosing a location other than the initial location of distance and number of children, which increase the monetary cost of a move, are negative and significant. Another monetary cost not captured in the model is that of switching from receiving welfare in one state to receiving welfare in another. Bureaucratic delays may result in a lag between receipt of the last check from the initial state and receipt of the first check in the new state. Liquidity-constrained individuals may not be able to afford the time without income. Another factor that limits mobility is the network of familial and other support that low-income parents develop in their initial state. The presence of non-family members in the household and the proxy for familial ties in a state, "state in which one grew up," both have large and

significant negative effects on the probability of a move. Others in the household and family members may provide services which would be lost in the event of a move. Low levels of education are also a migration deterrent. Most AFDC eligible or nearly eligible individuals have less than a high school education. Even without controlling for income, mobility is limited among less educated individuals. Education likely increases the ability of workers to get placed in jobs, either because they are more employable or because they have better information about opportunities, leaving less educated individuals at a disadvantage in new markets.

Why might AFDC differentials not affect migration, given an ability to migrate? One consideration is information. Individuals may not know the differing benefit levels across states. Within-community information networks are strong, but it is not clear that information about benefits across the nation is easily and readily accessible. A second issue involves multiperiod optimization and thus is not captured explicitly in estimation of the two-period model used in this paper. In a multiperiod model, individuals have a longer time horizon to consider, and decisions are made in the first time period considering the effect of that decision on all future time periods. Thus, an individual thinking about whether or not to move to a new location considers the one time cost of moving compared to the benefits of moving that extend over all future years in which the individual lives in the new location. The shorter the time over which the benefits accrue, the less likely a move will be. (Indeed, the effect of age on the probability of migration is negative.) Consider the fact that for many individuals the duration of AFDC reciprocity is relatively short: Blank (1989) finds a median spell length of between 19 and 22 months, while Ellwood (1986) notes that about 47% of new spells last less than two years. The value of moving to a state with higher AFDC payments will be smaller the shorter is the time period over which individuals expect to receive payments. Multiperiod optimization also involves individuals' expectations about future values of wages, benefits and the like. If individuals are aware that AFDC benefits in higher-payment states have been falling more rapidly over time than in lower-payment states and they expect that trend to continue, then their perceived long run value of moving for higher benefits decreases.

CONCLUSION

Estimation of individuals' choices of location and individuals' decisions to change location yields consistent results. Benefit differentials across states do

not appear to shift the equilibrium distribution of individuals toward higher-benefit states and changes in AFDC over time do not significantly affect individuals' decisions to change locations.

What are the implications of the findings? Recall that the issue is a concern in welfare research where the variation in benefits is used to identify other incentive effects of AFDC. The results are heartening for academic research as they indicate that the variation in AFDC benefits over states can be considered exogenous at least with regard to individuals' location decisions.

The results also help in our understanding of how individuals are likely to react to variation in welfare across states under TANF. Given the lack of response in terms of migration to large AFDC benefit differentials, we expect that migration in response to TANF differentials will be limited, with the caveat that individuals may react differently to variation in time limits or work requirements than they do to differences

monthly monetary payments. Continued research is necessary to more fully address the issue. The models presented here provide a useful framework for future research on differences in TANF programs and migration.

REFERENCES

- Blank, R.M. 1988. "The Effect of Welfare and Wage Levels on the Location Decisions of Female-Headed Households." *Journal of Urban Economics* 24:186-211.
- Blank, R.M. 1989. "Analyzing the Length of Welfare Spells." *Journal of Public Economics* 39(3):245-273.
- Clark, R.L. 1990. "Does Welfare Affect Migration.?" Washington, DC: Population Studies Center of the Urban Institute Discussion Paper UI-PSC-1 (May).
- Ellwood, David. 1986. "Targeting 'Would Be' Long Term Recipients of AFDC." Princeton, NJ: Mathematica Policy Research Institute.
- Zimmerman, D.J. and P.B. Levine. 1996. "An Empirical Analysis of the Welfare Magnet Debate Using the NLSY." NBER Working Paper 5264, Cambridge, MA: *National Bureau of Economic Research* (September).