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LOCAL GOVERNMENTAL FISCAL PROBLEMS, WELFARE PAYMENTS AND
NONWHITE MIGRATION: THE 1960-70 EXPERIENCE

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The relationship between welfare benefit levels and migration is a subject of concern for both economists and political leaders. To the extent that inter-regional differentials in benefit levels affect the flow of migrants among regions, economic efficiency may be impaired. Political leaders are likewise concerned that the migration flows will result in an increase in the number of potential welfare program recipients, and that these migrants will, in turn, influence the extent of demand for additional welfare benefits. These demographically induced changes in welfare payments, in turn, have allegedly contributed to the fiscal problem of state and local governments.

In this paper, the relationships between the level of welfare benefits offered by states, and the interstate migration patterns of potential welfare recipients (and vice versa) are investigated. The test results do not support the hypothesis that the black migrant population--identified as being representative of the set of potential welfare recipients--joins with the indigenous black population to raise the average level of welfare payments, but the results do support the hypothesis that black migration patterns are sensitive to differences in the level of welfare payments among the states.

Several analysts have investigated the hypothesis that the migration patterns of nonwhites (or blacks) and the level, or the change in the level, of welfare benefits interact as a simultaneous process. In one test, Cebula [4] found no evidence of simultaneity between intermetropolitan nonwhite migration rates and the level of welfare benefits. In another test, however, Cebula [2] found evidence of a simultaneous relationship between the change in welfare benefit levels and interstate nonwhite migration rates over the 1960-70 period. However, specification and identification errors in Cebula's state level test cast doubt on the results. A respecification of this model by Premus and Weinstein [12] failed to find support for the hypothesis of simultaneity between the change in welfare benefits and nonwhite migration rates.

All of the models reported in the literature were specified in the following form:

$$(1) \quad W_j = f_1(X_{ij}, m_{nj}, e_1)$$

$$(2) \quad m_{nj} = f_2(Y_{kj}, W_j, e_2)$$

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where

W_j = the level of welfare benefits per family (AFDC) or the change in these benefit levels, 1965-70, in region "j";

m_{nj} = the nonwhite net migration rate, 1960-70 for region "j";

X_{ij} = a vector of "i" independent variables affecting W_j ;

Y_{kj} = a vector of "k" independent variables affecting nonwhite net migration for region "j";

and e_1 and e_2 are random error terms for their respective equations.

The hypothesized impact of nonwhite migration on welfare benefits assumes that nonwhite net migration affects the demand for welfare services by affecting the balance of political power between groups favoring (nonwhites) and opposing (whites) expansion of welfare benefits. The initial welfare benefit level in each state or region implicitly reflects the initial underlying political power (the vote) of their black and white populations. This initial political equilibrium is disturbed as the black population redistributes itself among the states and regions. Depending upon how this shift affects the distribution of political power within state and local legislatures, the demand for welfare benefits is affected. In particular, jurisdictions that experience net inflows (outflows) of black migrants experience disequilibrium--positive (negative) excess demand for welfare services--in their political structures, and, as a result of the migration induced increase (decrease) in the political power of the black interest groups, they offer higher (lower) levels of welfare benefits.

A basic problem with this approach is that it fails to directly capture the impact of nonwhite net migration on political balance and, therefore, on the level and change in welfare payments. It also fails to account for indigenous changes in the ratio of nonwhites to whites in the voter population of the respective states and regions. Yet, the increase in voter eligible blacks and whites over the migration period varies widely among the states and regions and thus accounts for significant shifts in the interstate distribution of political power among the races. In addition, the participation rates of whites and nonwhites vary among regions. The approach used in this paper attempts to correct for these deficiencies by expanding the demand for welfare services equation to incorporate black and white migration patterns and indigenous changes in the size of black and white electorates adjusted for participation rates. The expanded welfare demand model utilizes the following construct variable to measure the total shift in political balance:

$$(3) \Delta B_j \equiv v_n(M_{nj} + P_{nj})/v_w(M_{wj} + P_{wj})$$

where

ΔB_j = the change in the ratio of nonwhites to whites in state "j" resulting from migration and indigenous change;

M_{nj} = the total nonwhite net migration for state "j", 1960-70, divided by the 1960 nonwhite population of state "j";

M_{wj} = the total white net migration for state "j", 1960-70, divided by the 1960 white population of state "j";

P_{nj} = the total number of nonwhites in state "j" in the age group 11-20 in 1960, divided by the 1960 nonwhite population of state "j";

P_{wj} = the total number of whites in state "j" in the age group 11-20 in 1960, divided by the 1960 white population of state "j";

v_n = the percentage of eligible nonwhites that voted in state "j" in 1964; and

v_w = the percentage of eligible whites that voted in state "j" in 1964.¹

Equation (3) provides a measure of the change in the political balance which results from migration and from indigenous growth in the size of the voting groups of nonwhites and whites. This measure allows for shifts in political balance due to initial interstate differences in the age distributions of white and nonwhite migration patterns. The age distributions of the migrant population are assumed to be approximately the same. Theoretically, ΔB_j is expected to be positively related to the change in welfare benefits since a positive value for ΔB_j reflects a relative increase in potential political pressure for welfare benefit expansion in the model.

The principal hypothesis of this paper can now be stated as follows:

- (1) The flow of nonwhite net migrants among states is positively related to the average level of welfare benefits obtainable over the migration period, and
- (2) These flows of nonwhite net migrants, combined with flows of white net migrants and indigenous changes in the racial composition of the electorate, cause changes in the balance of political demands (e.g., the vote and pressure groups) for increases in the level of welfare benefits, which, in turn, result in changes in the level of welfare payments per recipient over the period

The Model

The following model (specified for state "j") is used to test the preceding two-pronged hypothesis:

¹Since voter participation is not available by state, the 1964 data from nine major regions are used. The states in each region are as follows: Pacific--Washington, Oregon, California; Mountain--Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico; West North Central--North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri; West South Central--Oklahoma, Arkansas, Louisiana, Texas; East North Central--Wisconsin, Michigan, Illinois, Indiana, Ohio; East South Central--Kentucky, Tennessee, Mississippi, Alabama; South Atlantic--Pennsylvania, New Jersey; New England--Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island

$$(4) \Delta W_j = a_1 + b_1 \Delta B_j + b_2 \Delta F_j + b_3 \Delta Y_j + e_1$$

$$(5) m_{nj} = a_2 + b_4 \bar{W}_j + b_5 \bar{I}_j + b_6 H_j + e_2$$

$$(6) \Delta B_j \equiv v_n (\hat{M}_{nj} + P_{nj}) / v_w (M_{wj} + P_{wj})$$

$$(7) \bar{W}_j \equiv W_j + (\Delta \hat{W}_j) / 2$$

where

ΔW_j = change in the level of average monthly payments to families with dependent children (AFDC), 1965-70;

W_j = the 1965 level of AFDC payments;

\bar{W}_j = the average level of AFDC payments per family over the period 1965-70;

ΔF_j = change in percentage female heads of households, 1960-70;

ΔY_j = percent change in total per capita income, 1960-70;

H_j = net migration rate of blacks, 1950-60;

ΔB_j = change in the ratio of black to white population, 1960-70; and

\bar{I}_j = the average median family income of blacks in the period 1959-69

The sample analyzed is composed of all states excluding Alaska and Hawaii. The data for m_{nj} , M_{nj} , W_j , ΔW_j , ΔY_j , were obtained from the U. S. Statistical Abstract, 1972 [19, Tables 20, 290d, and 519]. Variables \bar{I}_j and ΔF_j were computed from data obtained from the 1960 and 1970 volumes of the U. S. Census of Population [15, Tables 65, 196, and 110; 16, Tables 56 and 65]. Variable H_j was drawn from the U. S. Statistical Abstract, 1966 [18, Table 35]. P_{nj} and P_{wj} were computed from data in the U. S. Census of Population, 1960 [15, Table 59]. Voter participation rates v_n and v_w were computed from data in the Current Population Report, "Voter Participation in the National Election, November 1964" [17, Table 2].

The symbol " $\hat{\cdot}$ " over a variable indicates that its coefficient has been obtained from two stage least squares estimates of equations (4) and (5). Equations (4) and (5) are the stochastic equations. Equation (6) is an identity defining the relationship between the political balance variable and black migration. It should be noted that in this equation, the white net migration rate is treated as exogenous to the model being tested.² Equation (7) is an identity defining \bar{W}_j , the sum of the 1965 level of welfare benefits and the average change in benefits over the 1965-70 period.

In equation (4), the expected sign for b_1 is positive because blacks are

²This assumption is justified in our analysis since white net migration was found to have no statistically significant relationship to either welfare payments or nonwhite migration.

assumed to support greater increases in welfare benefits; whereas, whites are hypothesized as either, on balance, neutral or opposed to increases in benefits. This could reflect the more egalitarian motives of blacks or it could reflect differences in the incidence of welfare taxes and benefits among the races. Since the black population has a lower per capita income, they are expected to receive more as a group from welfare programs than their tax contributions would suggest. If so, a rational public choice response for the black voter population would be to favor an expansion of welfare payments. Thus, other things equal, states experiencing an increase in the proportion of their black population are expected to incur increased political pressures to offer higher levels of welfare payments.

ΔF_j , the change in the percentage of female heads of families in each state, is expected to capture the influence of demographic differences among the states on the demand for welfare payment. ΔF_j reflects both an increase in the potential supply of welfare recipients and the number of potential votes favorable to increases in welfare levels. The former influence is likely to reduce the per capita welfare payments per recipient, since an increase in a state's welfare budget must be spread over a larger number of recipients. The latter influence, however, will act to raise welfare payments per recipient because political support for higher levels of welfare payments will be enhanced. Since the relative importance of these divergent influences cannot be determined a priori, the expected sign of b_2 is indeterminate.

The sign for b_3 is expected to be positive. ΔY_j is expected to capture the effect of changes in affluence on welfare levels. Greater per capita income growth in a state is expected to lead to an increase in the level of welfare payments per recipient.

In equation (5), the migration equation, the average level of welfare payments per family (\bar{W}_j) is viewed as a determinant of black migration behavior. As stated earlier, black migrants are presumed to respond positively to greater average welfare payments on the assumption that they are net beneficiaries of welfare programs; i.e., in the aggregate the black population expects to receive welfare payments in excess of the share of their tax contributions that are used to finance welfare programs. Therefore, the regression coefficient b_4 is expected to be positive.

The average black median family income over the period 1959-69 (\bar{I}_j) is included in the migration equation to capture the influence on interstate differences in expected labor market returns available to black migrants. The use of a race specific measure for this variable is justified since it is a better measure of expected labor market returns available to the black population than aggregate state per capita income. The expected sign of the coefficient b_5 is positive.

Also, black migrants are expected to be influenced by the migration patterns of the black migrant population over the 1950-60 period. This "migrant stream hypothesis" could reflect the "family-friends effect" suggested by Nelson [10], Fabricant [6], and Greenwood [7] or it could reflect a prior period partial equilibrium adjustment process. The "family-friends effect" suggests that

migration costs will be lower and/or informational flows improved for blacks in regions and states that have a larger black migrant stock (measured as the summation of all previous periods migration flows and natural changes in the size of indigenous black population due to birth and death). Unfortunately, as Laber [9] and Renshaw [13] have pointed out, the "migrant stock" variable is likely to be highly correlated with the other determinants of migration behavior. To help overcome this problem, we use a Koyck lag--the dependent variable lagged one period (H_t)--to capture the influence of the omitted lagged independent variables (as a result of a partial equilibrium adjustment process) on current period migration behavior. Of course, this "momentum effect" could also capture at least some of the "family-friends effect" making it impossible to discern which adjustment mechanism predominates during the period. Nevertheless, since both effects are likely to positively influence migration behavior, a positive sign for b_6 is expected.

Finally, although simultaneity is not explicit in equations (4) and (5), it is, nonetheless, present since the change in political balance variable, $\Delta B'$, in the welfare change equation is directly influenced by m_n in the migration equation. An increase in $\Delta B'$ is expected to increase ΔW and results in a larger m_n . A larger m_n raises $\Delta B'$, *et cetera*. For this reason, equation (4) and (5) are estimated using two stage least squares with ΔW and m_n treated as endogenous. The purged values of $\Delta \hat{W}$ and \hat{m}_n respectively, are then used to compute \hat{W} and $\Delta B'$ in the migration and welfare change equations.

The Results

Equations (4') and (5') present the results of our two stage least squares test (t values are given in the parentheses):³

$$(4') \Delta W = -61.82712 - .019767\Delta B' - 80.73143\Delta F + .074339\Delta Y$$

$$(.741) \quad (2.896) \quad (3.565)$$

$$\text{Adjusted } R^2 = .2798$$

$$F = 7.08619$$

$$\text{d.f.} = 44$$

³Several other variables were initially included in equations (4') and (5') but were omitted from the final equation because they were found to be insignificant. In equation (4'), the total labor force unemployment rate was dropped due to insignificance. The initial level of per capita income was found to be insignificant and highly collinear with the per capita income change variable. Since the per capita income change variable is theoretically preferred, it was retained in the model. Also, the original form of equation (5') included the nonwhite unemployment rate, a dummy variable identifying southern and non-southern states, and a variable measuring the percentage of the labor force employed in "secondary" jobs. All of these variables were found to be insignificant and unrelated to the variables retained in the migration equation.

$$(5') \quad m_n = -46.39678 + .1199946\bar{W} + .0083284\bar{I} + .1192979H$$

(2.329)
(4.402)
(2.137)

Adjusted R² = .7289

F = 43.11928

d.f. = 44

Overall, the results are encouraging. Both equations are statistically significant at the .01 percent level and all of the regression coefficients, with the exception of the coefficient for ΔB^* , are statistically significant at the .05 percent level or lower. The welfare change and migration equations explain 27 and 72 percent of interstate variance in their respective dependent variables.

The failure of ΔB^* to significantly influence the growth in welfare payments per recipient in equation (4') suggests that black migration, which was found in equation (5') to be significantly influenced by the average level of welfare payments (\bar{W}), will not necessarily influence political balance so as to raise the level of welfare payments to even higher levels. Thus, the evidence from our analysis suggests that the growth in state level welfare payments per recipient is independent of black migration rates, but not vice versa. This result is consistent with the findings of Cebula [4] and Premus and Weinstein [12]. Interestingly though, when m_n is inserted directly into equation (4') for ΔB^* , the regression coefficients for m_n and \bar{W} are both statistically significant, a result consistent with Cebula [2]. Apparently, when the migration patterns of whites and the indigenous changes in the voter populations of blacks and whites are ignored, causality between the level in welfare payments per recipient and net black migration rates appears to run both ways. However, since ΔB^* is superior to m_n as a measure of structural shifts in the balance of political power among the races, our results suggest that this observed interdependence is spurious.⁴

In the welfare change equation, ΔF , the change in the percent of female heads of households, was evaluated using a two tailed "t" test because the expected sign was theoretically indeterminant. Its negative coefficient suggests that the negative effect of more potential welfare recipients on the change in welfare benefits is greater than the positive effect of a greater demand for welfare benefits associated with an increase in the percentage of female heads of households. In addition, the positive coefficient for ΔY in the welfare change equation provides evidence for the hypothesis that budgetary consideration

⁴An alternative specification of the model was estimated with the components of ΔB^* included separately (in the form of percentages of their respective populations). The analysis show significant multicollinearity among the components of ΔB^* . Specifically, m_{nj} was collinear with m_{wj} and P_{nj} was collinear with P_{wj} . The use of the construct variable ΔB^* permits the evaluation of the combined impact of these variables.

influence the willingness of state legislatures to offer higher levels of welfare benefits.

Also, the findings in equation (5) suggest that black migrants, in addition to being influenced by the level of welfare payments per recipient, were found to be strongly influenced by labor market opportunities, as measured by inter-state differences in the per capita income level of the black population. This evidence is consistent with the findings of Pack [11] and Sommers and Suits [14] but it is at odds with the findings of Cebula [3] and Kohn, Vedder and Cebula [8].

Finally, the "migrant stream hypothesis" was found to have support in our analysis. Thus, our results are consistent with the findings on the "migrant stock" relationship reported by Greenwood [7] and Pack [11], and at odds with the results reported by DeJong and Donnelly [5]. Moreover, when H is deleted from the migration equation, its relative impact on the remaining coefficients is negligible, suggesting that a multicollinearity is not a serious problem.

Summary and Conclusions

In summary, no evidence of political interaction between the growth in welfare payments per recipient and an increase in the proportion of a state's population that is black was found in our test. Thus, our analysis casts doubt on the circular argument that states which offer higher levels of welfare payments will attract additional black migrants who, in turn, attract additional black migrants by inducing further increases in welfare payments. Evidence was found, however, that black migrants are strongly influenced by both labor market and nonlabor market returns, suggesting some potential inefficiencies in the labor market adjustment mechanism. Also, current period black migration flows were found to be sensitive to the previous period migration patterns of the black migrant population. Finally, the primary determinants of the growth in welfare payments in our test were found to be state affluence (a positive influence) and the number of potential welfare recipients (a negative influence).

The results of our analysis have interesting implications for public policies designed to alleviate the fiscal problems of state and local governments. In particular, they suggest that arguments in favor of a national system of uniform welfare payments (e.g., a negative income tax) to solve the financial problems of these governments are too simplistic and naive, because they view the problem as a logical outcome of the circular relationship between the migration and political behavior of low income families. If the fiscal disparities are viewed as a consequence of unequal affluence among political jurisdictions, perhaps a more logical approach would be to redress these fiscal disparities by instituting a system of intergovernmental transfers, as suggested by Buchanan and Wagner [1]. Of course, a negative income tax may still be necessary to correct for inefficiencies in the labor market due to differentials in welfare payments at the subnational level. Thus, this paper presents evidence in favor of both a system of intergovernmental transfers and a nationally uniform system of welfare payments.

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