

Welfare and the Locational Choices of New Immigrants

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I find little evidence to support the contention that new immigrants will choose their destinations based on welfare generosity. New immigrants are attracted to areas with large immigrant populations.

New restrictions on immigrants' eligibility for welfare benefits will account for 44 percent of the expected \$55 billion reduction in federal welfare expenditures over the next few years. Most noncitizens are now ineligible for federally funded programs, and states may restrict legal immigrants' access to other public assistance programs. States have the option to continue extending benefits to immigrants at state expense. These changes have raised concerns that states that continue to provide benefits to immigrants risk becoming "welfare magnets." In this article, I examine whether differences in benefit levels across states affect the locational choices of new immigrants in an effort to determine whether states that continue to offer benefits to immigrants will face an influx of immigrants.

The strictest restrictions in the 1996 welfare law, which ends the guarantee of public assistance to impoverished persons, are imposed on immigrants. Most legal immigrants are automatically barred from receiving food stamps and Supplemental Security Income (SSI), which provides cash benefits to the disabled and elderly poor. Future legal immigrants will also be ineligible for Aid for Families with Dependent Children (AFDC) and Medicaid for the first five years they are in the United States.¹ States have discretion to determine noncitizens' eligibility for AFDC, Medicaid, and other public assistance programs previously jointly funded by federal and state governments.² Since the law was signed in August 1996, thirty-six states have promised to maintain AFDC benefits to immigrants already in the country, and four states have said they will not do so.

The new welfare law affects a potentially large number of immigrants. In 1996, 2 million noncitizens received food stamps, 800,000 received SSI, and 640,000 received AFDC.³ An estimated 9.5 million legal, permanent-resident noncitizens live in the United States, about 40 percent of whom are in California.

Some officials who believe that many immigrants came to the United States to take advantage of public assistance are now concerned that low-income households will migrate to the states offering the highest benefits. Differences in maximum AFDC payments across states are already large—ranging from \$923 a month in Alaska to \$120 in Mississippi in 1996 for a family of three—and will become larger when immigrant eligibility rules vary across states. As one policy analyst claims, immigrants are "quite prepared to move. They already have."⁴

Beliefs that immigrants have disproportionately high rates of welfare reciprocity moti-

vate much of the concern that immigrants move to states with high welfare benefits. Economists disagree about whether immigrants are more likely than natives to receive welfare. Borjas (1994) summarizes the literature. In 1970, immigrants were less likely than natives to receive welfare, but by 1990 they were slightly more likely than natives to receive welfare. Differences in socioeconomic characteristics, such as household composition and educational attainment, account for the disparity between immigrant and native welfare reciprocity rates; recent immigrants are less skilled than both natives and previous immigrants. Immigrants as a whole are therefore more likely than natives to receive welfare benefits, but immigrants' reciprocity rate is the same as that of similar natives.

Previous research suggests that differences in welfare benefits across areas affect the locational decision of low-income households. Blank (1988) finds that low-income female-headed households are 12 percentage points more likely to leave areas with low welfare payments and low wages than areas with high payments and high wages. Gramlich and Laren (1984) find that households receiving AFDC that move are more likely to relocate to a high-benefit state than to a low-benefit state.

Little research has been done on how welfare affects the locational choices of immigrants. Borjas (1996) concludes that immigrant welfare recipients are more clustered in high-welfare states than are other immigrants and natives. The effect is particularly pronounced among new immigrants, who may have lower interstate migration costs than natives or earlier immigrants. His findings are driven by California, where 45 percent of new immigrants who receive welfare live, versus 29 percent of new immigrants who do not receive welfare, 12 percent of natives who receive welfare, and 10 percent of natives who do not receive welfare. Buckley (1996) claims that the settlement patterns of new immigrants are positively correlated with state welfare generosity; this research is discussed in greater detail below.

In this article, I estimate the determinants of new immigrants' destinations, focusing on whether immigrants respond to differences in the generosity of public assistance payments across states. The results indicate that the location of other immigrants is the primary determinant of new immigrants' destinations. However, since earlier immigrants are clustered in high-welfare states, it appears that new immigrants are attracted by welfare generosity unless the

presence of other immigrants and constant immigration patterns across states are controlled for. In the next section, I summarize the basic characteristics of immigrants' locational choices. I then discuss the results of an econometric analysis of the determinants of immigrants' destinations.

Immigrants are highly clustered . . .

In the 1980s, the United States experienced its greatest wave of immigration since the turn of the century. More than 10 million persons were granted permanent-resident status between 1980 and 1992, including more than 2.65 million aliens who adjusted to legal status under the Immigration Reform and Control Act (IRCA) of 1986. In 1990, almost 8 percent of the population was foreign-born, a considerable increase over the rate of 4.8 percent in 1970.

The immigrant population is highly concentrated in a few states. In 1990, almost 33 percent of the foreign-born population lived in California; 14.4 percent lived in New York, 8.4 percent in Florida, and 7.7 percent in Texas. Even though these are the four most populous states, immigrants also make up a larger proportion of the population in these states than in other parts of the country.

New immigrants choose the same destinations as previous immigrants, possibly because the presence of a foreign-born population attracts other immigrants. Six states accounted for the intended residences of almost three-quarters of new immigrants in 1992: California, Florida, Illinois, New Jersey, New York, and Texas. California alone was the intended residence of more than 34 percent of new immigrants in 1992. In addition to having a high proportion of the population that is foreign-born, these states have relatively high welfare benefits, except for Texas and Florida (*Table 1*).

. . . and attracted to areas with other immigrants

Previous research on the locational choices of immigrants concludes that the presence of earlier immigrants affects the locational choices of new immigrants. Using cross-sectional data on immigrants from eleven Western Hemisphere countries in 1987, Dunlevy (1991) finds that the number of immigrants is positively correlated with a state's stock of immigrants. Dunlevy also finds that immigrants are attracted to urbanized states; he does not estimate the effect of welfare on settlement patterns. Bartel (1989) finds that ethnic stock is the primary determinant of male immi-

Table 1
Concentration of Locational Choices

State	Percent of immigrants in 1992	Percent of foreign-born in 1990	Maximum AFDC and food stamps benefits in 1991
California	34.6	21.7	\$853
Florida	6.3	12.9	571
Illinois	4.5	8.3	629
New Jersey	5.0	12.5	671
New York	15.3	15.9	787
Texas	7.8	9.0	461
Other	.6	3.5	624

NOTES: "Other" is the average of the remaining forty-two mainland states and the District of Columbia. AFDC and food stamps are the maximum for a three-person family with one parent.

SOURCES: U.S. Immigration and Naturalization Service, U.S. Bureau of the Census, and U.S. House Ways and Means Committee.

grants' location. In the cross-sectional data she uses, generous public assistance payments also appear to attract male immigrants, a surprising result since single males and most male-headed households are not eligible for AFDC.⁵

In this article, I focus on the destinations of immigrants from eighteen countries who arrived in the United States in 1982 and 1992.⁶ These countries are the source countries of the majority of immigrants, accounting for 68.3 percent of immigrants in 1992 and 63.8 percent in 1982. Mexico was the source country of the largest number of immigrants in 1992, and Vietnam was the largest in 1982. The data do not include new refugees but do include refugees converting to permanent-resident status and immigrants converting from illegal to legal status under the IRCA; about 163,000 immigrants (primarily from Mexico) converted to legal status under the IRCA in 1992.

The next section presents the empirical model used to estimate the determinants of locational choice. The model is based on individuals choosing the utility-maximizing location. (See the box titled "A Model of Locational Choice" on page 6.) I use the model to estimate how state economic conditions and demographic characteristics affect the number of immigrants "pulled" to a state; the model does not focus on source country conditions that might "push" immigrants to move because such factors are likely to affect the number of immigrants who leave but not specific destinations within the United States.

I use aggregate data on immigration levels to the United States published by the U.S. Immigration and Naturalization Service (INS). The data are annual aggregate cross-tabulations by destination state and country of birth for major source countries. Individual-level charac-

teristics that are likely to influence locational choices, such as education and occupation, are not available in the cross-tabulated data. Therefore, I examine the effect of state-level variables on the number of immigrants from a particular country but cannot control for other characteristics of those immigrants that might affect the choice of destination. The next section uses an analysis of covariance model to examine the determinants of immigrants' destinations.

The empirical model

In the general model estimated here using ordinary least squares (OLS), the number of immigrants is regressed on state-level economic and demographic conditions, or

$$(1) \quad I_{jkt} = \alpha + X_{kt-1}\beta + F_{jkt-1}\gamma + D_{jk}\delta + K_k\sigma + J_{jt}\rho + \eta_{jkt},$$

where j indexes the country of origin, k the destination state, and t the year (1982 or 1992). The variable I_{jkt} is the number of persons immigrating from country j to state k in year t .⁷ The vector X_{kt-1} includes the unemployment rate, per capita personal income less transfers, the percentage of the population living in metropolitan areas, the per capita tax level, the percentage of employment in manufacturing and agriculture, and the maximum combined AFDC and food stamps benefits available for a family of three in state k at year $t - 1$.⁸ All monetary variables are deflated using the consumer price index for urban consumers. The covariates are lagged for two reasons: to avoid the possibility of endogeneity bias, which is discussed in greater detail below, and to reflect the information upon which immigrants are likely to base decisions.⁹ All the variables except the unemployment rate and the tax level are expected to be positively correlated with the number of immigrants. The error term η_{jkt} is corrected for heteroscedasticity.

F_{jkt-1} is the proportion of the state population that was born in the same country as the immigrant group. As discussed above, the presence of other foreign-born residents is a key determinant of immigrants' destinations. Immigrants are more affected by the size of the population from the same country of origin, not the total foreign-born population. For example, 83 percent of Cuban immigrants in 1992 settled in Florida, the state with the largest Cuban population. The variable is available only in census years, 1980 and 1990, during the sample time frame. Because of the likely importance of this variable, I examine in detail the sensitivity of the

results to including it; it is expected to be positively correlated with the number of immigrants.

D_{jk} is the distance in miles between the largest city in the origin country and the largest city in the destination state.¹⁰ The variable captures the psychological and monetary costs of moving and is expected to be negatively correlated with the number of immigrants.

Fixed effects are also included in some specifications. The state effects K_k control for time-invariant characteristics assumed to be equally attractive for all immigrant groups, such as climate and location. The vector J_{jt} includes interactions of country and time effects to capture any “push” effects from country j in year t that are common to all states and any changes in national immigration policy or the business cycle. When the fixed effects are included, the estimated coefficients show correlations between changes in the number of immigrants and changes in economic and demographic variables within states and countries of origin over time. Equation 1 is estimated using data on the number of immigrants from eighteen countries to the forty-eight mainland states and the District of Columbia in 1982 and 1992.

This analysis offers several improvements over previous research. By disaggregating the data by country of origin, I can estimate the sensitivity of specific groups to differences in welfare across states. I can also better estimate the importance of the stock of previous immigrants in a location by using country-specific data on the number of previous immigrants. Time-invariant state characteristics can be controlled for by including state fixed effects, the importance of which is discussed below, because two years of data are used. Buckley (1996) uses panel data for the years 1985–91 but does not control for state fixed effects; he also uses a linearly interpolated measure of the stock of immigrants since only decennial data are available. Linear interpolation automatically makes the immigrant stock covariate correlated with the error term, leading to identification problems in Buckley’s results.¹¹

The estimation results are discussed in the next section.

The results

The estimation results clearly indicate the importance of controlling for the stock of previous immigrants and for differences across states and countries. When immigrant stock and fixed effects are not controlled for, welfare payments are positively correlated with the number

Table 2
Determinants of Immigrants’ Destinations

Covariate	(1)	(2)	(3)	(4)
Unemployment rate	95.432 (37.605)	48.643 (24.521)	29.716 (47.761)	30.608 (40.051)
Income	.690 (.305)	.270 (.422)	−1.937 (2.023)	−.671 (1.377)
Metropolitan population	21.300 (4.050)	2.356 (6.022)	−84.304 (63.989)	−82.828 (57.329)
Taxes	−.392 (.137)	−.095 (.226)	.106 (.348)	−.862 (.707)
Manufacturing employment share	−13.170 (4.854)	15.832 (12.022)	−8.303 (22.371)	−19.931 (29.456)
Agriculture employment share	849.604 (316.976)	346.170 (120.647)	−282.895 (301.400)	−252.222 (212.232)
Welfare	3.144 (1.746)	.955 (.764)	10.891 (6.954)	5.703 (3.759)
Foreign-born population (*1,000)	—	6.478 (2.482)	—	6.615 (2.537)
Distance	.008 (.041)	.142 (.034)	−.985 (.267)	−.003 (.264)
Fixed effects	No	No	Yes	Yes
Adjusted R-squared	.060	.481	.187	.555

NOTES: The dependent variable is the number of persons immigrating from one of eighteen countries to one of forty-nine states in 1982 or 1992, a total of 1,764 observations. See the text for details of the data. Heteroscedasticity-corrected standard errors are shown in parentheses.

of immigrants. As shown in the first column of Table 2, a \$1 increase in a state’s maximum combined AFDC and food stamps payment is correlated with an increase of three in the number of immigrants. As expected, higher income, a more metropolitan population, and a more agricultural economy are positively correlated with the number of immigrants; the tax level is negatively correlated with the number of immigrants. Surprisingly, a manufacturing-oriented economy appears to discourage immigrants, and a high unemployment rate appears to attract immigrants. Many of these relationships are not robust to using other specifications, as discussed below.

Welfare payments are not correlated with the number of immigrants when the percentage of the population comprised of earlier immigrants from the same country is controlled for. The estimated coefficient reported in column 2 implies that the number of immigrants increases by almost 6,500 when the percentage of the population from the same country increases by one point. The substantial increase in the goodness of fit, as measured by the R -squared, indicates the importance of other immigrants in determining locational choice. Agricultural employment remains positively correlated with

A Model of Locational Choice

This box presents the derivation of the empirical model, which is based on individuals (or households) choosing the utility-maximizing location. The specific destination chosen by an immigrant depends on a multitude of characteristics, including those of the individual, the individual's country of origin, and all potential destinations. An individual should choose the utility-maximizing location, which depends on location-specific amenities, individual characteristics, and previous location. Using similar notation to that of Blank (1988), individual i 's expected utility in location k at time t , given that the individual lived in location j at time $t - 1$, can be expressed as

$$(B.1) \quad U_{ijkt} = U(X_{ikt}, F_{ijkt}, D_{jk}),$$

where X_{ikt} is location-specific amenities in location k at time t . X_{ikt} includes variables that affect an individual's expected income, such as average earnings, the unemployment rate, and welfare benefits. F_{ijkt} is a vector of household characteristics that affect a person's utility of living in location k at time t , given that the person lived in j at time $t - 1$. These characteristics do not change across locations but may be associated with different utility levels across locations. For example, a person from the Philippines will likely have higher utility living in a location where other Filipinos live. D_{jk} reflects time-invariant monetary and psychological costs of moving from location j to location k , which are assumed to be expressible in the same utility units as X_{ikt} and F_{ijkt} .

Research on individuals' locational choices typically assumes that utility can be expressed as a linear combination of variables, or

$$(B.2) \quad U_{ijkt} = X_{ikt}\alpha + F_{ijkt}\beta + D_{jk}\gamma + \epsilon_{ijkt},$$

where ϵ_{ijkt} is an error term assumed to be orthogonal to the covariates.

A person chooses the utility-maximizing location at time t , conditional on living in location j at time $t - 1$. The conditional probability of individual i choosing location k from N possible locations is then

$$(B.3) \quad \Pr(k_{it}|j_{it-1}) = \Pr(U_{ijkt} = \text{MAX}(U_{ij1t}, U_{ij2t}, \dots, U_{ijNt})).$$

A multinomial logit model is usually used to estimate the effect of location-specific amenities, individual characteristics, and previous location on the probability that an individual chooses a certain location.

The above model can be used to estimate determinants of individuals' locational choice, but in this article I use aggregate data on immigration levels to the United States. Equation B.3 can be aggregated across individuals to generate a model that can be applied to aggregate data. The number of individuals moving to a location is the number of individuals whose utility is maximized at that location, or

$$(B.4) \quad I_{jkt} = \sum_i \Pr(U_{ijkt} = \text{MAX}(U_{ij1t}, U_{ij2t}, \dots, U_{ijNt})),$$

where I_{jkt} is the number of immigrants moving to location k from location j at time t . The number of immigrants moving to a location is assumed to be a linear function of the variables that affect individuals' locational choice, or

$$(B.5) \quad I_{jkt} = X_{kt}\alpha + F_{jkt}\beta + D_{jk}\gamma + \eta_{jkt},$$

where η_{jkt} is an error term assumed to be uncorrelated with the covariates. The model estimated also includes state, time, and country-of-origin fixed effects in some specifications.

the number of immigrants. The unemployment rate and the distance from the country of origin are positively correlated with the number of immigrants, but these results are also sensitive to the inclusion of additional controls.

None of the variables that reflect economic conditions, including the welfare variable, is well correlated with the number of immigrants when fixed effects are included in the regression. As discussed above, the state fixed effects control for state characteristics that are fixed over time and the country-of-origin time effects control for factors that push immigrants to immigrate to the United States in a

given year and for changes in immigration policy. Only the distance between the country of origin and the state is negatively correlated with the number of immigrants when the foreign-born population is not controlled for, as shown in column 3. The foreign-born population is the only variable well correlated with the number of immigrants when it is included as a covariate, as shown in column 4.

The sensitivity of many of the estimated coefficients to the inclusion of the fixed effects indicates that immigrant settlement patterns within states do not change significantly over time in response to changes in economic conditions and welfare payments. When the fixed effects are not included, other variables proxy for the unchanging settlement patterns of immigrants. The only variable that appears to affect the number of immigrants settling in a state over time is the stock of previous immigrants.

Using other measures of welfare generosity, such as SSI and Medicaid, yields results similar to those reported in Table 2. The locational choices of older immigrants are more likely to depend on SSI benefits, for which the impoverished elderly qualify, than on AFDC levels, which require the presence of dependent children in the household. When equation 1 is estimated using the combined maximum SSI and food stamps payment for an individual living alone as the measure of welfare benefits, the results do not indicate that the number of immigrants depends on SSI payments when the presence of other immigrants and fixed effects are controlled for.¹² Similarly, the results do not change when average Medicaid benefits are added to the maximum AFDC and food stamps benefits.¹³ After fixed effects are controlled for, only the percentage of the population that is born in the same country is significantly correlated with the number of immigrants.

The results are also robust to modifying the dependent variable in order to examine the determinants of the distribution of new immigrations across states. Equation 1 was estimated using the fraction of all immigrants from a country going to a state instead of using the number of persons immigrating to the state, or

$$(1') \quad \frac{I_{jkt}}{\sum_k I_{jkt}} = \alpha + X_{kt-1}\beta + F_{jkt-1}\gamma + D_{jk}\delta + K_k\sigma + T_t\theta + \eta_{jkt},$$

where all variables are as defined above. This dependent variable may better capture the determinants of immigrants' settlement patterns

among the states, conditional on immigrants' decisions to come to the United States, because it avoids any level effects associated with the large differences in the number of immigrants across countries.¹⁴

As shown in Table 3, the results do not change. After fixed effects are controlled for, only the foreign-born percentage of the population is well correlated with the percentage of immigrants settling in a state.

The regression results thus indicate that welfare benefits do not affect the number of new immigrants settling in a state. These results are robust to a variety of sensitivity and specification checks discussed in the appendix. The percentage of the population comprised of earlier immigrants from the same country is the only factor that affects immigrants' locational choices over time. However, the effect of welfare payments on locational choices may differ across immigrants based on their country of origin. This possibility is investigated next.

Differences across immigrants

To test whether the effect of welfare on locational choices differs across immigrants based on their country of origin, variables interacting country-of-origin dummy variables with the welfare variable were included in equation 1. The specification also included all the variables measuring state-level economic and demographic conditions, including the foreign-born variable, the distance variable, and the fixed effects.

The results indicate substantial differences across immigrant groups. As shown in Table 4, welfare benefits are positively correlated with the number of immigrants from China, El Salvador, the Philippines, the former Soviet Union, and Vietnam. The coefficients for China, the Philippines, and Vietnam are significant at the 5 percent level, and the other two are significant at the 10 percent level. Except for persons from the Philippines, these immigrants are more likely than other immigrants to be converting from refugee to legal permanent-resident status, a finding that raises the possibility that refugees' locational choices are influenced by welfare even though immigrants' choices are not. Refugees are more likely than nonrefugee immigrants to participate in the welfare system (Borjas 1994), so it is not surprising that their locational choices are more responsive to differences in welfare payments across states.

Other interesting findings include the estimated coefficient for immigrants from Mexico, which is the largest in magnitude but is

Table 3
Determinants of Immigrants' Destinations

Covariate	(1)	(2)	(3)	(4)
Unemployment rate	.298 (.064)	.248 (.056)	.042 (.075)	.042 (.071)
Income	.904 (1.024)	.460 (.981)	1.414 (2.870)	2.500 (2.738)
Metropolitan population	.085 (.010)	.065 (.008)	-.028 (.098)	-.026 (.093)
Taxes	-.002 (.0004)	-.002 (.0003)	-.001 (.001)	-.001 (.001)
Manufacturing employment share	-.062 (.019)	-.031 (.015)	.077 (.072)	.067 (.062)
Agriculture employment share	2.073 (.383)	1.541 (.319)	-.197 (.385)	-.171 (.322)
Welfare	.010 (.002)	.008 (.002)	.004 (.009)	-.001 (.008)
Foreign-born population (*1,000)	—	6.846 (1.142)	—	5.673 (1.101)
Distance	-.001 (.001)	.001 (.001)	-.001 (.001)	.001 (.001)
Fixed effects	No	No	Yes	Yes
Adjusted R-squared	.174	.322	.436	.536

NOTES: The dependent variable is the fraction of persons immigrating from one of eighteen countries to one of forty-nine states in 1982 or 1992, a total of 1,764 observations. See the text for details of the data. Heteroscedasticity-corrected standard errors are shown in parentheses.

Table 4
Responsiveness of Immigrants to Welfare Differences By Country of Origin

Country	Estimated coefficient	Standard error
Canada	-12.612	6.792
China	7.826	3.779
Colombia	3.984	3.975
Cuba	6.463	5.125
El Salvador	6.427	3.718
Germany	-.466	4.058
Guyana	5.821	4.180
Haiti	4.323	4.119
India	6.259	3.900
Iran	5.584	3.978
Jamaica	4.917	4.064
Mexico	22.454	16.688
Philippines	10.694	4.438
Poland	1.444	4.083
South Korea	5.338	3.924
Former Soviet Union	7.573	4.034
United Kingdom	-.362	3.885
Vietnam	15.289	7.098

NOTES: Shown is the coefficient on a variable measuring the maximum AFDC and food stamps payment interacted with an indicator variable of country of origin. The dependent variable is the number of persons immigrating from one of eighteen countries to one of forty-nine states in 1982 or 1992. See the text for details of the data and specification.

not significantly different from zero. The number of immigrants from Canada is negatively correlated with welfare benefits. The F -test statistic of whether all of the coefficients displayed in Table 4 are equal is 3.37, which rejects the hypothesis that they are equal at the 1 percent level.

Conclusions

Much of the motivation for eliminating most immigrants' access to federally funded public assistance benefits was concern that persons migrate to the United States because of the availability of welfare benefits. The 1996 welfare law makes noncitizens ineligible for food stamps and SSI payments and allows states to discontinue AFDC, Medicaid, and other public assistance benefits to noncitizens. Several states intend to continue extending benefits to noncitizens, whereas others are likely to cut off benefits, widening the already substantial differences in welfare benefits across states. These differences in policy create concern that immigrants will move in response to interstate differentials and that states that continue to allow immigrants to receive welfare payments will become welfare magnets.

In this article, I find little evidence to support the contention that new immigrants will choose their destinations based on welfare generosity. New immigrants are attracted to areas with large immigrant populations. Because earlier immigrants are disproportionately located in high-welfare states, it may appear that high welfare benefits attract immigrants. However, immigrants do not respond to interstate differentials in welfare generosity but rather to differences in the sizes of the foreign-born populations. Immigrants are also attracted to a specific subset of states—namely California, New York, Florida, and Texas—and do not respond to changes in welfare benefits within states over time. The recent historical evidence gives little reason to be concerned that new immigrants will choose their destinations based on the welfare differentials created by the new welfare law.

Notes

I thank Lori Taylor and Jason Saving for helpful comments.

¹ Refugees are eligible for benefits the first five years they are in the United States, and legal immigrants who have worked in the United States for at least ten years without receiving any federal means-tested benefits remain eligible for federally funded benefits. The eligibility rules for immigrants who have received U.S.

citizenship are the same as for natives.

² Previously, the federal government partially reimbursed states' AFDC and Medicaid costs. The 1996 law replaces these federal payments with block grants to states, and the AFDC program was replaced by Temporary Assistance for Needy Families (TANF).

³ See Hutt (1996). Current welfare statistics generally do not distinguish between legal and illegal immigrants. Although illegal immigrants have always been barred from receiving federally funded welfare benefits, the rule has not been enforced until now. Similarly, a provision stating that the income of an immigrant's sponsors is used in determining an immigrant's eligibility for public assistance is now supposed to be enforced. The law also requires states to report known illegal aliens to the U.S. Immigration and Naturalization Service. States can enact laws to continue benefits to illegal immigrants under state-funded programs.

⁴ Douglas Besharov, a senior fellow at the American Enterprise Institute, quoted in Havemann (1996).

⁵ Adult males were present in less than 10 percent of AFDC-recipient households in 1979, according to Blank (1985).

⁶ The countries are Canada, China, Colombia, Cuba, El Salvador, Germany, Guyana, Haiti, India, Iran, Jamaica, Mexico, the Philippines, Poland, South Korea, the former Soviet Union, the United Kingdom, and Vietnam. The immigrant data are for fiscal years, which run from October of the preceding year through September of the given year.

⁷ The immigration data are from the INS publication *Statistical Yearbook*. The data include the country in which immigrants were born, which is assumed to be the country of origin.

⁸ The unemployment rate and manufacturing employment data are from the Bureau of Labor Statistics (BLS) publication *Employment and Earnings*. The income data are from the Bureau of Economic Analysis publication *Survey of Current Business*. The metropolitan population and tax data are from the U.S. Bureau of the Census publication *Statistical Abstract*. The agricultural employment data are from the BLS publication *Employment and Wages*. The immigrant stock data are from the 1980 and 1990 censuses.

⁹ All fiscal-year variables are lagged one year, and all annual variables are lagged two years to avoid any overlap in the time periods of the dependent variable and the covariates.

¹⁰ The distance data were graciously supplied by Jeff Gorham of the U.S. Department of Transportation, Bureau of Airline Statistics.

¹¹ Any shock in the number of immigrants in a given year will be reflected in the next census count of immigrant stock; a linear interpolation of the immigrant stock will therefore make the covariate correlated with the error term. Although Buckley (1996) recognizes this problem and attempts to correct it using two-stage least

squares estimation, the equation he estimates is unidentified.

¹² The SSI data are from the U.S. House Ways and Means Committee. All results not included in tables here are available from the author on request.

¹³ The Medicaid data are average payments per recipient and are from the *Statistical Abstract*.

¹⁴ The variables interacting the country and time fixed effects control for differences across countries in the number of immigrants, but they also capture other unmeasured variables. The interactions are omitted in the results shown in Table 3, but including them does not change the reported results. A dummy variable for the year 1982 (a time fixed effect) is included here instead.

Appendix

Sensitivity and Specification Checks

The regressions results indicate that immigrants' locational choices have not been affected by changes in welfare benefits within states. The estimated coefficients on the welfare variable are imprecisely estimated, however, and may be subject to bias from several sources. The estimates may be subject to multicollinearity or endogeneity problems. In addition, a failure to control fully for differences across states in the cost of living may bias the estimates. Finally, California, a potential outlier because of its large number of immigrants and high welfare benefits, may be driving the results. The sensitivity of the results to each of these potential problems is examined.

Multicollinearity may underlie the large standard errors estimated for many of the variables, making it difficult to determine what affects immigrants' locational choice. An examination of the correlations between the covariates shows that per capita income, taxes, and maximum welfare benefits are highly correlated.¹ Equation 1 was therefore reestimated without the income and tax variables, and the results are similar to those reported in Tables 2 and 3. The welfare variable is not correlated with the number of immigrants after controlling for the stock of previous immigrants in equation 1 and fixed effects in equation 1'.²

The estimates reported in Tables 2 and 3 are also potentially subject to endogeneity bias because the number of immigrants may affect state economic conditions. In particular, policymakers may cut welfare benefits in response to high levels of immigration. If welfare and immigration are simultaneously determined, the estimated coefficient on the welfare variable may be biased and inconsistent. However, the specification estimated here should not be subject to endogeneity bias because the right-hand-side variables are lagged. One of the usual means of correcting for endogeneity bias in a panel is first-differencing the data and then using an instrumental variables estimator in which the instrument is lagged values of the right-hand-side variables (Holtz-Eakin, Newey, and

Rosen 1988). The method used here is a reduced-form version of the same procedure.

Another specification concern is that equation 1 may not fully control for cost-of-living differences across states that affect immigrants' locational choices. Equation 1 does not contain variables that explicitly capture differences in the cost of living across states or within states over time; however, the state fixed effects control for time-invariant differences across states. To control more fully for differences within states, equation 1 was reestimated and a variable that measures the real median rent in the state was included. Housing, the second largest expenditure category for poor households, is likely to be the largest source of within-state variation in the cost of living over time.³ Controlling for housing costs does not significantly affect the estimated coefficient on the welfare variable in any of the specifications.

The large number of persons migrating to California and the state's high welfare benefits may drive the estimation results that find a positive correlation between immigration and welfare in some specifications. Borjas (1996) finds that welfare is not correlated with the distribution of immigrants across states when California is omitted from his analysis. If California is omitted from the data used here, the results indicate a weaker correlation between the number of immigrants and welfare. The estimated coefficient on the welfare variable is not positive and significant in any of the specifications.

¹ The partial correlation between income and welfare benefits is 0.50, and the partial correlation between taxes and welfare benefits is 0.46. The Belsley condition number for the regressions results reported in Table 2, column 2, is 27.6, which is above the acceptable level.

² The condition number for the equation corresponding to Table 2, column 2 without the income and tax variables is 11.4, indicating that multicollinearity is not a problem in the reestimated specification.

³ The median rent in a state is from the 1980 and 1990 censuses. The average poor family spent more than 22 percent of income on shelter in 1992–93, compared with about 16 percent for a nonpoor family (Federman et al. 1996).

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