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ASSISTANCE TO THE POOR IN A FEDERAL SYSTEM

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ABSTRACT

This paper explores the roles of different levels of government in assisting the poor. Using a model with utility interdependence, the paper presents some theoretical results on how levels of poor relief vary with the extent of mobility of the poor under both centralized and decentralized systems of support. After surveying the relevant empirical work and the experience under the English Poor Laws, the paper argues for a basic role for central government in this function.

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Assistance to the Poor in a Federal System

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> Measures adopted to produce greater equality are, however, exceedingly unsuitable for local authorities. The smaller the locality the more capricious and ineffectual are likely to be any efforts it may make to carry out such a policy. It seems clearly desirable that all such measures should be applied to the largest possible area, and that subordinate authorities should be left to act, like the individual, from motives of self-interest.
>
> Edwin Cannan (1896)

> Redistribution is intrinsically a national policy.
>
> George Stigler (1957)

> Financial assistance to the poor is a legitimate responsibility of states and localities.
>
> President Reagan (1982)

This paper addresses the question "Which level of government should assist the poor?" As the first two epigraphs suggest, one strand of the literature argues that the central government should assume primary responsibility for this task [e.g., Oates (1972), Ladd and Doolittle (1982)]. This contention is typically developed along two lines:

(1) The well-being of the poor is of national concern: it is a national public good in the sense that income levels of the poor enter as

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arguments in the utility functions of the nonpoor. As a result, individual behavior or "local" programs will involve an externality with the consequence of suboptimal levels of support.

(2) Even if preferences were such that concern for the poor were limited to residents of one's own jurisdiction, the potential mobility of the poor toward areas with comparatively high levels of assistance would force individual localities to be excessively parsimonious in their relief programs. The point here is that:

> The mobility of individual economic units among different localities places fairly narrow limits on the capacity for local income redistribution. For example, an aggressive policy to redistribute income from the rich to the poor in a particular locality may, in the end, simply chase the relatively wealthy to other jurisdictions and attract those with low incomes. The likely outcome is a community homogeneous in poor residents (an unappealing prospect for most local jurisdictions) [Oates (1977), p. 5].

Not all of the economic literature, however, subscribes to this position [e.g., Pauly (1973), Tresh (1981, Ch. 30)]. And, in fact, actual programs for assistance to the poor have often relied heavily on decentralized finance and administration. Over several centuries under the Poor Laws, England operated a system of poor relief with basic control at the level of the local parish. More recently, existing programs in the United States exhibit a wide diversity of roles for the different levels of government with the Federal Government providing certain programs, the states and localities others, and with shared

responsibility for some of the major assistance programs (like AFDC). The institutional structure across these programs is strikingly diverse. This is of further interest in view of President Reagan's proposal under the New Federalism to shift the major responsibility for assistance to the poor away from the central government to the state and local levels.

Our approach in this paper will consist initially of a positive analysis. Making use of a variant of a simple and useful model of Larry Orr (1976) with demonstrated explanatory power, we work through a series of conceptual exercises that describe relative levels of cash transfers to the poor under various conditions. In these exercises, we find that the mobility of individuals across jurisdictions is a critical element in determining the outcome. In particular, we demonstrate that in a partial-equilibrium framework, the level of assistance varies inversely with the "elasticity of mobility" of low-income individuals. The extension of the analysis to a general-equilibrium setting produces some important qualifications to this finding. But using some numerical simulations, we establish the presumption that with mobile poor the movement from a centralized to a decentralized system of poor relief is likely to result in a reduced <u>average</u> level of assistance to the poor. Since the extent of mobility is basically an empirical matter, we next survey recent research on migration behavior in response to differentials in levels of support for the poor and on the response of benefit levels to the potential for such migration. Following a brief digression on the English Poor Laws, we turn in the final part to the question posed at the beginning of the paper.

1. A Positive Theory of Poor Relief

Our variant of Orr's model is based on the following simplifying assumptions:

(1) The nation consists of two kinds of people: the nonpoor (N) and the poor (P). Within each group, all individuals are identical: they have the same preferences and the same pre-tax and pre-transfer incomes.

(2) The concern for the poor is expressed as a dependence of the utility of the nonpoor on post-transfer income levels of the poor: $U_N^i = U_N^i(Y_N^i, Y_p^i)$.[1] Here, the utility of a nonpoor individual in local jurisdiction $\underline{i}$ depends on his own post-tax income, Y_N^i, and on the post-transfer income of the poor, Y_p^i (where $\bar{Y}$ refers to disposable income). The poor care only about their own disposable income: $U_p^i = U_p^i(Y_p^i)$. We shall assume (as indicated by the superscript i) that the nonpoor care only about the poor within their own jurisdiction and not elsewhere.

(3) All the poor within a particular jurisdiction receive the same amount of transfer income.

(4) Transfers within each jurisdiction are financed by equal (lump-sum) taxes per-capita on the nonpoor.

(5) The median-voter outcome determines the level of taxes and transfers. The one restriction here is that $N^i > P^i$: the number of nonpoor (N^i) exceeds the number of poor individuals (P^i). Otherwise, the poor could pass a measure to transfer all the income of the nonpoor to themselves. Note that since all the nonpoor have identical tastes and the same pre-tax and disposable incomes, they will all desire the same level of transfers to the poor. And since they (by assumption) constitute the majority, we need examine only the desired outcome of a "representative" nonpoor individual.

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[1] Following Orr, we adopt here the "altruistic" rationale for support for the poor. There are alternatives. Varian (1980), for example, suggests income security as a motivation for poor relief: one might support assistance to the poor as an insurance policy in case one's own income falls to low levels at some future time. Yet another approach is Peltzman's (1980) vote-maximizing politician who tries to secure the votes of transfer recipients through redistributive measures.

We proceed next to a series of conceptual exercises in which we assume that assistance to the poor is strictly a local function. In this setting, we shall examine levels of support for a variety of special cases.

Case I: A Tiebout World. Although it is not strictly legitimate in terms of our simplified model with no local public goods, it is useful to envision as one extreme case a Tiebout world in which individuals select their jurisdiction of residence according to their demand for local public goods [Tiebout (1956)]. Without expanding the model formally to incorporate such goods and the taxes to finance them, it is a straightforward matter to posit a Tiebout outcome in which each jurisdiction contains only people with the same demand for local public goods. If such goods are normal goods and are financed, say, by equal cost-sharing, then our Tiebout equilibrium will consist of income-homogeneous jurisdictions. A jurisdiction will contain either all nonpoor or all poor with localities of the former variety providing higher outputs of local public goods than those of the latter type. The implication of this outcome for assistance to the poor is clear: there will be none. The nonpoor have no poor within their jurisdictions to whom to transfer income. While this is obviously an extreme case, it does call to our attention that under a system of highly decentralized public finance in which "Tiebout sorting-out" takes place, the tendency toward income-homogeneous jurisdictions will tend to reduce the scope for support for the poor [Bradford and Oates (1974)].

Case II: Immobile individuals with a historically determined pattern of residence. For this case, we take the distribution of individuals across jurisdictions as given and fixed by, say, historical circumstances subject only to the aforementioned condition that N^i (the number of nonpoor persons in the i^{th} jurisdiction) exceeds P^i (the number of poor in i) for all i. It is a

straightforward exercise to determine the first-order condition governing the equilibrium level of transfers in each jurisdiction. We simply maximize the utility of one of the (identical) nonpoor residents.

$$(1) \qquad \text{Max } U_N^i = U_N^i \left(\bar{Y}_N^i, \bar{Y}_p^i\right)$$

subject to the condition that total receipts by the poor equal aggregate tax payments by the nonpoor (which can be stated in the form):

$$(2) \qquad \bar{Y}_p^i = Y_p^i + \frac{N^i}{p^i}\left(Y_N^i - \bar{Y}_N^i\right)$$

Equation (2) indicates that the post-transfer income of a poor individual in i equals his pre-transfer income, Y_p^i, plus the total tax payments of the nonpoor N^i $(Y_N^i - Y_N^i)$ divided by the number of poor. It is important to note that (P^i/N^i) is effectively the "price" to a nonpoor individual of raising income per-capita of the poor by \$1.

The solution to this maximization problem requires that:

$$(3) \qquad \frac{\partial U_N^i}{\partial \bar{Y}_N^i} = \frac{1}{(P^i/N^i)} \quad \frac{\partial U_N^i}{\partial \bar{Y}_p^i}$$

Equation (3) implies that the nonpoor in i will continue to transfer income to the poor in i until the marginal utility <u>to the nonpoor</u> of a marginal dollar of disposable income to themselves equals the marginal utility <u>to the nonpoor</u> of another dollar transferred to the poor. Note that this latter quantity depends not only on the income of the poor but on the "effectiveness" of a

dollar from a nonpoor person in raising the per-capita income of the poor. And this in turn depends on the relative number of poor and nonpoor in the jurisdiction. If, for example, the poor are few in number relative to the nonpoor, then it will be comparatively inexpensive to the nonpoor to raise the per-capita income of the poor.

Since we have assumed that the nonpoor have identical pre-tax incomes and tastes across all jurisdictions and, likewise, that the poor have the same pre-transfer incomes irrespective of location, it follows that the pattern of assistance to the poor will depend solely on the price (P^i/N^i) of raising the income level of the poor. Figure 1 depicts this outcome. The demand curve for assistance will be the same in all jurisdictions, but the population mix between poor and nonpoor will vary. We see in Figure 1 that jurisdiction j with a relatively large proportion of poor residents will have an effectively higher price of assistance (P^j/N^j) to the nonpoor than in jurisdiction i. The level of assistance to the poor in j (T^j) will, in consequence, be less than in i.

We thus observe for Case II, in spite of equal initial income positions and tastes, equilibria exhibiting varying patterns of assistance to the poor. Those poor fortunate enough to be in jurisdictions where they constitute a relatively small fraction of the population will receive relatively large transfers as compared to their counterparts in localities where the poor are a larger proportion of the residents.[2]

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[2] Such an outcome, incidentally, could be objected to on grounds of social justice. As George Stigler (1957) has put it, the redistribution ". . . decision must be in some sense a national decision, for the proper amount of redistribution, even if rich and poor were chained to their communities [our emphasis], could not depend upon the accidents of income composition of a particular community" (p. 217).

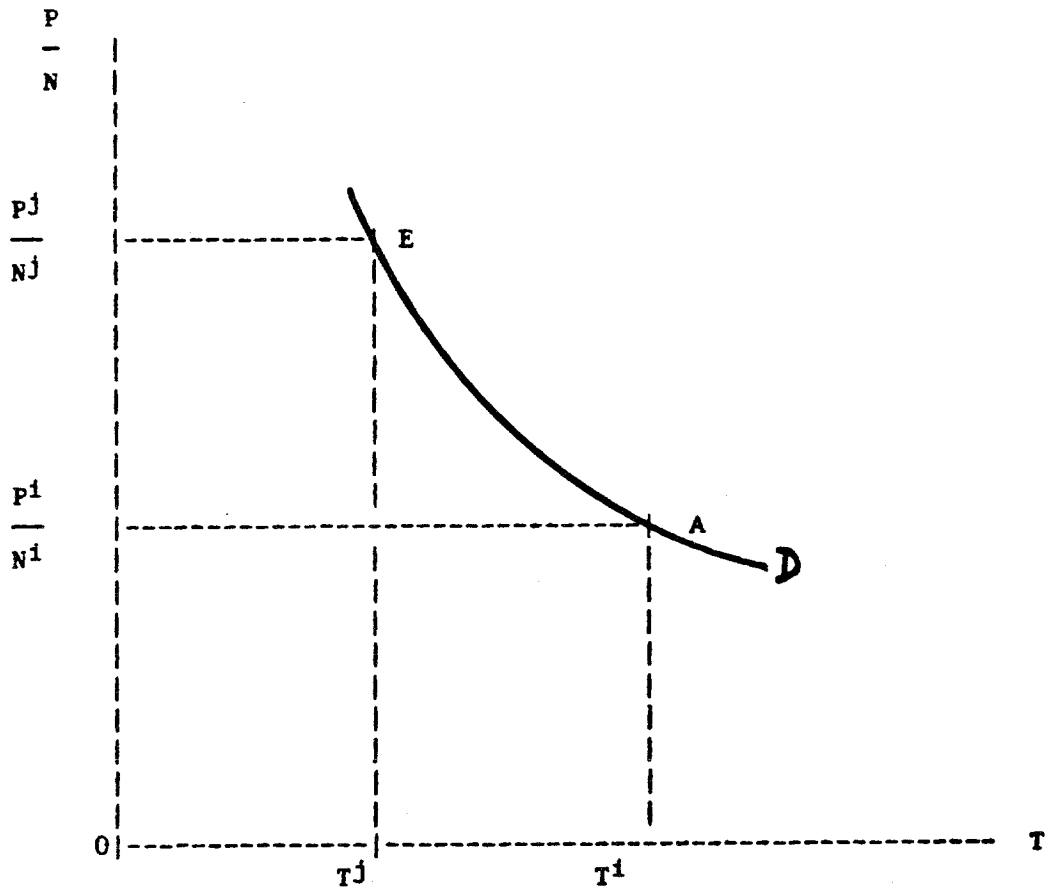

Figure 1

Case III: Mobile Poor. For this case, we alter the environment such that the poor are free to move among jurisdictions in response to any existing differentials in levels of support.[3] Consider first the polar case of "perfect mobility": the poor move without any sort of cost (transport or psychic) among localities. The only feature of the jurisdiction that matters to the poor is the level of transfer payments. It is immediately clear that an equilibrium in this case must involve identical levels of support for the poor in all jurisdictions (at least those with any poor in them); otherwise, there would obviously be further movement of poor individuals from low-support to high-support localities.

In order to say more about the character of the equilibrium, we must be more specific about the behavior of the nonpoor. Suppose that in determining support levels, the nonpoor respond purely passively and without regard to the effect of their decisions on the movement of the itinerant poor. At any point in time, the level of transfers to the poor is that desired by the median voter based solely on the current number of poor persons in the jurisdiction. In this instance, it is clear that an equilibrium outcome must be characterized not only by equal levels of support, but also by the same population mix of poor and nonpoor in all jurisdictions. Note that if $(P^i/N^i) = (P^j/N^j)$ for all (i,j), then the desired level of support by the nonpoor will be the same in all

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[3] We shall continue to assume that the nonpoor do not move in response to differentials in assistance programs. This seems reasonable, for as Gramlich and Laren (1984) observe, ". . . at today's levels, a 30 percent increase in average AFDC benefit levels would raise the disposable income of AFDC recipients approximately this amount, but reduce the disposable income of average income taxpayers by only one-third of one percent" (pp. 495-6). It would thus seem that existing differentials in taxation of the nonpoor to finance transfers to the poor are probably too small to exert much effect in themselves on the location decisions of the nonpoor.

localities. This condition is needed so that there will be no incentive (1) for any poor to move or (2) for any jurisdiction to alter its level of support.

Moreover, such an equilibrium would also be stable. Any jurisdiction with a relatively high level of support (which in this model can only result from a comparatively small fraction of the population that is poor) would experience an influx of poor persons. This would drive up the "price" of support for the poor (i.e., P/N) and induce a fall in the desired level of assistance to the poor. Returning to Figure 1, suppose that (P^j/N^j) and T^j are the population mix and support level in all other localities. Further, assume that jurisdiction i initially has a population mix of (P^i/N^i) which would result in a decision to provide a support level of T^i. With $T^i > T^j$, there would occur an influx of poor into i with a consequent rise in (P^i/N^i) and fall in T^i. In Figure 1, this process would lead to a movement along the D-curve from A to E, at which point the influx of poor would cease.

However, the assumption of purely myopic behavior by the nonpoor does not seem very compelling. It would seem more reasonable to assume that the nonpoor recognize that their choice of support level will have some impact on the migration decisions of the poor. This makes matters somewhat trickier. Any decisions on levels of assistance to the poor must now take into consideration not only the existing number of poor residents in the jurisdiction, but also the impact of the support level on migration behavior. One thing we can say unequivocally in this instance: an increase in the number of poor in any jurisdiction [implying a rise in (P^i/N^i)] is undesirable from the perspective of the nonpoor residents -- it reduces their level of utility. This follows because, in the model, the effect of an increase in (P^i/N^i) is to raise the "price" to the nonpoor of any given level of assistance per poor person. An

increase in the fraction of the population that is poor effectively increases the price of the second argument in the utility function of the nonpoor.

This would suggest that, in general, levels of assistance to the poor will be less in the presence of mobility than if the poor remained in their "home" jurisdictions. For in the determination of the level of support, the nonpoor must now subtract from the utility they derive from a higher level of assistance to the poor not only the cost to themselves of the transfers to existing poor residents, but also the cost of the payments to the newly arrived poor who will migrate in response to the higher support levels [Boadway and Wildasin (1984), pp. 509-11].

More formally, let us introduce an explicit "migration function," where the number of poor in a jurisdiction is a function of the level of transfer payments:

$$(4) \qquad P = f(T) \qquad \text{where } f'(T) > 0 \text{ and } f' \cdot \frac{T}{P} = \eta \ .$$

The parameter η is the elasticity of the migration function.[4] We note that our treatment at this juncture is wholly in partial-equilibrium terms; most importantly, we are assuming that levels of transfer payments in other jurisdictions are given and do not change in response to adjustments in T in the locality under consideration. [More on this later.]

Substituting the budget constraint into the utility function, we can write:

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[4] To simplify notation in this section, we have omitted the subscripts and superscripts identifying the particular jurisdiction. All variables are understood to refer to the same, say the i^{th}, jurisdiction.

$$(5) \qquad U_N[\bar{Y}_N, \bar{Y}_p] = U_N[Y_N - \frac{PT}{N} \ , \ Y_p + T]$$

Differentiating (5) with respect to T and setting the resulting expression equal to zero yields:

$$(6) \qquad Z(T,\eta) = \frac{\partial U_N}{\partial \bar{Y}_N} \left\{ - \frac{P}{N} - \left(\frac{T}{N} \cdot \frac{dP}{dT} \right) \right\} + \frac{\partial U_N}{\partial \bar{Y}_p}$$

$$= \frac{\partial U_N}{\partial \bar{Y}_N} \left\{ - \frac{P}{N} \ (1 + \eta) \right\} + \frac{\partial U_N}{\partial \bar{Y}_p} = 0$$

By the implicit-function rule, we obtain:

$$(7) \qquad \frac{dT}{d\eta} = - \frac{\partial Z/\partial \eta}{\partial Z/\partial T} \ ,$$

where $\partial Z/\partial T = \partial^2 U_N/\partial T^2 < 0$ by the second-order condition for utility maximization. Next, we note that:

$$(8) \qquad \frac{\partial Z}{\partial \eta} = \frac{\partial U_N}{\partial \bar{Y}_N} \left(- \frac{P}{N} \right) < 0 \ .$$

From (7) and (8), it follows that:

$$(9) \qquad \frac{dT}{d\eta} < 0 \ .$$

Equation (9) indicates that the level of transfer payments varies inversely with the elasticity of the migration function; in a loose sense, it tells us (as expected) that the greater the potential flow of migrant poor in response to a change in the level of transfers, the lower will be the jurisdiction's level of support for the poor. This result, however, must be interpreted quite carefully. Note that the sign of this derivative is determined while holding T and P constant; we are effectively rotating the migration function around some initial values for P and T.

This can be seen in Figure 2, where we have introduced, in addition to the "demand curve" for transfer payments (D), a migration curve (M). The M-curve indicates that the number of poor residents (and hence P/N) rises with the level of support payments.[5] Note that an equilibrium pattern of payment levels and poor residents can only occur at the intersection of the D and M curves -- at point A corresponding to the solid curves. If, for example, $T > T_0$, then more poor would enter the jurisdiction pushing down the level of transfer payments until $T = T_0$. In terms of Figure 2, our result in equation (9) says that if we rotate the M curve about the initial position at point A and increase the elasticity of the function by making the curve steeper (see M'), then the equilibrium level of T will fall. This occurs because the demand function itself depends upon the slope of the migration curve: as M becomes steeper indicating a greater responsiveness of the poor to payment levels, the D-curve shifts down (to D' in the diagram) reflecting a lower desired level of

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[5] The M-curve in Figure 2 represents the locus of points satisfying the mobility function described by equation (4). The D-curve corresponds to equation (6): it is the locus of points satisfying the conditions for utility-maximization of the non-poor. As is evident from equation (6), the D-curve depends on the "elasticity of migration" (η).

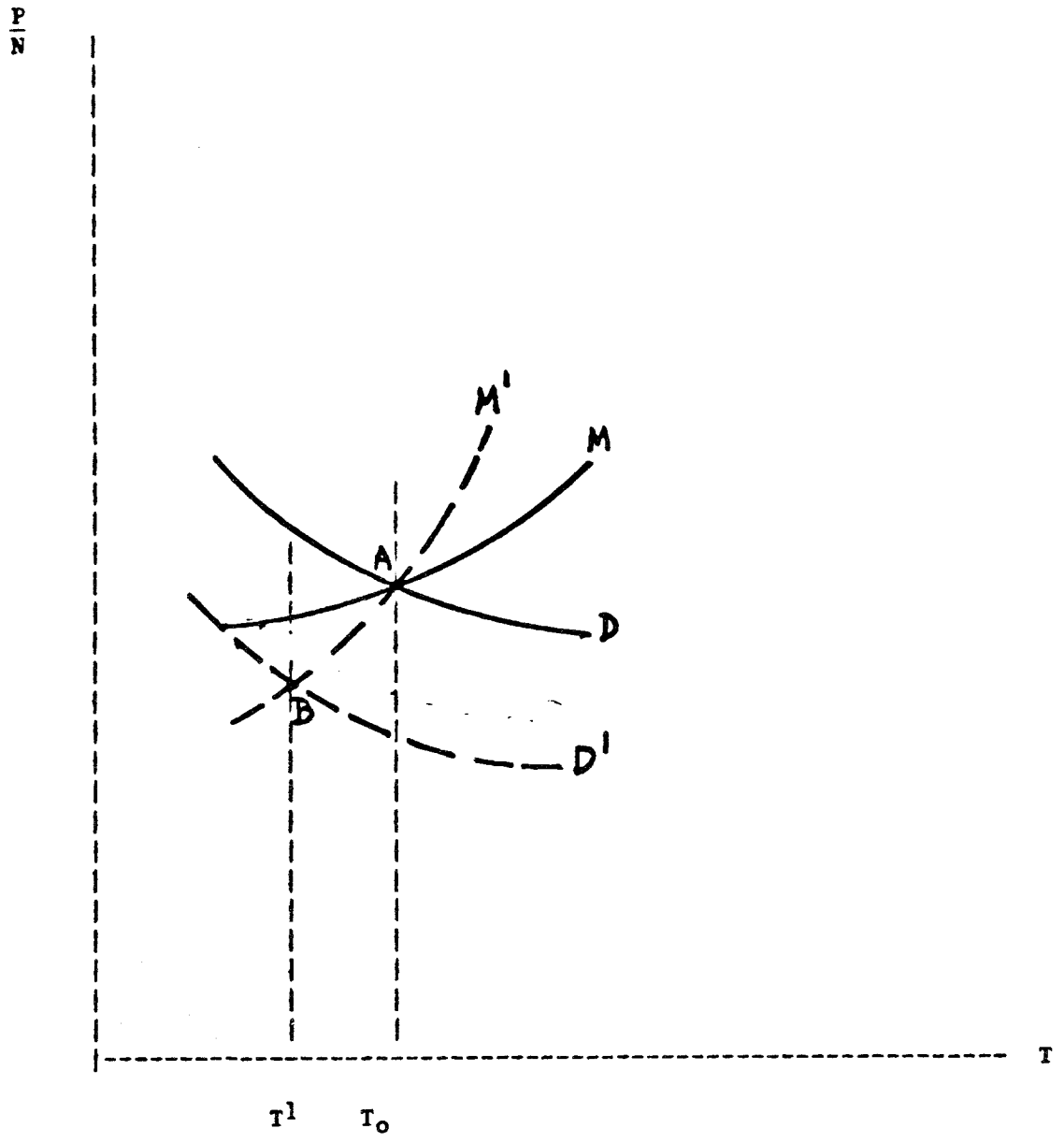

Figure 2

transfers. The new equilibrium is at B, indicating a fall in support payments from T_o to T^1. It is important to be quite precise concerning this interpretation of (9). For as we shall see in the next section, shifts of the M-curve in one direction may not yield a predictable effect on the level of support payments.

Case IV: A Two-Jurisdiction, General-Equilibrium Model. In the preceding, partial-equilibrium case, we determined the level of support for the poor that maximizes the utility of the nonpoor in a single jurisdiction, while holding constant transfer payments in all other jurisdictions. This is not, however, wholly satisfactory, since there will typically exist some interrelationship among levels of support. In Case IV, we examine the properties of a simple, two-jurisdiction model where we introduce simultaneous utility-maximization across the two localities. This provides some further insights into the way in which the degree of mobility of the poor influences the equilibrium levels of transfer payments.

In the preceding case, we "defined" mobility in terms of a mobility function. We effectively identified an increase in mobility with an increase in the parameter η, the elasticity of the mobility function. Higher mobility was thus associated with more responsiveness in the location decisions of the poor with respect to the level of support payments. For our two-jurisdiction case, we shall use a related, but somewhat different, measure of mobility: the "cost" of moving from one jurisdiction to the other. We understand such moving costs to include the net costs of all considerations besides transfers. This would include not only transport costs (e.g., the price of "bus tickets"), but also the psychic costs of relocation. In addition, moving costs depend upon such conditions as the length of the residency period before a low-income individual becomes eligible for support payments. From this latter perspective, the

Supreme Court decision striking down state residency requirements can be seen as reducing the cost of relocation.

For the k^{th} poor individual in jurisdiction i, the decision as to whether to move to jurisdiction j will depend upon the difference in support payments relative to moving costs. More formally, individual k will emigrate from i to j if:

$$(10) \qquad T_j - T_i > C_k^i + \alpha$$

where α represents a component of moving costs common to all individuals and C_k^i an individual-specific "attachment."[6] A change $d\alpha$ increases moving costs by $d\alpha$ for each individual. It is changes in this parameter α that we will use to generate different equilibria at varying levels of moving costs (or, inversely, at different levels of mobility). If we let $F^i(C)$ and P_o^i represent the cumulative distribution function of C and the initial number of poor in jurisdiction i, then

$$(11) \qquad P^i(T^j-T^i,\alpha) = P_o^i - P^iF^i(T^j-T^i-\alpha) + P_o^jF^j(T^i-T^j-\alpha)$$

The first term on the RHS of (11) is the initial stock of poor, the second the number who emigrate from i, and the third the number who come to i from the other jurisdiction.

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6 C_k^i is related to what Grewal and Mathews (1983) have termed the "locational surplus." This surplus is the "algebraical sum of the net benefits which a citizen perceives as accruing to him, in terms of his consumption and production/employment activities as well as his fiscal transactions with governments, by choosing to remain in his present jurisdiction rather than migrating to another jurisdiction" (p.9). In our notation, $(C^i + T_i-T_j)$ is the locational surplus for the k^{th} low-income household in jurisdiction i.

If each jurisdiction takes the other's behavior as given, it will choose T^i (or T^j) to maximize

$$(12) \qquad U_N^i(\bar{Y}_N^i, \bar{Y}_p^i) = U_N^i[Y_N - \frac{T^i P^i(T^j - T^i, \alpha)}{N^i}, \quad Y_p^i + T^i]$$

Differentiating with respect to T^i and setting the result equal to zero gives

$$(13) \qquad Z \equiv \frac{\partial U_N^i}{\partial \bar{Y}_N^i} \cdot \frac{\partial \bar{Y}_N^i}{\partial T^i} + \frac{\partial U_N^i}{\partial \bar{Y}_p^i} = 0 \qquad (\text{for } i = i,j)$$

Changes in α will then lead to changes in T^i and T^j. These can be either partial or general equilibrium responses. For a partial equilibrium analysis, we can differentiate (13) for jurisdiction i with respect to T^i and α, and solve

$\frac{\partial Z^i}{\partial T^i} dT^i + \frac{\partial Z^i}{\partial \alpha} d\alpha = 0$ for $\frac{dT^i}{d\alpha}$. For a general equilibrium analysis,

we differentiate each equation in (13) with respect to T^i, T^j, and α and solve the system of equations

$$\begin{bmatrix} \partial Z^1/\partial T^1 & \partial Z^1/\partial T^2 \\ \partial Z^2/\partial T^1 & \partial Z^2/\partial T^2 \end{bmatrix} \begin{bmatrix} dT^1 \\ dT^2 \end{bmatrix} = -\begin{bmatrix} \partial Z^1/\partial \alpha^1 \\ \partial Z^2/\partial \alpha^2 \end{bmatrix} d\alpha$$

for $dT^1/d\alpha$ and $dT^2/d\alpha$. To label the resulting algebra "tedious" is an understatement. Here, we merely outline the solution; details appear in an appedix available from the authors on request.

Differentiating equation (13) leaves us with three sorts of derivatives: first-partials of the utility function, second- and cross-partials of the utility function, and derivatives of P^i with respect to its arguments. The first-partials are, of course, positive. Various combinations of the other derivatives of the utility function can be signed either from the second-order conditions from each jurisdiction's maximization of (12) or from strongly-held priors about related comparative-static experiments. In particular, we assume that

$$\frac{\partial T^i}{\partial \bar{Y}^i_N} > 0 \quad \text{and} \quad \frac{dT^i}{d\bar{Y}^i_p} < 0 .$$

The third source of information comes from actually differentiating P^i with respect to its arguments. Most of our conclusions take advantage of the fact that the sum of P^1 and P^2 is constant, and that the assumed response of migration from i to j is based on the linear function $(T^j-T^i-\alpha)$. Finally, we assume that $F^{i''}$ is non-negative or, equivalently, that the density of C is rising. For any symmetric density, this holds when less than half the poor are migrating. Allowing $F^{i''}$ to be negative introduces an ambiguity into our results rather than necessarily reversing them; it turns out that increases in α necessarily correspond to reductions in the elasticity of P with respect to T only when F" is positive.

In both the partial- and general-equilibrium contexts, our results are qualitatively similar. It is helpful for purposes of discussion to order the jurisdictions in a specific way. An increase in α will reduce both of the migration flows in equation (11), reducing the number of poor in one jurisdiction and increasing it in the other. Let jurisdiction 1 be the one which has fewer poor when α increases (i.e., the jurisdiction which has an influx of poor in the initial equilibrium). One can then show that $dT^1/d\alpha$ is positive--higher (lower) mobility costs raise (lower) transfers in jurisdiction 1. However, the sign of $dT^2/d\alpha$ is ambiguous. Intuitively, an increase in α makes jurisdiction 2 "poorer" in that fewer poor leave (at fixed levels of T^i and T^j). This effect encourages jurisdiction 2 to reduce T^2 in response to an increase in α.

Our two-jurisdiction case thus reveals a further possible outcome. For the jurisdiction which is on the receiving end of the net migration flow, we can say unambigously that an increase in the mobility of the poor (i.e., a reduction in α) will result in a decline in the level of transfer payments. Increased mobility implies an increased inflow of low-income individuals for any specified level of transfer payments. The response of the non-poor to this increase in the potential inflow of transfer recipients will be to lower support levels. For the other jurisdiction, however, the effect is ambiguous. Increased mobility implies a greater net outflow of the poor; with fewer poor, the "price" (P/N) of raising the disposable income of the poor falls. This effect encourages an increase in the level of transfers and works against the incentive to reduce payments in response to the higher level of mobility. We cannot, in general, determine the sign of $dT/d\alpha$ for such a jurisdiction.

More particularly, if we were to limit migration flows to a one-way movement of the poor from the low-transfer to the high-transfer state, we could show that the level of transfers would unambiguously decline in the high-support state but could conceivably either rise or fall in the low-transfer state (because of the exodus of some of its poor). Gramlich (1985), using a specific formulation of a model in this spirit with representative values for the parameters, produces some intriguing results. In his simulation exercises, increased mobility of the poor results in a dramatically reduced level of transfers (T) in the high-support state and an increase in T in the low-support state. Greater mobility of the poor effectively pushes support levels closer together with a sharp decrease in the average payment across the two jurisdictions. The decrease in the average payment is an interesting, if perhaps an unsurprising, finding. We shall present some evidence in the next section reinforcing this finding. While it is our conjecture that a decrease in the average payment is probably the "typical" outcome under increased mobility of the poor, we would note that it is not a proposition that we have been able to derive as a general result.

Case V: Centralized Versus Decentralized Support for the Poor. Having examined the effects of mobility of the poor on levels of support under a system of local poor relief, we turn next to the issue of central interest in this paper: a comparison of support levels under centralized and decentralized systems of assistance.

It is helpful at the outset to examine some of the properties of the centralized outcome using the two-jurisdiction model. Consider the following numerical example:

$N_1 = 200$ $\qquad$ $P_1 = 60$

$N_2 = 100$ $\qquad$ $P_2 = 40$

where N_i and P_i refer to the number of nonpoor and poor households, respectively, in jurisdiction i (where i = 1,2). We retain the assumption that the nonpoor care only about the well-being of the poor within their own jurisdiction. Centralization of support has two effects. First, it equalizes the price of support for the poor across the two jurisdictions. Under centralized support, it is as if both jurisdictions had ratios of poor to nonpoor of:

$$\frac{P}{N} = \frac{P_1 + P_2}{N_1 + N_2} = \frac{60 + 40}{200 + 100} = \frac{1}{3}$$

Note that the distribution of the poor across jurisdictions is irrelevant to the centralized outcome (even though it remains true that the nonpoor are only concerned with the poor within their own locality). Since in our simple model the nonpoor are everywhere identical, they will all desire the same level of transfer payments--that corresponding to the price P/N.

Second, by equalizing levels of transfer payments, centralization eliminates any movement of poor households in response to interjurisdictional differentials in support levels. The mobility issue vanishes. In consequence, we effectively determine the equilibrium level of transfer payments by returning to Figure 1 and finding the point on the demand curve corresponding to a price of P/N.

Suppose that we take such a point as our initial equilibrium and consider a shift to a decentralized system of poor relief. In terms of our numerical example, jurisdiction 1 will now provide for its own poor as will jurisdiction 2. Decentralization will involve two effects: a price effect and a mobility effect. The sign of the mobility effect is unambiguous: as noted

earlier, each jurisdiction will incorporate into its choice of a level of transfer payments the prospect that a higher T will, ceteris paribus, result in a larger number of poor households. This will depress the level of transfers. The price effect, however, will differ between the two jurisdictions. In our example, jurisdiction 2 (with a comparatively large fraction of poor residents) will experience a fall in the "price" of transfer payments to its poor. This will tend to offset the mobility effect so that the impact of decentralization on T_2 is uncertain. For jurisdiction 1, in contrast, the price of transfers rises; this reinforces the mobility effect and leads to an unambiguous fall in T_1. We thus have that:

$$T_1 < T_c$$

$$T_2 \geq T_c$$

where T_c is the initial level of transfer payments under the centralized system.

The average level of transfer payments under the decentralized system is:

$$\bar{T} = W_1 T_1 + W_2 T_2$$

where W_i is the fraction of total poor residents residing in jurisdiction i. We have established that $T_1 < T_c$, but since T_2 may be less than or greater than T_c, we are unable to demonstrate as a general result that: $\bar{T} < T_c$. Nevertheless, we might expect this to be the "typical case." That is, we might expect that in most circumstances, the <u>average</u> level of transfer payments under a decentralized system of assistance to the poor would be less than the average payment level under a centralized outcome.

To obtain some further sense of these relationships, we have undertaken some numerical exercises using specific functional forms for our two-jurisdiction case. For these exercises, we have normalized the pre-transfer income to

the nonpoor at 1.0 and set the pre-transfer income of the poor at 0.1. We assumed a utility function of the simplified-CES form:

$$U = \left[\bar{Y}^{N(-r)} + b\bar{Y}^{P(-r)} \right]^{-(1/r)}$$

where $\sigma = \frac{1}{1+r}$ is the elasticity of substitution between $\bar{Y}^N$ and $\bar{Y}^P$. We arbitrarily chose five values of σ: .33, .67 , 1.0, 2.0, and 3.0. For each σ, we picked b so that $\bar{Y}^P/\bar{Y}^N$ equalled 0.20 when transfers were provided under a fully centralized system.[7]

We assumed the moving-cost functions $F^i(T^j-T^i-\alpha)$ to be cumulative-normal distributions, with variance one and means of 1.2817 and 1.0365, respectively. Thus, in a benchmark world where moving costs are zero and transfers in the two states are equal, $F^1 = \phi(-1.2817) = .10$ and $F^2 = \phi(-1.0365) = .15$ [where $\phi(z)$ is the standard-normal c.d.f.]. This implies that, in our benchmark case, the number of poor in each jurisdiction is constant, since $F^1P_1 = .10 \cdot 60 = 6$ move from 1 to 2 and $F^2 P_2 = .15 \cdot 40 = 6$ move from 2 to 1.

The results appear in Table 1. The level of transfers under a centralized system is independent of σ by construction; b was chosen for each σ to generate this property. The first major result is that when $\alpha = \infty$ (no mobility), decentralization can either raise or lower average transfers. When $\sigma < 1$, the demand curve in Figure 1 is concave, so that T at P/N = .33 (the centralized solution) exceeds the weighted average of T at P/N = .3 and T at P/N = .4.

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[7] In a centralized system, P/N equals 1/3 and there are no $\partial P/\partial T$ terms in the first-order conditions. As a result,

$$\frac{\bar{Y}^P}{\bar{Y}^N} = \left(\frac{b}{P/N}\right)^{\sigma}$$

Since the left-hand side is fixed at 0.20 and P/N is known, it is easy to solve for b as a function of σ.

Table 1
Transfers Under Centralized and Decentralized Systems

	Elasticity of Substitution				
	.33	.67	1.0	2.0	3.0
Centralized System	.09375	.09375	.09375	.09375	.09375
Decentralized System: $\alpha=\infty$					
T_1	.10088	.10763	.11458	.13678	.16109
T_2	.08203	.07201	.06250	.03684	.01504
T	.09334	.09338	.09375	.09681	.10267
Decentralized System: $\alpha=0$					
T_1	.09887	.10332	.10771	.12037	.13228
T_2	.07986	.06849	.05825	.03278	.01299
T	.09126	.08939	.08792	.08534	.08456

When $\sigma > 1$, the reverse is true. Of course, these comparisons hold for "large" finite α's as well as the polar case in the table. With immobile poor, there is thus no presumption in our model that the average level of transfer payments will be higher or lower under centralized assistance than under localized support for the poor.

The second major result is that increased mobility reduces transfers in each state (compare the $\alpha = \infty$ and $\alpha = 0$ results). This happens for a range of intermediate values, too, although we cannot show this result need always hold. Interestingly, our finding that transfers fall in the state with more poor people contrasts with the implication of the Gramlich-Laren (1984) model [as developed in Gramlich (1985)]. As noted earlier, Gramlich finds that, in his simulations, benefits in the poorer state rise. This difference appears to result from the choice of functional form, especially for the migration function.[8] At any rate, it is the case in both the Gramlich and our simulations that in the presence of mobility of the poor, average support payments are lower under a system of local poor relief than under a centralized system of assistance. The extent of mobility of transfer recipients seems to be of great importance to the outcome.

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[8] Neglecting matching grants, the Gramlich-Laren model can be written

$$\ln T^i = \frac{1}{1 + cb} (a_i + cb \ln T^j)$$

where c is the price elasticity of demand for T, b is the elasticity of P^i with respect to T^i/T^j, and the a_i are constant terms reflecting other influences (see Gramlich, p. 49). The equilibrium levels of transfers are

$$\ln T^i = \frac{a_i + cb (a_1 + a_2)}{1 + 2cb}$$

The derivative of $\ln T^i$ with respect to b is:

$$\frac{c (a_j - a_i)}{(1 + 2cb)^2}$$

Thus, increased mobility (higher b) reduces transfers in the higher-transfer state ($a_i > a_j$), and increases them in the low-transfer state. Note, however, that the sum of these derivatives must be zero, which is a very strong *a priori* restriction.

2. An Examination of the Evidence

Our theoretical analysis suggests that migration of the poor in response to differentials in transfers has the potential to depress the levels of these payments. But is this, in fact, true? Do the poor migrate in order to receive higher benefits? And do levels of transfer payments respond to such migration? These are empirical issues that a substantial number of studies have addressed over the past 15 years. But before exploring the findings of these studies, it is important to be a bit more explicit about the matters that are relevant here. We shall organize our discussion around the following two issues:

(1) Is there evidence to indicate that the poor do, in fact, migrate from low-benefit to high-benefit jurisdictions (and in substantial numbers)?

(2) Can we find any response in the level of transfer payments to such migration?

This second point is a tricky one. As we shall see, most of the evidence relates transfer levels to observed migratory behavior; in principle, our models assume that officials set transfers in response to potential or expected migration. What really matters here are the perceptions of policy-makers as to the likely response of the poor to alternative levels of transfers. This is obviously a somewhat different matter from the relationship of observed transfers to observed migration. [More on this soon.]

We begin with a brief survey of a large number of econometric studies of migration behavior in the United States. These studies typically relate migration over some period between states (or, in some instances, metropolitan areas) to a set of independent variables including measures of per-capita

income, unemployment rates, etc., in addition to variables indicating welfare benefits in (or differentials in benefits between) the jurisdictions. Some of the early studies were quite crude and aggregative [e.g., Gallaway et al. (1967)]. Using total migration flows, they typically found the welfare-support variables to be statistically insignificant. It is also worth noting that several of these studies used migratory data from the 1950's, when payment levels and differentials were relatively small and various residency requirements were in effect. In contrast, many later studies employed more disaggregated data on migratory flows for more recent periods. These studies typically distinguish between white and non-white migration and, in some instances, between different age groups. And many of them use data from the decade of the 1960's. One would have to characterize the findings of these studies as somewhat mixed. But our survey indicates that the large majority of them find some evidence of positive net migration of non-white individuals in response to differentials in welfare benefits [see, for example, Kaun (1970), Cebula et al. (1973), and Curran (1977)].

Non-white migration, however, is itself an imperfect proxy measure for benefit-induced migration. As Gramlich and Laren (1984) note, only about one-quarter of non-white families are recipients of AFDC payments, and only about one-half of AFDC recipients are non-white. It would obviously be preferable to target such migration studies on actual (or potential) welfare recipients. Some recent studies have done just this. Southwick (1981) has explored the migratory patterns of AFDC recipients and finds that benefit levels exert a strong influence on AFDC immigration. In his "Test 5," for example, Southwick estimates a "migration" elasticity of 2.5: his Table 5 indicates that a 10

percent increase in AFDC benefits will lead to an estimated increase of 25 percent in the in-migration of welfare recipients.[9] Likewise, Blank (1983), drawing on micro-data for individual AFDC recipients from the Current Population Survey, finds that benefit levels (as well as employment opportunities) exert a significant influence on location decisions. Finally, Gramlich and Laren (1984) have used two quite different techniques to estimate the migratory response to benefit levels. The first involves the estimation of a simultaneous-equation model using pooled time-series and cross-sectional data on state AFDC payments for 1974-81; the second employs micro data from a subsample of the 1980 Census and the Panel Study of Income Dynamics (PSID) to estimate a "transition matrix" describing movements among groups of states with differing benefit levels. Both of these exercises reveal a significant migratory movement of AFDC beneficiaries from lower to higher benefit states. This movement, incidentally, is not large in the short-run. Gramlich and Laren describe it as "sluggish," but over a longer period, this mobility "can alter the interstate distribution of the AFDC population substantially" (p. 506).

The evidence thus provides some support for the view that benefit differentials exert a significant influence on the location decisions of the poor. But is this migratory response to differentials in support levels perceived by state and local policy-makers, and do they react by holding benefits below what they otherwise would be? As we noted earlier, this is a

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[9] Southwick's elasticity of migration, incidentally, is not quite the same as the elasticity of our migration function in the preceding section. For Southwick's calculations, the elasticity of migration is defined as the percentage change in the number of migrant poor (not total poor) resulting from a one-percent change in the level of transfer payments (in this case the monthly AFDC benefit).

difficult issue to get at empirically. Interestingly, there has been a recognition in the empirical literature that actual migration flows may influence benefit levels. Cloward and Piven (1968), for example, have argued that the movement of blacks from the South to northern cities led to an increase in the political power of blacks in the cities with a consequent expansion of welfare rolls and benefit levels. The claim here is that actual migration is associated with increases (not decreases) in welfare benefits, in response to the expanded, and hence politically more influential, group of transfer recipients. The first empirical test of this hypothesis is embodied in the estimation of a two-equation model by Cebula (1974); the model contains one equation explaining migration flows and a second describing the response of benefit levels to these flows. In the second equation, Cebula found a direct and significant relationship between the level of benefits and the inflow of non-white migrants. However, later work casts doubt on these initial findings. Criticizing Cebula's work, Kumar (1977) has estimated a somewhat different model using Cebula's (and other) data; he finds no significant impact of migration flows on the level of assistance payments. Likewise, Curran (1977), in the estimation of a three-equation model of net immigration of non-whites to SMSA's between 1965 and 1970, can find no evidence that greater immigration of non-whites leads to higher welfare payments. And, finally, Southwick (1981), estimating a two-equation model, finds that migration flows of welfare recipients do not have a significant effect on benefit levels. The evidence, on the whole, does not seem to support this version of the "bi-directional" hypothesis.

However, as we have indicated, the hypothesis of interest to us is that potential migration depresses benefit levels. The one attempt to conceptualize

and measure this relationship is the simultaneous-equation model, noted earlier, by Gramlich and Laren. Their model incorporates explicitly the differential between own-state and surrounding-state benefit levels and its effect on the size of the welfare population. This, in turn, enters into the determination of the level of welfare benefits (which results from utility-maximization of the decisive voter). Their estimated benefit equation indicates that the "migration effect [on benefit levels] is strong and significant no matter how the model is estimated" (p. 499). In short, the greater the potential migration of benefit recipients, the lower are the support-payment levels predicted by the Gramlich and Laren equation.

Our reading of the evidence, at this juncture, is that it provides some support both for the view that there is a migratory response to differentials in benefit levels and that the recognition of this migration potential depresses levels of assistance payments. As Gramlich and Laren (1984) put it, "Our tentative conclusion is that migration of AFDC beneficiaries does appear to be an important phenomenon, though only in the very long run. It does appear to be perceived that way by state legislators, who appear to be very much conditioned by what other states are doing when they set AFDC benefits" (p. 510).

3. A Digression on the English Poor Laws

Our analysis and some supporting evidence suggest that mobility of the poor in response to differentials in support is a potentially serious obstacle to the successful functioning of a system of local finance. This raises the intriguing question of how England, a relatively small country with short distances between local parishes, managed to operate a system of local relief

over several centuries. Although the Elizabethan or Old Poor Law was officially enacted in 1601, it effectively codified practices that had existed for some time [Marshall (1968), p. 11]. Under these practices, the basic responsibility for both the finance and administration of poor relief rested with the parish. The Old Poor Law required each parish to designate an "Overseer of the Poor" whose task it was to know all the poor, to administer assistance to them, and to find work for the unemployed.

The English dealt with the problem of migration by prohibiting it. The Law of Settlement and Removal of 1662 (which again formalized earlier practices reaching back at least to the Labour Ordinance of 1349) made it the responsibility of each parish to provide relief for its own, but only its own, poor. Under the Law, church wardens and overseers were directed to remove to his "home" parish any newcomer likely to become a burden to his adopted parish unless the new arrival could give surety that he wouldn't become indigent or rented property of the value of ten pounds per year or more [Fraser (1976), pp. 26-27]. In fact, the history of the Poor Laws is largely an account of efforts to deny support to, and to deport, the itinerant poor. Cruel instances abound of whippings, the splitting of families, and the expulsion of widows and unwed mothers. In a further Act in 1795, the settlement law was amended such that only those who applied for local relief were subject to removal. Now only the poor who actually applied for support put themselves in jeopardy of being removed. The threat of removal proved a powerful force in persuading strange paupers to conceal their neediness. The settlement and removal provisions were a cornerstone of the Poor Laws. Even with the enactment of the New Poor Law in 1834 with its attempt to centralize and standardize somewhat the treatment of

the poor, settlement and removal was left intact; it survived well into the twentieth century.[10]

In addition to the hardship that it worked on the poor, the settlement law proved quite complex and costly to administer. The removal of a poor person could involve a long and expensive search to determine the person's most recently acquired "settlement," sometimes involving extensive litigation with other parishes. Such litigation could drag on encompassing one parish after another, until the bill became quite sizeable. "It took seven years for a case brought by the township of Carlton in Yorkshire against Marsden in Lancashire to be settled, and when the Court of the Queen's Bench finally decided the issue in 1849, the 142 ratepayers of Carlton were left with a legal bill of over 300 pounds" [Fraser (1976), pp. 34-35]. Added to this was the cost of actual removal and transport; Tate (1969, pp. 200) notes that constables on the main roads sometimes spent the whole of their time transporting paupers.

In view of the cumbersome and expensive character of the English system, one wonders at its longevity. The laws of settlement and removal, in particular, were the subject of fierce criticism from various social reformers and from economists of the stature of Smith and Malthus. The economists opposed these provisions because they restricted the mobility of labor.[11] However, the support for maintaining the local system of poor relief was strong. There was

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[10] During the 19th century, an alternative to settlement and removal procedures became popular. Instead of having a relief applicant and his family returned to them under a removal order with little prospect of gainful employment, the parish of settlement sometimes elected to reimburse the parish where the relief recipient was currently located. As Fraser (1976, pp. 35-36) points out, "A complex system of inter-parochial and inter-union accountancy sprang up. . . Between 1846 and 1859 the Chorlton-on-Medlock Union was reimbursing 36 unions and parishes, and was at the same time in receipt of payments from about 100 unions or parishes on behalf of their non-resident paupers."

[11] Blaug (1963) and others contend that settlement and removal were not, in practice, so serious an impediment to labor mobility as was believed by reformers of the time.

deep distrust of proposals that would replace local with national financing of relief. The source of this distrust was largely the concern that effective control be maintained over recipients and levels of support [Fraser (1976), pp. 42-43]. Local experience and direct contact with poor persons were seen as necessary to restrict assistance to the truly deserving poor. Moreover, local funding provided a check on levels of assistance that, some feared, would be lost under a system of national finance. In short, a national system of poor relief, it was argued, would lead to a "profusion" of assistance to the poor that would encompass fradulent recipients and discourage work effort.

4. The Normative Issue

Based on our theoretical exercises and our survey of existing empirical work, what can we say about the question that we posed at the outset of this paper: Which level of government should provide assistance to the poor? We noted in the introduction two general lines of argument for vesting a basic responsibility for this function with the central government. The first is based on the claim that the income levels of the poor are a national public good so that transfers to the poor in one jurisdiction effectively benefit the non-poor throughout the country. It is difficult, however, to muster compelling evidence to support this contention. Ladd and Doolittle (1982) cite some polls by the Advisory Commission on Intergovernmental Relations that "show that only 15 to 17 percent of the respondents would like the federal government to withdraw in favor of state and local governments from programs to aid the needy" (p. 328). From this, Ladd and Doolittle conclude that most people "apparently believe the federal government has a responsibility to help needy people, which

in turn suggests that they believe poverty is a national concern" (p. 327). Others, however, like Pauly (1973), emphasize the spatial dimension of utility interdependence, arguing for a predominant concern of the non-poor with their poor neighbors.

This is not an easy issue to resolve. Individuals contribute, for example, to national (and global) charities to assist the poor, but much (and perhaps more) of such giving has a largely local focus. Our surmise is that the most appropriate way to characterize the utility functions of the non-poor would involve as arguments in these functions weighted levels of income of the poor with heavier weights attached to the poor in one's own jurisdiction [e.g., Boadway and Wildasin (1984), pp. 507-509]. But we are hesitant to base the case for centralization of the income-maintenance function on this conjecture without more compelling evidence in its support. As Buchanan (1974) puts it, "If a case for federal-government or national-government redistributive activity is to be based on the grounds of strict utility interdependence, evidence should be available to indicate that the sociocultural environment is such that the effective limits are, indeed, those determined by national boundaries rather than those more limited in space on the one hand and those more extensive on the other" (p. 35). In the absence of clear evidence for or against the national public good argument, we turn to the second argument for a central role in assistance to the poor.

This second argument is based on migratory behavior. The claim here is that the potential migration of low-income households in response to support differentials will depress benefits to suboptimal levels. This contention is also somewhat tricky. Suppose that we dismiss entirely any utility interdependence

among individuals in different jurisdictions: the non-poor care only about the poor within their own locality. We would emphasize that the median-voter outcome in our earlier models with identical non-poor is not the socially optimal outcome from the perspective of the maximization of some sort of social-welfare function. The equilibrium support levels in our model represent at best a Pareto-efficient outcome viewed exclusively from the perspective of the non-poor.

To place this point in context, let us return to our Case II, where the poor are completely immobile. The equilibrium support level in a particular jurisdiction represents the level for which we can make no non-poor individual better off without making another non-poor person worse off; it is the Pareto efficient level of transfers for the group of non-poor residents in the jurisdiction. Were we to take the preferences of the poor into consideration by, for example, the maximization of some social-welfare function that included the welfare of all the residents in the jurisdiction, we would presumably determine an optimal level of transfers that is greater than that based solely on the preferences of the non-poor. From this perspective, we would argue that the equilibrium level of support in our Case II is less than the socially optimal level; we might take it as a lower bound for the optimal level of transfers.

When we move away from Case II, we find that the introduction of our migration function establishes a pecuniary incentive for jurisdictions to reduce support levels below those in the immobility case. Moreover, existing empirical work suggests that this migration potential is significant and does exert a depressing influence on the level of benefits. Unlike the case of the English Poor Laws, we cannot suppress this mobility by residency requirements, since

such residency stipulations have been struck down by the U.S. Supreme Court. We should thus expect the equilibrium level of transfers to fall below the lower bound for optimal support levels. The presumption must be that levels of assistance to the poor under a wholly decentralized system (and in the absence of residency requirements) will be suboptimal--at least in the absence of other distortions.

This points to a basic role for the central government in providing for the poor. But it does not establish the case for an exclusive reliance on centrally funded and administered assistance programs. As Boadway and Wildasin (1984, pp. 505-511) argue, one can view this issue as one involving benefit spillovers across jurisdictional boundaries; a logical response from this perspective would be a system of matching grants from the central to local governments to internalize the spillovers. In fact, income-assistance programs in the United States involve a major role for the central government with a substantial reliance on matching grants to the states. As Ladd and Doolittle (1984, pp. 323-327) point out, in 1980 the federal government provided about 74 percent of the funding of public assistance programs in the U.S. Much of this took the form of matching grants to the states under the AFDC and Medicaid Programs for which the federal matching share ranged between 50 and 83 percent. These programs have provided a strong stimulus to levels of benefits. In one study of the AFDC system, Gramlich (1982) has estimated that the elimination of the federal matching share would lower benefit levels by an average of about 56 percent.

These studies raise the important and difficult issues of the appropriate extent of central incentives for expanded local assistance to the poor. How

generous should federal matching be and what precise forms should these programs take?[12] These are hard questions that go beyond the scope of this paper. But it does seem to us that the theoretical analysis and supporting evidence point to an important role for the central government in these programs. We are left uneasy with the new Federalism proposal to establish a decentralized system of assistance to the poor.

[12] There are a great variety of alternative approaches to structuring an intergovernmental system of poor relief. For a very useful examination and discussion of these alternatives, see Gramlich (1982).

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