The Closing of the American West

by

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Abstract: Based on 1890 returns, the U.S. Bureau of the Census declared the frontier closed. In 1893, Frederick Jackson Turner began expressing his well-known thesis regarding the importance of the frontier in America's growth and development. Freely-available land depleted over time and frontier culture changed a great deal; however, one important aspect of the frontier remained--people continued moving west. It was not until 100 years later, during the 1990s, that net migration to the West ceased. Why? That is the question addressed in this paper, which uses modified gravity models of interstate migration based on 1970, 1980, 1990, and 2000 census data in combination with seemingly unrelated Tobit regressions to demonstrate that the concentration of the foreign born in the West has been an important factor in the native-born population departing the West and tending to not move there.
Introduction

Based on 1890 census returns, Robert P. Porter, Superintendent of Census (1891), declared the frontier closed: "Up to and including 1880 the country had a frontier of settlement, but at the present the unsettled area has been so broken into isolated bodies of settlement that there can hardly be said to be a frontier line. In the discussion of its extent, its westward movement, etc., it can not, therefore, any longer have a place in the census reports." Following this pronouncement and building on it, in 1893 Frederick Jackson Turner (1893, p. 199) expressed his well-known thesis regarding the importance of the frontier in American history: "Up to our own day American history has been in a large degree the history of the colonization of the Great West. The existence of an area of free land, its continuous recession, and the advance of American settlement westward, explain American development." However, after 1890 one important aspect of the frontier remained--people continued moving west. It was not until 100 years later, during the 1990s, that net migration to the West ceased. Why? That is the question addressed in this paper, which uses modified gravity models of interstate migration based on 1970, 1980, 1990, and 2000 census data in combination with seemingly unrelated Tobit regressions to demonstrate that the concentration of the foreign born in the West has been an important factor in the native-born population departing the West and/or not entering there.

Table 1, which is based on decennial Census data (for the last half of each decade) and Current Population Survey (CPS) data (for the first half of each decade), clearly shows the discontinuance of net internal migration to the West beginning at about 1990. Prior to 1990, the West experienced fairly strong net in-migration, but after 1990 net internal migration to the West was either negative or negligible. The Northeast and Midwest had strong net internal out-migration during each period, whereas the South had net in-migration that increased from modest levels during the late 1950s until at the present it is the only Census region to experience persistent net internal migration. Of course, prior to the mid-1950s, the South had persistent and strong net out-migration.

Moreover, the 2009 CPS distinguishes annual net internal migration for 2008-2009 for the
native born and the foreign born. For this year, the West experienced positive net migration of 20,000 with 50,000 net foreign-born persons entering the West from other U.S. regions, but 30,000 net native-born persons departing the West. This observation, along with the persistent finding that immigrants have a strong tendency to settle in areas with co-ethnics, has caused us to focus on the foreign born and to distinguish between the native born and the foreign born in the analysis that follows.

**Background**

A number of studies have examined the internal migration of the foreign born in the United States. The basic conclusion of much of this work is nicely summarized in the early study by Filer (1992, p. 267): "It is clear that there is a strong relation between the arrival of immigrants in a local labor market and the mobility patterns of native workers. The higher the concentration of recent immigrants in an area, the less attractive that area appears to have been for native workers." Filer's focus is on Standard Metropolitan Statistical Areas and 1975-80 net internal migration flows. Bartel and Koch (1991) study the same period, but use a different econometric approach to study gross flows and disaggregate the migrants into natives and various country-of-birth groups. They arrive at roughly the same conclusion: "white natives are more likely to move from those cities with a high concentration of foreign born, while ethnic natives, like the immigrants, prefer to stay in cities with a high concentration of individuals from their country of ancestry" (p. 130).

More recent studies (e.g., Kritz, Gurak, and Lee, 2011) examine various groups of internal migrants and more recent periods (such as 1985-90 and 1995-2000), but many of these studies arrive at essentially the same conclusion. For example, Frey and Liaw (2005) use microdata and logit analysis to study both in and out interstate migration patterns for 1995-2000 and, after controlling for numerous personal and area characteristics, conclude that "Our results generally show no race-specific flight of whites alone from (states with large numbers of low-skilled immigrants), but rather show an accentuated out-migration of all race-ethnic groups from states with ... high levels of
foreign-born immigration" (p. 246, parentheses ours). Moreover, they find that "for every 100 new low-skilled immigrants to California there would be a net out-migration of fifty-one low-skilled domestic migrants" (p. 213). Similarly, Borjas (2006), using data from the 1960, 1970, 1980, 1990, and 2000 Censuses and focusing on various skill groups, finds a powerful effect of immigrants on native internal migration amounting to two fewer natives wishing to live in a state if 10 more immigrants settle there. The effect is somewhat greater at the metropolitan level, and more in line with the estimates reported above of Frey and Liaw.

Not all researchers unequivocally accept such conclusions. Butcher and Card (1991) argue that this general conclusion is limited to New York, Los Angeles, and Miami. Based on their use of CPS data for the 1980s, they conclude that for 21 other cities "native in-migration flows during the 1980s were positively correlated with inflows of recent immigrants" (p. 294). Similarly, Kritz and Gurak (2001) find little support for the hypothesis that native men migrate away from states with heavy immigrant concentration over the 1985-90 period. Regarding net migration, 1975-80 and 1985-90, Wright, Ellis, and Reibel (1997) reach a similar finding, as does Card (2001).

That immigrants affect the location decisions of actual and potential internal migrants is not new to the United States. Collins (1997) shows convincingly that during the late 19th and early 20th centuries, when immigration to northern cities ebbed, migration from South to North flowed, whereas when immigrant settlement in these cities surged, northward migration ebbed. Thus, historically, broad regional growth patterns were significantly affected by immigration and by immigration settlement patterns. Even during the Great Depression, when immigration was very low and immigrants were not a major issue, internal migrants to U.S. cities caused the out-migration of longer-term residents. Boustan and Fishback (2010) show that during the 1930s for every 10 new migrants 1.9 residents departed; moreover, another 2.1 individuals were unable to find a relief job and 1.9 more moved from full-time to part-time work.

Major changes in regional location patterns are not uncommon, and in one way or another
interregional migration typically plays an important role. The western United States was populated primarily by migrants from the East. The so called Great Migration from the South to the North was fueled by economic opportunities in the North that did not exist in the South. The more recent rise of the South was in turn due to migration of retired and other persons from North to South.

Our study is somewhat different than earlier work in two dimensions. First, because the natives and the foreign born appear to respond differently to immigrant concentrations, we study separately the internal migration decisions of both the native born and the foreign born, as others have done before us, but our econometric approach is different. Second, like Borjas (2006), we do this over a long span of time, 1965-70 to 1995-2000. Our econometric approach allows us to study temporal changes in the internal migration patterns of natives and the foreign born, which changes have not been previously studied. In a straightforward way, the approach also allows us to assess the statistical significance of the estimated parameters for natives and the foreign born in a given period.

Data

State-to-state migration data (for the coterminous states) for the native born and the foreign born were generated from the Public Use Microdata Samples (IPUMS) of the 1970, 1980, 1990, and 2000 Censuses. The data refer to the migration of persons five years old and over during the five-year interval before each Census. State-level data are not ideal because the states do not represent distinct labor-market areas. However, interstate migration flows have been studied by others (e.g., Borjas, 2006) in important work and have the advantage of sufficient numbers of observations on migrants and also on destinations for each potential origin. These advantages are especially important when the investigator is interested in distinguishing various population subgroups, such as the native born and the foreign born. Another shortcoming of the data is that they refer to all persons five and over and not just adult decision makers. Again, the interstate flows get very thin, especially for the foreign born, when the data are stratified. Finally, the study of total state-to-state population flows has a long history (Greenwood, 1975), but such flows rarely have been studied in the present context.
Depending upon year, the IPUMS files differ in size. For 1970, two samples, each containing one percent of the population, were combined to yield a two-percent sample. 1980 data were constructed from a single five-percent sample. 1990 and 2000 data were constructed by our combining one-percent and five-percent samples to yield six-percent samples. Migration refers to the number of persons five years of age and over who resided in state i five years earlier and in state j at the time of the Census. We transform the respective migration flows into rates by dividing by the group-specific at-risk to migrate population of the origin state. The at-risk population is the population at the end of the migration interval plus out-migrants minus in-migrants. The total number of observations for each year is 2,256. Means and standard deviations are reported in Table 2.

An issue with which we must deal is zeros in the dependent variable. For the native born, we have no measured flow between the following numbers of states: 46, 16, 6, and 6 for 1965-70, 1975-80, 1985-90, and 1995-2000, respectively. The respective numbers are somewhat higher for the foreign born: 788, 488, 258, and 188. The zeros constitute an issue with which we must deal. They also prevent us from estimating double-log models, which have been commonly estimated in modified gravity models. Mean out-migration propensities (to all other states) were higher for the foreign born than for the native born: 17.9 versus 9.4 for 1965-70, 7.5 versus 5.4 for 1975-80, 20.0 versus 10.7 for 1985-90, and 15.0 versus 9.7 for 1995-2000.

The construction of the amenity variables is different than in previous studies, and, we think, an improvement. With the exception of the percent of foreign population (t-10) and the seacoast variables discussed below, the amenity variables (population density and the temperature variables) are built up from county-level data that are population weighted. This procedure yields a measure that is more reflective of the amenities that are experienced by the population from which the migrants are drawn or that the migrants experience at their destination.

The Model

The model used here is a modified gravity model, which is a common approach in studying
aggregate place-to-place migration. The basic gravity model contains origin and destination population as well as distance between the two states. The model is "modified" by the inclusion of other variables that are expected to influence interstate migration. These variables are origin and destination state characteristics and other variables that provide linkages between states. The dependent variable (or migration rate) is defined above. The model contains four vectors of independent variables: (1) differential economic returns; (2) costs of migrating; (3) differential amenities; and (4) regional fixed effects. The model with four equations (one for each period) for each of two groups (natives and the foreign born) is of the following form:

\[
M_{ijt} / P_{it} = \sum_n (\beta_{int} X_{int}) + \sum_m (\beta_{jmt} Y_{jmt}) + \sum_k (\beta_{ijkt} Z_{ijkt}) + e_{ijt},
\]

where \( M_{ijt} \) refers to gross migration from state \( i \) to state \( j \) in period \( t \), \( P_{it} \) is the group-specific at-risk population of \( i \) at the beginning of the migration interval, \( \beta_t \) refers to estimated parameters for a specific period, the \( X \)'s, \( Y \)'s, and \( Z \)'s are vectors of independent variables, \( \sum_n \) refers to \( n \) variables that relate to the origin state, \( \sum_m \) refers to \( m \) variables that relate to the destination state, \( \sum_k \) refers to \( k \) variables that relate to specific pairs of states, and \( e_{ijt} \) is the error terms for each period. Comparable variables are employed for each period and each group of migrants, except that where possible the explanatory variables are specific to the group. This specificity refers to income and population. Except for certain dummy variables and a distance variable, the data differ in each regression. Errors are assumed to be correlated across periods (nonzero covariances) but uncorrelated within periods.

The vector for differential economic returns contains four characteristics of both state \( i \) and state \( j \): median income (one year before the census was taken, group specific, and CPI adjusted to 1970 dollars), employment growth during the previous 4-year period expressed as the ratio of year \( t \) (e.g., 1994) to year \( t-4 \) (e.g., 1990), percent employment in manufacturing (\( t-10 \) at the time of the prior census), and percent of population with 16 years or more of schooling (\( t-10 \)). The vector for costs of migrating contains the basic variables of the gravity model plus migrant stock: distance from state \( i \) to state \( j \), population of \( i \) and \( j \) (both relating to at risk and group specific), and number of
persons born in i and living in j at the time of the prior census (Greenwood, 1969).

For both state i and state j, the amenities vector contains both natural amenities and social amenities. These latter amenities may reflect the influence of all sorts of factors, such as job-market competition, cultural affinity, cultural dissidence, and more. This vector includes: percent foreign-born population (t-10), with a distinction between Hispanic and other (but percent Hispanic refers to the percent of the foreign-born population that was Hispanic), population density (t-10), January temperature, and a dummy variable indicating a seacoast. The variable for the foreign born is broken into Hispanic and other in an effort to distinguish immigrants with lower skills and education from those with higher skills and education and perhaps cultural differences between various immigrant groups. Earlier work (Borjas, 2006; Walker, Ellis, and Barff, 1992) has suggested that less-skilled natives are most likely to migrate in response to immigrants, and we presume that the immigrants to whom they respond are those that compete with them in local labor markets.

The vector for regional fixed effects contains dummy variables for i and j states within the following census regions with Northeast as the benchmark: South, Midwest, and West with California broken out of the West in some regressions. Breaking California out follows the findings of Borjas (2006), Frey and Liaw (2005), and others that this state warrants unique treatment due to its size and its powerful attraction for immigrants and then once powerful attraction for natives.

The Econometric Approach and Findings

The clustering or censoring of zero migration flows, especially for the foreign born, must be taken into account if natives and the foreign born are to be compared and contrasted. The zeros prevent our estimating double-log regressions, which is a common approach in estimating modified gravity models. Rather, we estimate linear regressions. A common approach to dealing with the problem of zeros in the dependent variable and the approach we adopt is to estimate a Tobit regression (Tobin, 1958). However, we also stack the data and estimate the Tobits in the context of seemingly unrelated regression (SUTR) because the errors are likely to be correlated for the natives.
and the foreign born in any given period (Zellner, 1962). The SUTRs are estimated in two ways. First, we pool the data and estimate the modified gravity model separately for the native born and the foreign born. Second, we stack the data for the native born and the foreign born and estimate the SUTR for each period to determine the significance of the differences in the estimated coefficients.²

**Results**

For variables for which there is an origin and destination measure, if the origin coefficient is positive, then the variable positively influenced migration out of the origin (push effect). If the destination coefficient is positive, then the variable attracted migrants into the destination (pull effect). Regression results for the pooled regression are reported in Table 3, where numerous differences between the native born and the foreign born are evident. The relevant t-statistic is reported below each coefficient. If the Wald test reveals that the coefficient for the native-born is statistically significantly different from the analogous coefficient for the foreign-born that also is indicated in the Table. The pseudo R-Squared values are all reasonably high so the fits are reasonably good.

Period effects clearly are present in the results reported in Table 3, with negative effects for the native born but positive effects for the foreign born. Thus, over time, other factors held constant, whereas internal migration rates of the native born were falling those of the foreign born were rising. Differences in regional effects also are evident. For example, other things equal, the foreign born but not the native born were attracted to the Midwest. Moreover, the foreign born tended to leave the South, but the native born tended to stay in this region. On the other hand, whereas the foreign born were attracted to the South, the native born were not. Each group was both repelled from the West and attracted there, but the coefficients are significantly higher for the foreign born.

Probably due to their initial location in coastal gateway states, the foreign born were much more deterred by distance than the native born. The foreign born also had a much stronger tendency to be
drawn to states with large foreign-born populations than the native born had to be attracted to states with large native populations. Whereas the native born were attracted to high-income states, the foreign born were attracted to low-income states. While employment growth had little effect on the native born, the foreign born were discouraged from leaving states with relatively high rates of employment growth and were attracted to these same states. Foreign concentrations in potential origin states encouraged the out-migration of the native born but discouraged the out-migration of the foreign born. Such concentrations in potential destinations significantly discouraged the in-migration of natives. However, the Hispanic share of the foreign born had little effect on the foreign born and actually proved to be attractive to the native born. Each group, but especially the foreign born, was attracted to warm climates and to coastal states.

Our next step is to estimate the models for the native born and the foreign born for each period. Here we stack the data and again estimate the models by means of seemingly unrelated Tobit regressions. Empirical results of the pair-wise SUTR for the native-born and foreign born are reported in Table 4. Each bordered column describes a different period, and hence a different regression. As in Table 3, the relevant t-statistic is reported below each coefficient. The main coefficients of the gravity model generally are significant. Distance is negative, and for two of the four periods deterred the interstate migration of the foreign born significantly more than the native born. However, some caution should be taken in interpreting such coefficients. Elasticities estimated at the means are -1.30 for natives for 1995-2000 and -0.96 for the foreign for the same period. For each year, destination population provides a significantly greater draw for the foreign born than for the native born.\(^3\) Numerous prior studies show that immigrants have a strong tendency to locate close to co-ethnics. Thus, the existence of a difference is not surprising, but the magnitude of the difference is. Migrant stock is positive and highly significant for each group.\(^4\)

Origin family income is typically not significant, with the exception of 1995-2000 for each group when their out-migration was less from higher-income states. Native in-migration was persistently
less to high-income states.\textsuperscript{5} In a number of periods, higher rates of out-migration, especially of natives, occurred from states with relatively rapid employment growth, which suggests that labor turnover rates are relatively high in such states. Each group was strongly attracted by job growth during the last two periods. Manufacturing jobs discouraged the out-migration of each group, but were never especially attractive. Each group had a strong tendency to locate in states with relatively well-educated populations, but this relationship was significantly stronger for the foreign born.

For origins and destinations, the model contains two different foreign concentration variables. The first is percent foreign born in a state; the second focuses on who the foreign born were in each period by measuring the percentage of the foreign born who were Hispanic. For origins, foreign concentration tended to discourage the out-migration of the foreign born, but significantly only during 1985-1990 and 1995-2000. During the three earliest periods, the native born tended to move from states with relatively heavy concentrations of the foreign born. Except for the foreign born during 1965-1970, foreign concentration actually attracted migrants of each group. Hispanic share of the foreign born had little effect on the out-migration of either group, but higher shares in potential destination states encouraged the in-migration of the foreign born during the two earliest periods but discouraged the in-migration of the native born during 1985-1990 and to a lesser extent during 1995-2000.

Higher population density discouraged the out-migration of each group, but also tended to discourage in-migration. During the last two periods the foreign born tended to not leave states with warm winter climates, and in each period they were attracted to such states. Other things equal, natives were significantly attracted to these states (and discouraged from leaving such states) only during 1995-2000. Each group, but especially the foreign born, had a significant tendency to leave coastal states, which may have been a reflection of their tendency to initially locate in such states. Each group also was attracted to coastal states, but the attractiveness of such states for the foreign born tended to taper off during more recent periods.
In terms of regional fixed effects, our focus is on the West. Recall that the regional effects are relative to the benchmark region, which is the Northeast. For each period, each group had a significant tendency to leave the West. Except for 1995-2000, the native born had a significant tendency to migrate to the West. Moreover, the foreign born tended to migrate to the West during 1975-1980 and 1985-1990, but not during 1995-2000. Clearly, something happened to change the pattern of westward migration. To delve further into these changes, we proceed in three ways. First, we interact the two sets of foreign variables with the West dummies. Then, due to its significant position in the West and due to its attraction for the foreign born, we break California out of the West. Finally, we interact the employment-growth variables with the foreign concentration variables and with the Hispanic variables. If, as some earlier research has suggested (Frey and Liaw, 2005), less-skilled whites are escaping competition with less-skilled immigrants or avoiding such competition by not moving to areas where the less-skilled immigrants locate, these interaction terms ought to reflect such behavior.

In Tables 5, 6 and 7, we do not report a large portion of the table because the results for the omitted coefficients are close to those reported in Table 4. Rather, we focus on those variables that are most relevant to the interactions we introduce. In Table 5, the effect for the West as a destination for the native born during 1995-2000 is now given by

$$\frac{\partial m}{\partial w} = -0.0440 + 0.0181*\text{FBconc}_j - 0.0004*\text{HISPshare}_j.$$  

The interaction between the foreign concentration variable and the West is positive and statistically significant; the interaction with the Hispanic share is not significant. In fact, for the native born the Hispanic share interacted with the West is not highly significant for any year. This finding is similar to a comparable finding of White and Imai (1994) that suggests that during 1965-1970 and 1975-1980 the Hispanic population share had little influence on native internal migration. During 1975-1980 and 1995-2000, higher foreign concentrations caused the native born to depart the West, but higher fractions of Hispanics among the foreign born never influenced the out-migration of natives.
If we are to assess why migrants on net stopped moving to the West after 1990, we also must assess why they did not stop moving to the South. During 1985-1990 both regions provided a strong attraction to migrants, but after 1990 the West and South parted company as attractive destinations. Thus, we also interacted the foreign concentration variables with the dummy for the South. In terms of Hispanic share, the results of the interactions are remarkably different for the West and the South. Higher concentrations of the foreign born in the South were attractive to both groups during 1985-1990 and during 1995-2000 (and in the West as well). Moreover, with the exception of natives during 1975-1980, each group was attracted to southern states with higher shares of Hispanics among their foreign-born populations. The reasons for these differences compared to the West are not clear. The national origins of Hispanic immigrants in the South and West likely differ. However, it is not clear why such differences should so dramatically influence the internal migration patterns of the native born. For both the West and the South, higher foreign concentrations encouraged out-migration of natives during the 1990s.

Between 1990 and 2000, the mean share of immigrant population in the West grew from 6.1% to 8.5%, whereas the shares of immigrants who were Hispanic grew from 30.7% to 51.0%. California was mainly responsible for these dramatically higher percentages; the percent immigrant increased from 24.5 to 30.6 and the percent of the immigrants who were Hispanic grew from 48.4 to 51.1. When California is broken out of the West (Table 6) and assigned its own dummy, the coefficient for California as a destination is negative and highly significant for the native born for 1995-2000, but not for 1985-1990. Foreign concentration now tends to drive the native born population out of the West during 1995-2000, but not during 1985-1990. However, in all periods the western states attracted both the native born and the foreign born if the states had relatively high percentages of their populations made up of the foreign born. Relative to the immediately prior period, during 1995-2000 western states with high percentages of their foreign-born populations who were Hispanic had lower rates of in-migration. Thus, the conclusions are mixed, with the foreign born causing some movement
out of the West, but also some movement into this region. Clearly, California became a less desirable destination for both the native born and the foreign born after 1990.

Our final interaction is between employment growth and each of the foreign concentration variables (Table 7). If foreign concentration or Hispanic share are influencing internal migration by making jobs less attractive, these interactions ought to reveal the linkage. Foreign concentration had little influence on the attractiveness of jobs for the native born; their out-migration response to jobs was never appreciably influenced by the foreign born. Higher fractions of Hispanics among the foreign born significantly influenced the native out-migration response to job growth only during 1965-1970. Job growth in states with higher percentages of the foreign born was significantly more attractive to both groups during 1975-1980 and during 1995-2000. Jobs were more attractive to the foreign born in states with high Hispanic shares during 1965-1970 and 1985-1990, but less attractive during 1975-1980 and 1995-2000. Others, such as Frey and Liaw (2005), argue that the native out-migration response to immigrants is due to those with less skill departing states where they presumably compete with less-skilled immigrants. Our data are not sufficiently disaggregated to distinguish such an effect.

Thus, the job-growth interactions do not reveal any strong findings that indicate that competition for jobs between the native born and the foreign was significantly influencing internal migration patterns. It is noteworthy that whereas the coefficients on the West dummy are both positive and significant for 1995-2000, that on the origin variable is about twice as high as that on the destination variable. In other years the coefficients also are positive and significant but their relative magnitude is reversed.

**Summary and Conclusions**

In this paper we have estimated modified gravity models of interstate migration for four periods (1965-1970, 1975-1980, 1985-1990, and 1995-2000) in an effort to determine why net migration to the West has ceased after decades of heavy net in-migration. Building on the earlier
work of others that shows a strong migration response of the native born to the location of the foreign born, we specifically distinguish internal movements of the native born and the foreign born. California appears to play a critical role. During the 1990s for the first time in many years, if not ever, California became a less desirable destination for each group with the foreign born evading this state even more than the native born. Many factors not accounted for in our models could be responsible for this change--factors such as high housing prices, high taxes, congestion, and more.

Concentrations of the foreign born appear to have played some role in encouraging out-migration from the West (and the South) but this was not an especially powerful role and for most part the influence was important only during the 1990s, which may account in part for the closing of the West. Among the foreign born in the West, the presence of Hispanics was never especially important, but on the contrary, in the South both natives and the foreign born were attracted to states with an Hispanic presence among the foreign born.

Overall, our results provide some insights into why the American West closed after about 1990. The foreign born played some role, but perhaps not a central role. Because California appears to be critical, more focus should be placed on California. One possibility is that the foreign born played an important role in California in ways that are not apparent in our work. Then, of course, many other forces may be at play. The foreign born may influence the native born through many diverse channels and certain of these channels yield positive effects for the native born (Greenwood, 1994). Most studies that report an out-migration response of natives to immigrants do not identify exactly why such a response occurs. Thus, we have little idea whether the response is due to job competition, cultural differences, school quality, or other factors. Moreover, whereas some natives may be negatively impacted by the immigrants, others are positively affected, and most probably are not influenced in any obvious direction that they are able to identify.

For reasons that are not entirely clear at this time, national internal migration rates in the United States have recently fallen appreciably (Malloy, Smith, and Wozniak, 2011). Some may be
tempted to think that this fall was responsible for the closing of the West. However, this fall in rates, because it occurred during the most recent decade and not during the 1990s, is unlikely to explain the closing of the West.
Footnotes

1. The 1960 Census does not distinguish the foreign born, so we do not study data from this Census.

2. We attempted to stack all years and estimate the four-equations as a single system. However, after iterating for three days, the model yielded no solution.

3. The elasticities estimated at the means favor the foreign born, but nearly as much as suggested by the coefficients themselves. For 1995-2000 these elasticities are 0.28 for the foreign and 0.10 for the native born.

4. The migrant-stock variable should have much more relevance for the native born than the foreign born since it refers to states of birth. However, if each group followed the same migratory paths, it may also have some relevance for the foreign born.

5. Many early place-to-place studies of internal U.S. migration find unexpected signs on origin and destination income variables in modified gravity models (Greenwood, 1975).
References


Table 1. Five-Year Net Migration for U.S. Regions, 1955-1960 to 2005-2010 ('000)

<table>
<thead>
<tr>
<th>Period</th>
<th>Northeast</th>
<th>Midwest</th>
<th>South</th>
<th>West</th>
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<td>1955-60</td>
<td>-639</td>
<td>-842</td>
<td>56</td>
<td>1,426</td>
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<tr>
<td>1965-70</td>
<td>-715</td>
<td>-637</td>
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