
IMMIGRANT LOCATION DECISIONS AND OUTCOMES

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Abstract

The majority of the latest wave of immigration has gone to only a handful of the largest U.S. metropolitan area. The robust economic performance of these “immigrant centers” has sparked a debate about merits of attracting foreign-born immigrants as part of a strategy to stem population loss and spur economic growth in economically lagging metro areas. However, any policy decisions require a better understanding of the nature and spatial implications of immigrants’ location decisions. We employ a non-linear model that uses two key individual location decision factors to predict the distribution of foreign-born citizens among metropolitan areas at three (U.S. Census) points in time: 1980, 1990, and 2000. The model guides an examination of the consequences in time of spatial distribution of immigrants based on the assumption that location decisions are driven by concentrations of co-ethnics more than employment opportunity.

INTRODUCTION

Throughout American history, immigration has affected culture, politics, and the economy in momentous ways. Essentially a land of immigrants, the US has absorbed repeated waves of newcomers contributing to the country’s economic growth, while aspiring to improved quality of life. Immigrants in search of economic opportunity have had a presence in all economic sectors (Winnick, 1990; Muller, 1993).

The arrival of immigrants stimulates local housing construction, consumption, and demand for services, as well as commercial and banking activities, which in turn stimulate economic growth. Thus effects of immigration are no different from those of natural population growth (births in excess of deaths) and in-migration (1) from other regions of the country. However, diversity of minds and ways of life accompanying immigration have the added benefits of new market demands for different products and services and new marketable ideas that can contribute to economic diversification of the economy and add to its robustness.

An added argument in favor of immigration is that driven to the US by economic aspirations, immigrants may arrive with a resolve to contribute and be rewarded by the market that might exceed that of the native-born population. Researchers recognize the role played by immigrants' personal ambitions and have devised means to measure their entrepreneurship levels relative to native-born Americans (Winnick, 1990; Borjas, 1990). On average, immigrants' drive and place in society lead to a higher self-employment. Muller (1993, 1998) found a positive correlation between rates of in-migration and job growth, as well as a positive correlation between the percentage of the foreign-born and the economic well being of natives. This, in conjunction with work by Richard Florida (2000; 2002) suggesting that the greater the diversity of metropolitan areas, the more attractive they are to certain desirable industries such as high-tech, strengthens the case for beneficial effects of immigration.

Such economic arguments have historically garnered support for immigration, but counter-positions exist. Sometimes rooted in xenophobic tendencies, and at other times in fear over job loss and wage deflation, resistance to immigration has been a very powerful political and social force (Simon, 1989; Borjas, 1990; Muller, 1993.) Arguments leveled against unimpeded immigration have nationalistic and economically intuitive appeal, which accounts for periodic moves throughout history to restrict or to selectively discourage immigration. Often, arguments for, or against, immigrants from specific regions are couched in economic terms, with some of the newcomers predicted to become an economic burden and others expected to boost it.

During the rise of industrialization in the U.S. in the late Nineteenth and early Twentieth Centuries, for example, immigration helped fuel economic growth by meeting the labor demand of northern manufacturers (Mooney, 1990; Denison, 1962). However, as globalization put increasing pressure on these industries during the 1970's and 1980's, wages and employment opportunities for low-skilled workers were negatively affected by the presence of immigrants with similar skills (Kuznets, 1977 and Defreitas & Marshall, 1983 as cited in Simon, 1989). It follows that the immigration's economic effects are dependent on local or regional characteristics such as the state of the economy at arrival, the nature of the local demand, and the supply of certain skills.

The result of the perennial tension between expectations of economic benefits from immigration and fear of a reduction in the number of jobs available to all others and of increasing social welfare expenditures results in an ambiguous, and often inconsistent, national policy on immigration. Mixed political motives are overlaid on the cyclical nature of the American economy that at times demands more labor while at other times cannot employ all Americans at desired wage levels.

There is currently a strong impetus to understand both the mechanics of immigration and its effects on the economies of urban areas. Researchers contend that data, showing economic growth and rising per capita incomes following waves of immigration, provide a strong rationale to conclude that immigrants improve the standard of living of the host population (Borts & Stein, 1964; Chiswick, 1982; Kuznets, 1964; Mooney, 1990; Muller, 1998). Some authors nevertheless caution that costs of immigration may exceed benefits, as when the immigrants' (low) skill characteristics drive up income inequalities (Chiswick, 1992), or cause per capita incomes to fall (Borts & Stein, 1964), and poverty to increase (Camarota, 1998).

Faced with depressed economies, older manufacturing cities searching for policy solutions have begun to consider strategies to attract immigrants. Cities frustrated by economic decline and shrinking population see in-migration as a possible response. However, policy design requires clarity as to whether population trends are causes or consequences of regional economic health (Greenwald, 1975; Muth, 1971). Should they be a cause or even a necessary condition, it would follow that policies designed to attract people to a region – whether from other regions or from other countries – could contribute to a reversal of economic decline. It is critical to understand the relationship between economic health and a growing population, since policy measures to attract immigrants can be costly and may result in added tax burdens if the presence of immigrants does not improve the local economy. Costs and benefits of immigration appear to be temporally sensitive and dependent on characteristics of both immigrants and economies in which they settle. Therefore, at a time and place characterized by a declining or stagnant

population, it seems the prospect of immigrant-led population growth should be welcomed, though potential benefits would hinge on immigrant education, skills, socio-economic status, and on the costs of absorbing this influx.

If immigration has a positive effect on economic development, can it be fostered through public policy? What decision factors should policies include? To answer this question it is necessary to understand the components of an individual's decision to migrate, including the complex array of "push" factors that impel people to leave their initial location and "pull" factors that attract them to specific locations in the US.

Push factors include political and economic hardships (Zavodny, 1998) in the immigrants' native countries. Pull factors include work opportunities in general, demand for specific skills, business climate, and presence of like communities. From an *émigré's* perspective, push factors are affected by education, skills, language skills and age-related factors affecting mobility - life cycle stage, economic endowment, and subjective likelihood of success. Pull factors combine with the prospects of community and family assistance, and social climate at the target location.

Since no push factor and only a subset of the pull factors are susceptible to policies, it is necessary to understand the cumulative spatial outcome of individual location decisions, to enable prediction of outcomes and assessment of likelihood of success of policy decisions. This article begins to address this need by proposing a non-linear model that uses two key individual location decision factors to predict the distribution of foreign-born citizens among metropolitan areas at three (U.S. Census) points in time: 1980, 1990, and 2000. The first section takes an immigrant's decision perspective to explore pull factors that could translate into policy elements. The second section describes the proposed model and results using the top 48 metropolitan areas (according to population size in 2000). The article concludes with an assessment of how the model could be refined and how its results could inform the issues facing policy makers in declining metropolitan areas.

INDIVIDUAL IMMIGRANT DESTINATION CHOICE

Devising policies that attract immigrants to regions that are atypical destinations requires an understanding of the expected results of an influx of an immigrant population, as well as the mechanisms by which individuals make destination choices. This section examines immigration trends as aggregates of individual choices, in contexts of growing and declining economies, to derive insights useful to policy decisions. After outlining the essence of individual emigration decisions in terms of push and pull factors, we examine immigration impacts on

current immigration centers, as well as areas that are not traditionally targets of immigration that have seen their recent share of newcomers rise.

The decision to immigrate has two components: the decision to leave the country of origin, which is a response mainly to origin push factors, and the choice of a target location, which is a function mainly of destination pull factors. The push factors are relevant to this report only insofar as they determine characteristics of new arrivals and their potential effect on the local economy. Pull factors are candidates for policy decisions as regions attempt to increase or reduce their share of the annual immigration.

Push Factors

For those who arrive in large numbers, the most common push factor is a poor economic situation in the country of origin, while the most powerful pull factor is the perception that at least their offspring will be better off in the country of destination. The individual decision is based on a comparison of pros at destination and cons at origin, with different weights on each according to specific situations:

- At times, the origin situation is so extreme – including political persecution, starvation, war – that pull factors become irrelevant and people's primary goal becomes leaving their country and gaining admission to the US rather than concern with a specific destination. Typically in such cases international organizations are involved in the process and will send the immigrants to locations willing and organized to absorb and support them, regardless of any individual characteristics or of economic conditions at destination. Their numbers in any year vary with politics. Since theirs is not an independent individual location decision, they present some interest insofar as they form a nucleus that can subsequently attract other immigrants from the same country of birth, providing a pull factor at their destination.
- For some individuals, push factors pale in comparison to pull. They have unique or highly specialized skills and are enticed to emigrate for work reasons, regardless of the home conditions. They head to the location of their employment, a pull that dominating all other considerations. These constitute, however, a relatively small proportion of the annual immigration.
- Many individuals face a combination of pressures to leave their country of birth and varying degrees of ability to choose their American destination. Immigration is a difficult process, fraught with uncertainties and risk, as well as challenges of language, culture and social status. Therefore, an observed decision to leave one's country of birth on the part of individuals not physically threatened at home and not recruited for specific skills means the pull factors have outweighed by a considerable margin considerations such as risk,

uncertainty, the prospect of difficulties at least at the outset, and the psychological downsides of leaving one's country of birth. These immigrants are interesting, because their location calculus involves destination factors susceptible to policies, and because they may arrive in numbers sufficient to affect the economies of their new hometowns.

Pull Factors

The next important individual decision is the selection of a new location. Given the possibility of settling in any American city, and neglecting transportation costs from the point of departure, immigrants from abroad choose their target settlement mostly based on: their own *individual characteristics* and the extent of their match to varying combinations of the *local economic conditions*; socio-cultural conditions of which the presence of *other immigrants from the same country of origin* is key, and relative *welfare benefits* within each city.

The individual's age, education, skills, and transferable wealth play a great role in this decision. Those who are older, poorer, or less educated contemplate far fewer choices than those who are able to compete with Americans in any job market and can therefore locate in many areas. Those less endowed must rely on assistance from family, community and social services, and therefore will tend to gravitate to locations that already host others from the same country of origin or are known for generosity in assistance to newcomers. Even those able to select and reach any location tend to prefer metropolitan areas that, by virtue of being immigration targets, are more tolerant of differences, as well as locations with like communities that enhance the cultural climate for newcomers. This is evidenced by the historic gravitation of ethnic groups to a number of large metropolitan areas, and their clustering in the urban space that has yielded in the past San Francisco's Chinatowns, New York's Little Italy, Detroit's Poletown, Cleveland's Slavic Village, and Miami's Little Havana. This trend continues although the ethnic composition of immigration is changing.

Research investigating the role of *local economic conditions* in inducing immigrants to locate in a region observes a link between the two, but does not establish a cause-and-effect relationship. Subsequent research focused on immigrants' choice of first destination as well as on the mobility of foreign-born (2) men. These results are relevant to any policies designed to attract in-migration at locations currently losing population. Greenwood & Sweetland (1972) found that median incomes and government expenditures affected the choice of immigrant settlement. Bartel (1989) found that foreign-born adult men are more likely to live in SMSAs with higher average wages and higher average general assistance payments, and that Hispanic foreign-born are less likely to live in areas with high unemployment rates.

However, Bartel and Koch (1991) found that the probability of foreign-born

adult men moving between SMSAs between 1975-1980 did not rise with the unemployment rate at the initial location – a likely push factor; the average wage and level of general assistance benefits also did not affect mobility in their sample. Kritz and Nogle (1994) corroborate this, noting that higher state unemployment rates do not prompt foreign-born individuals to move, a result they consider surprising (3) since higher unemployment rates cause natives to migrate. Filer (1992) makes the case for a limited role of economics in the location decision, contending that local labor market conditions do not significantly affect where the foreign-born live—initially or anytime after arrival. Finally, a recent Census Bureau survey estimates that less than one-third of all inter-county movers between 1999 and 2000 moved due to work-related reasons.

Based on a Census Bureau survey and research by Zavodny (1998), it appears that the most important pull factor in the individual immigrant's choice of location is presence of *other immigrants from the same country of origin*. Other research lends support to this observation. For instance, both Dunlevy (1991) and Buckley (1996) found number of new legal permanent residents to be positively correlated with number of persons born in the same country already present in a state. Bartel (1989) had similar findings at the metropolitan level. Moreover, Kritz and Nogle (1994) found that the presence of groups from the same country of origin at the state level deters interstate migration of individuals from such groups. This suggests immigrants hesitate to move away from places that offer them social capital in the form of association with others with whom they share a native country. Hence, as a factor in both the initial and subsequent locational choices of immigrants, it is the existing social networks already present in metropolitan areas that acts as magnets.

Preference for kin combined with the tendency of immigrants to settle in large, growing cities have led to a strong concentration of the foreign-born in relatively few, mostly coastal, metropolitan areas. Nearly 28% of foreign-born have located in one of the country's four largest metropolitan areas – New York, Los Angeles, Chicago, and Houston, while two thirds of all immigrants who arrived between 1990 and 1998 located in just ten of the nation's metropolitan areas (US Census Bureau, 2000). Just as dramatic, over one-fourth of all the foreign-born located in central cities of urban areas with populations of 5 million or more.

IMMIGRANT DESTINATIONS

The Current Picture

Immigrants constitute an increasingly significant percentage of the population. According to US Census Bureau statistics, while in 1970 there were fewer than 10 million immigrants (or 4.7% of the population), by 2000, that number

had risen to 20 million (or 10.4 %). Not since the 1930s have immigrants represented such a large fraction of the total population. Although statistics indicate that immigration represents a substantially smaller proportion than at the turn of the past century (they constituted 14.8% of the population in 1890), the number of foreign-born in 2000 was 28.4 million, approximately three times that of 1890.

The demographic landscape of the largest cities is rapidly changing (see Figures 1 and 2). According to the Census 7.3 million (over 92 percent) of the foreign-born in 1960 were of European descent, while just less than 1 million (6.7 %) were from Latin America. In 1970, Italy sent more people to the US than any other country (about one million) followed by Germany (830,000) and Canada (812,000). Mexico ranked fourth among immigrant source countries, sending 760,000. By 2000, 4.4 million immigrants (15.3%) came from Europe, while 14.5 million (51%) came from Latin America. The number of foreign-born from Asian countries has also risen sharply, from less than 500,000 (1%) in 1960 to over 7 million (25.5%) by 2000.

Now, the majority of immigrants arrive from Mexico (U.S. Census Bureau, 2001). In 2000, an estimated 7.8 million people migrated into the US from Mexico, up 3.6 million from 1990. China and the Philippines follow as source countries, each contributing close to 900,000 immigrants.

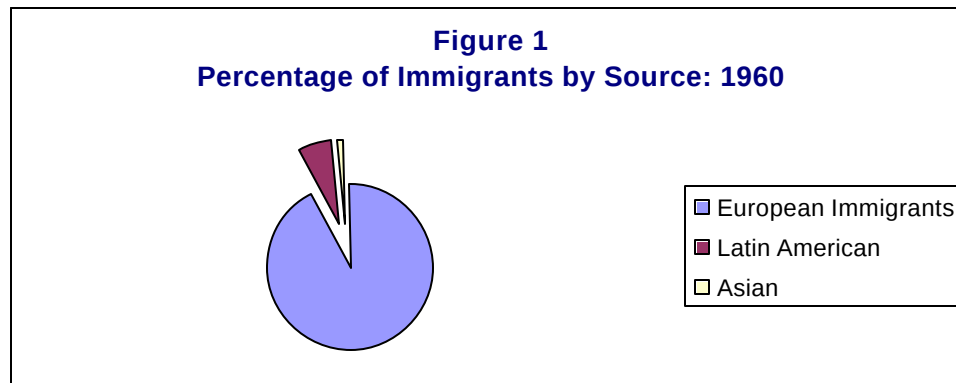
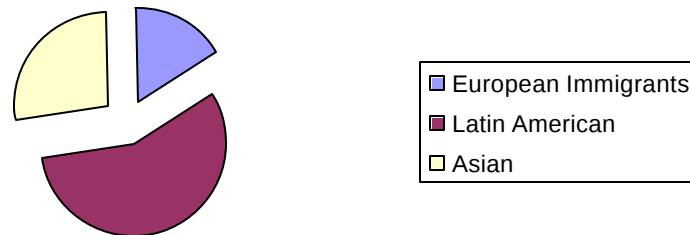


Figure 2
Percentage of Immigrants by Source: 2000



Although the largest cities receive the largest share of immigration, a growing number of areas unaccustomed to receiving immigrant flows have, in the last decade, absorbed a considerable number. These new immigration destinations are located in the South and Midwest, with cities in Georgia, Minnesota, and Kentucky heading the list for new arrivals relative to the existing number of foreign-born (Camarota & Keeley, 2001). Numbers of the foreign-born in Atlanta, for example, grew by over 50 % from 116,624 in 1990 to 178,641 by 1998. With a comparable percentage gain, Minneapolis-St. Paul's number of foreign-born grew from 88,093 in 1990 to 132,595 by 1998. Other metropolitan areas, receiving large numbers relative to their existing foreign-born populations, were Washington, D.C., Indianapolis, Raleigh-Durham-Chapel Hill, Louisville, Seattle, Portland-Vancouver, Denver, St. Louis, Baltimore, Sacramento, and New York. (Note that the larger the existing number of foreign-born at a location, the smaller the increase will appear in relative terms.)

Besides initially moving to the largest metropolitan areas, foreign-born individuals also engage in interstate migration. Although Kritz and Nogle (1994) found that some immigrant groups are less likely than natives to migrate between states, Belanger & Rogers (1992) conclude that, over a lifetime, in most instances they are less "attached" to their region of residence on average than are the US-born. Both studies agree that the most important factor in shaping the decision to relocate (or not) is the presence (or absence) of others from the same country of origin. In fact, presence of others of from the same country of origin appeared more important than individual education level, state economic situation, and language proficiency in the decision to relocate.

Besides propensity to relocate among others from the same country of origin, an immigrant's first destination plays a role in later migration decisions. For example, when controlling for the presence of others from the same country of origin, immigrants residing in New York State in 1975 were much more likely to migrate to another state than those in California (Kritz & Nogle, 1994). (4) To

better understand this difference, it would be necessary to explore other characteristics of the immigrants at the two locations, such as education and types of employment. Also important is the presence of SMSAs that are accessible (in the sense that the distance to other SMSAs is relatively short) because immigrants appear to have relatively low (in absolute value) distance elasticities (Greenwood & Sweetland, 1972).

There is a greater likelihood that the more educated an immigrant, the more likely he/she will be able to move both within and between states (Kritz & Nogle, 1994). Especially for Hispanics, secondary migration within the US plays a critical role in the process by which the more educated individuals loosen their ties to their fellow ethnics (Bartel, 1989). The potential gain to income may also be significant.

Greenwood & Sweetland (1972) conclude that both higher median incomes and local government expenditures have prodded immigrants to move to specific SMSAs. Finally, Kritz & Nogle (1994) suggest that the legal status of some immigrant groups may deter interstate migration. They posit, for example, that Mexican immigrants, many of whom arrive illegally or overstay their visas illegally, are less likely to leave the security of their present living and occupational situations in order to move to another state.

THE MODEL

In what follows, we propose a non-linear model to predict the distribution of foreign-born (5) from one time period to another, based on the information on how individuals make location decisions, and on two key pull factors. The model is transparent and economic in the data used, but it simplifies immigrant location decisions.

The preceding sections suggest a preponderance of evidence for the two variables in the model. We assume that all else being equal, foreign-born individuals choose their location according to two criteria:

- The expectation of employment opportunities.
- The existence at the target location of other foreign-born individuals (as an approximation for immigrants' preference to locate in proximity to others from the same country of origin).

If these assumptions reflect immigrant choice behavior, we expect the model to perform reasonably well (considering its parsimony) in predicting the distribution of newcomers across the country.

We examined the top 48 PMSAs (according to population size in 2000). We considered total population in the PMSA, number of foreign-born citizens, and number of non-farming jobs for four U.S. Census years: 1970, 1980, 1990 and 2000. Although at any time the foreign-born are a larger group that includes the

immigrants, the difference in foreign-born between two time periods captures immigration during this period (because there is no natural growth for this group – the children of foreign-born are American-born).

Assumptions are consistent with the observed correlations displayed in Table 1. While there is a relatively strong correlation between number of jobs and presence of foreign-born in a metropolitan area at all four time points, the correlation is not perfect, and has decreased in 1990 and 2000. This correlation is comparable to that between foreign-born and metropolitan population size, suggesting other criteria besides employment play a role in location. The significant and relatively high positive correlation between foreign-born and metropolitan population is consistent with research suggesting that the foreign-born tend to prefer large cities, though not at the exclusion of other criteria.

Table 1

Correlations of number of foreign-born in 48 PMSAs with number of non-farming jobs, and with total population.

	1970	1980	1990	2000
Foreign-born and non-farming jobs	0.92	0.87	0.82	0.82
Foreign-born and population	0.88	0.85	0.84	0.86
(all correlations significant at $p = .000$)				

Table 2

Correlations of added foreign-born in 48 PMSAs with number of foreign-born already there and with number of jobs.

	Added foreign-born (proxy for immigration)		
	1970- 1980	1970- 1980	1970-1980
Foreign-born 1970	0.63		
Foreign-born 1980		0.83	
Foreign-born 1990			0.81
Jobs, 1980	0.67		
Jobs, 1990		0.67	
Jobs, 2000			0.86
(all correlations significant at $p = .000$)			

Table 2 correlates presence of foreign-born at three time points (t) with number of added foreign-born between t and $t+1$ in the 48 metropolitan areas, supporting the model assumption that immigrants to locate where other foreign-born are present. Correlation between number of jobs at time t and number of added foreign-born between t and $t+1$ is positive but relatively weak for two of the three time periods considered, also supporting the model assumption that immigrants consider employment opportunities in location decisions, but not to the exclusion of other concerns. We denote:

- J_{tj} the number of jobs at time t (one of the four Census years, '70, '80, '90, '00, so $t = 1 \dots 4$), at location j (one of the 48 PMSAs, so $j = 1 \dots 48$)
- FB_{tj} the number of foreign-born individuals at time t , at location j
- $I_{t,t+1}$ the total number of foreign-born added to all 48 PMSAs between time t and time $t+1$ (so for example, I_0 is the difference between the total number of foreign-born in 1980 and the total for 1970 over all 48 PMSAs)
- M a fitting parameter that captures the balance between the presence of other foreign-born at a specific location and the attraction of employment; so:

- $M = 1$ would mean the two criteria matter equally in an individual's selection of a location

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- $M < 1$ the presence of other foreign-born is less important than job availability in an individual's selection of location.
 - $M > 1$ would mean the presence of other foreign-born is more important than job availability in an individual's selection of location.
- $FB_{t+1,j} - FB_{t,j}$ the added number of foreign-born at location j between time t and time $t+1$.

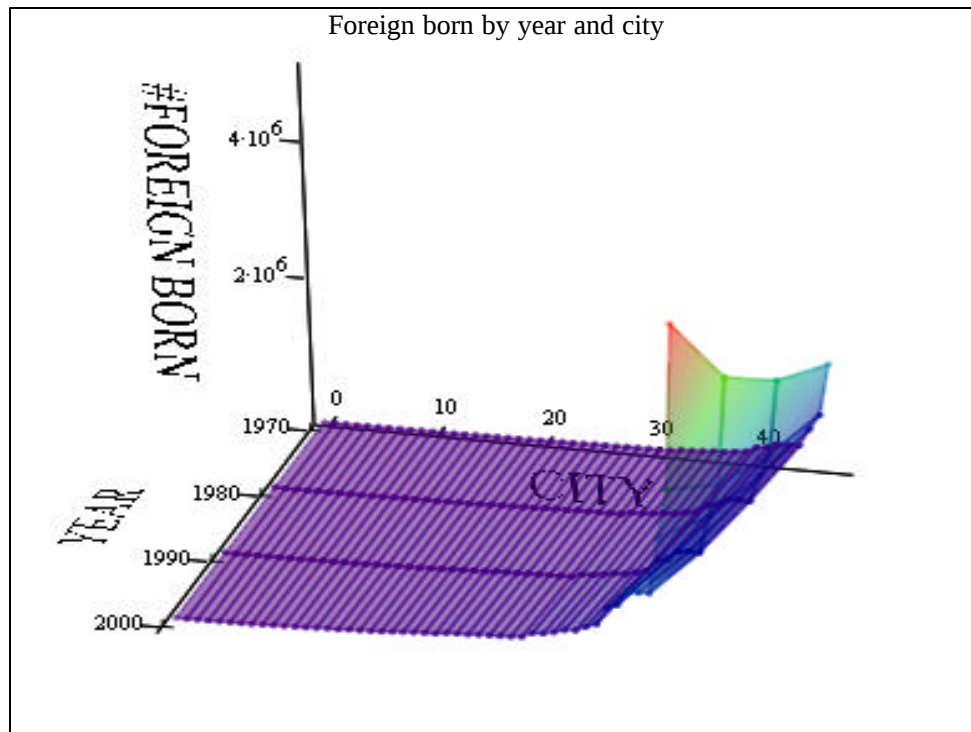
Then, based on our assumption, we propose that the fraction of the total number of foreign-born individuals added between times t and $t+1$ to location j (proxy for immigration), is proportional to the fraction of jobs and foreign-born already present at that location (out of the total jobs and foreign-born at time t):

$$\frac{FB_{t+1,j} - FB_{t,j}}{I_{t,t+1}} = \frac{J_{t,j} + M \times FB_{t,j}}{\sum_j (J_{t,j} + M \times FB_{t,j})}$$

To test this model, we began with the 1970 data and predicted the number of foreign-born to be found in each PMSA in 1980, 1990 and 2000. Figure 3 displays **the actual number of foreign-born** in 1970, and **the predicted number of foreign-born** in each PMSA for the years 1980 – 2000, with the PMSAs ranked in ascending order of number of foreign-born in each in 1970), using a high value (>1) for the M parameter. Note the seeming exponential dependence of the predicted number of foreign born in a city on its rank order among the 48 PMSAs.

Figure 3a

Two views of the foreign-born presence in the 48 PMSAs at 4 points in time, ranked by PMSA population in 1970.

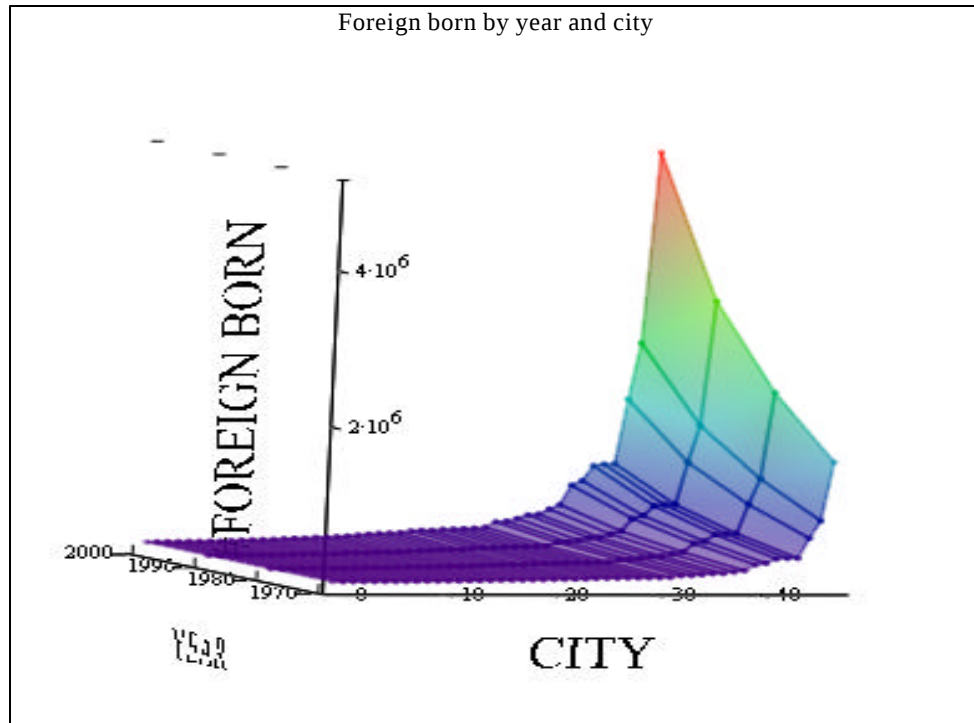


(Year ,rank ,FB)

The four graphs in Figure 4 show the relationship at the four Census time periods between the actual (discrete points) and the predicted number (line) of foreign-born in each PMSA (ranked in ascending order of foreign-born population in 1970), using a high value for the M parameter. These graphs are “slices” (at each of the four points in time) through the three-dimensional graphs of Figure 3. As would be expected, the fit between observed and predicted points decreases from one time period to another. In other words, using 1970 data to predict 1980 patterns yields a very good fit, as does using 1980 data to predict 1990 patterns;

however, using 1970 data to predict patterns in 2000 yields a weaker fit. Such a prediction would cover 30 years, which is notoriously more difficult than predicting over shorter horizons – and in fact, even a 10-year span (as from 1970 to 1980) is relatively long for reliable prediction. Therefore, using 2000 Census data to predict the 2010 distribution of foreign-born among PMSAs, we can expect a relatively good fit between model and reality.

Figure 3a

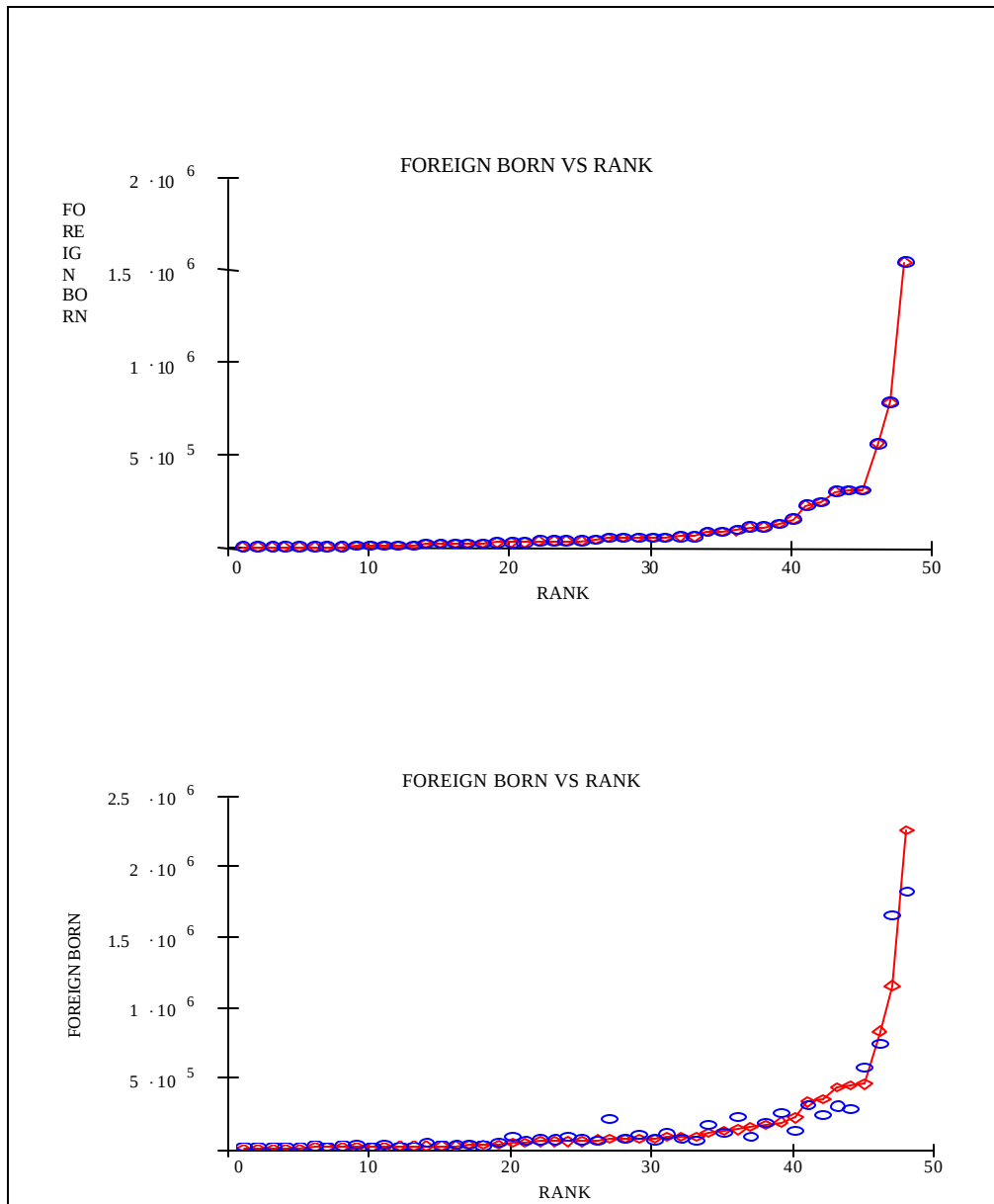


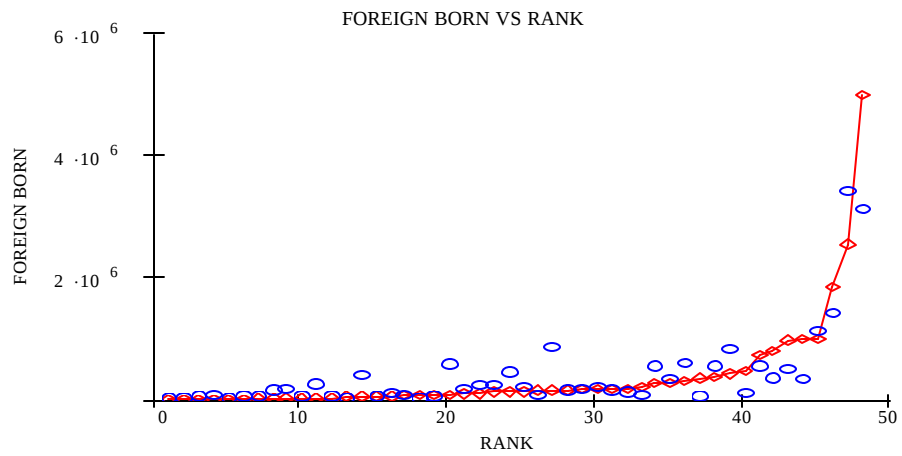
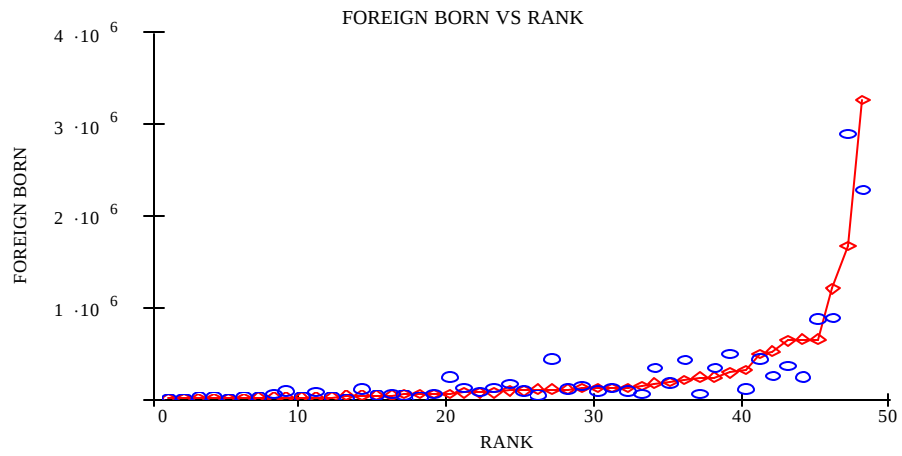
(Year , rank , FB)

Testing the goodness of fit for various values of the M parameter (which captures the relative importance of foreign-born versus job availability at each location), we found that the higher this value, the better the fit in time between observed and predicted points.

Figure 4

Model predictions vs. actual data in 48 PMSAs, in 1970, '80, '90, '00.





$$\chi(t) := \sqrt{\frac{1}{M} \cdot \sum_{j=0}^{M-1} \left(\frac{FB_{t,j}}{fb_{t,j}} - 1 \right)^2}$$

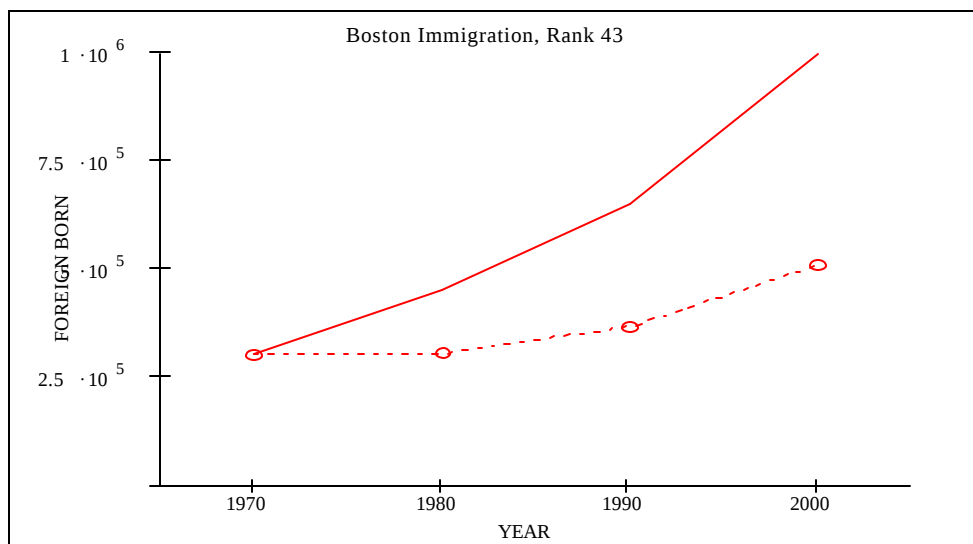
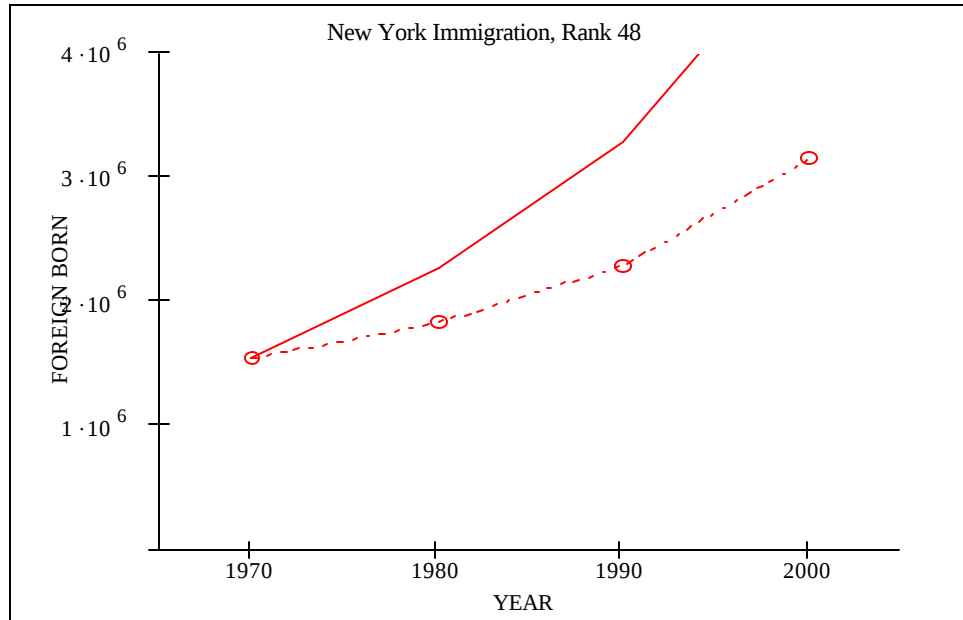
- $c(t)$ is mean square error at time t (1980, 1990 or 2000)
- M is the fitting parameter that captures the balance between the presence of other foreign-born at a specific location and the attraction of employment
- $fb_{t,j}$ is the number of foreign-born individuals at time t , at location j
- $FB_{t,j}$ is the number of foreign-born individuals at time t , at location j

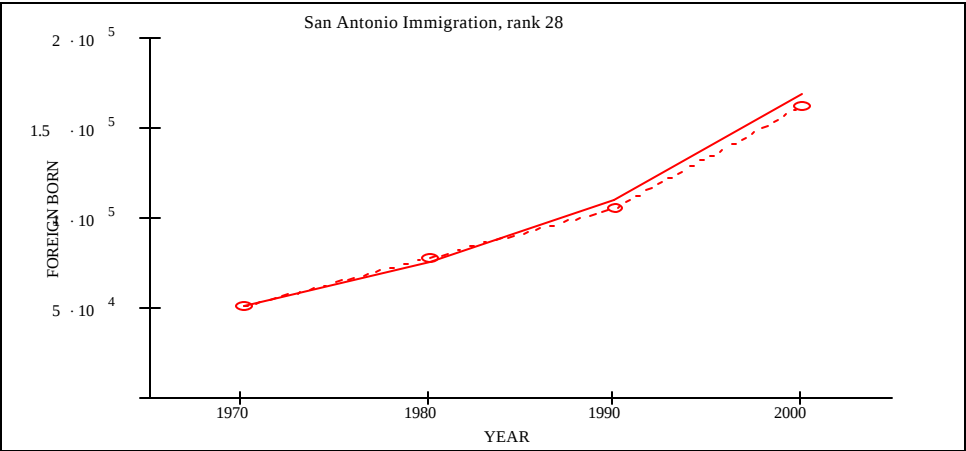
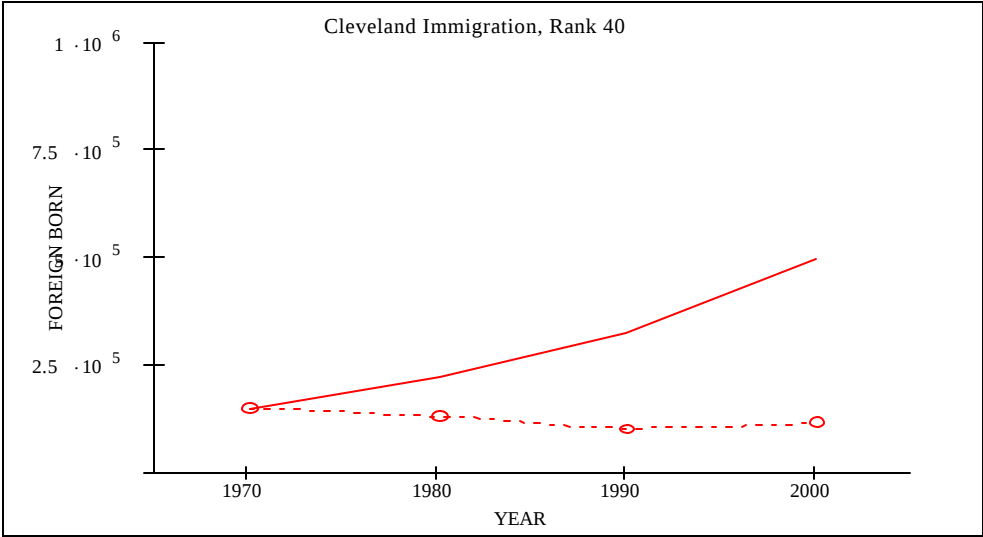
We Hypothesize that the job availability at any location counts far less in the foreign-born individual's location decision than the existence of other foreign-born at that location. One possible explanation in that immigrants to the United States come from countries with more difficult economic conditions, and often with high unemployment. Upon arrival, many are willing, at least at the beginning, to consider a broader range of jobs than typical Americans. Thus individuals with college education may be willing at the outset to take jobs that do not require such a qualification. As a result, immigrants' willingness to consider a broad range of occupations enables them to find jobs even in times of relatively high unemployment, which may account for the lower importance they seem to attach to job availability compared to the presence of other foreign-born at the location of their choice.

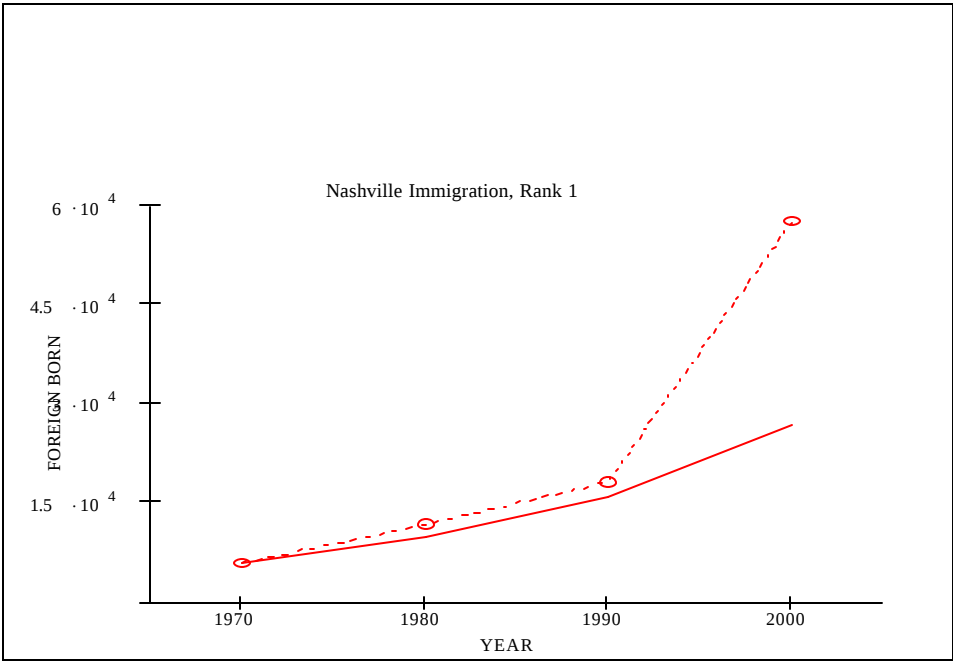
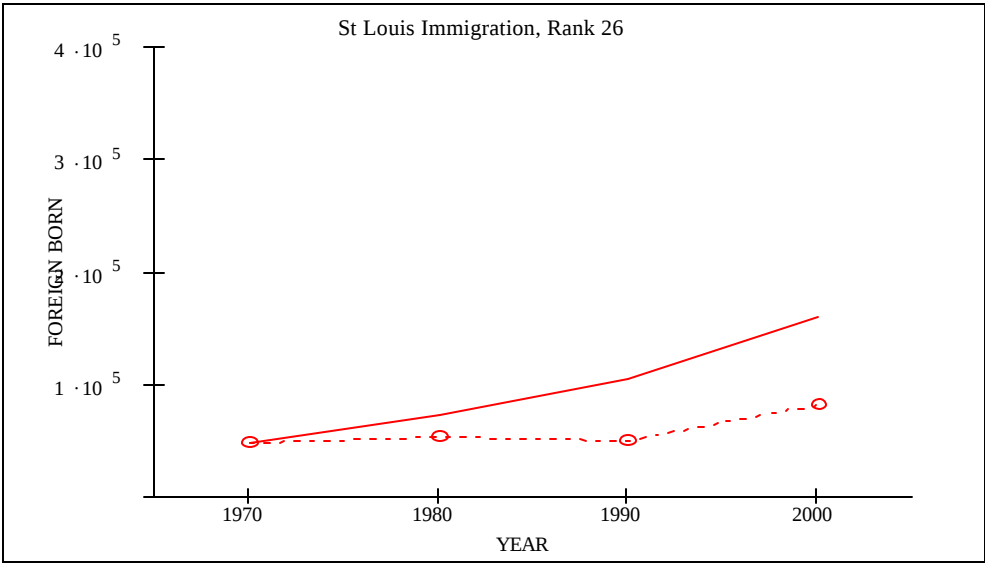
In Figure 5, we graphed the observed vs. predicted number of foreign-born in a number of PMSAs differing in size, to explore the fit quality: New York (largest number of foreign-born in 1970, rank 48); Boston (rank 29); Cleveland (rank 26); San Antonio (rank 18); Las Vegas rank 8) and Nashville (lowest number of foreign-born in 1970 rank 1). The quality of the fit varies for reasons for which this model cannot account in its current form. For example, Cleveland (rank 26 in 1970) seems to have a particularly poor fit and we notice that it, together with Milwaukee (rank 21) and Detroit (rank 30), are the only cities for which the number of foreign-born has declined in two of the three study periods. Interestingly, all three cities' ranks (according to the foreign-born presence in 1970) are relatively high. Since model results presented here have weighted the foreign-born presence much more than the availability of jobs, it is not surprising for example that Cleveland's fit is poor, since it started out with a relatively high rank in 1970 and failed to attract foreign-born in subsequent periods.

Figure 5

Model predictions vs. actual data in selected PMSAs, 1970, '80, '90, '00.







CONCLUSIONS

Immigration volume and location patterns should interest proponents and opponents of immigration. Privileging the evidence of immigration benefits to the local economy, we have developed a framework to analyze the components of individual immigrant location decisions which, when aggregated, would enable prediction of the distribution of immigration among American metropolitan areas. We relied on literature to examine push and pull factors, and to posit that key pull factors for foreign-born individuals are the presence of other foreign-born individuals and availability of employment at the location considered. We have then proposed and tested a non-linear model that incorporates these two pull factors and one parameter expressing their balance, to predict the share of total immigration (using a foreign-born proxy) in three time periods - 1970-80, 1980-90, and 1990-2000 – going to each of the 48 metropolitan areas that ranked highest in terms of their number of foreign-born in 1970.

Interest in this model is two-fold. If it proves effective at prediction, it can serve policy by providing valuable information about what is likely to happen in the absence of change. While it does not in itself validate its underlying assumptions, it may be useful as means for testing policy implications— a “what if” type of tool.

In our exploratory analysis, we opted for simplicity (two variables, one parameter), gaining transparency and predictive power. Enhanced explanatory power would require more accurate data on actual number of immigrants, as well as elaboration of this model. For example, it would be useful to incorporate other relevant factors, such as existence and level of support services for immigrants at various locations, immigrants’ country or region of origin, and characteristics such as age and education level. Foreign-born groups at each location could also be characterized in those terms. This would enable us to determine how important is the presence of foreign-born from the same country of origin (as opposed to mere presence of other foreign-born at that location) and to explore whether employment opportunities are differentially important across education levels and countries of origin or how much support services matter in the location calculus. All these could prove important in designing policies to increase a region’s share of immigrants.

NOTES

- (1) In-migration will be the term of choice for designating the arrival of population into a city regardless of whether its origin is some other US region or another country. In contrast, immigration will be used strictly to designate the latter group.
- (2) “Foreign-born” designates residents born in another country, regardless of the time of their arrival in the US; “immigrant” designates a recent arrival.

Thus the “foreign-born” category includes the immigrant category.

- (3) This result is not entirely unexpected, when seen from the individual’s point of view: besides being less mobile than Americans on average, the individual moving from city to city repeats the difficult emigration experience, which adds to the disincentives even when economic conditions at the current location worsen.
- (4) Incidentally, the research was not able to determine whether the effect should be interpreted as a response to economic conditions in New York State or to social concerns about crime and the quality of life.
- (5) The use of foreign-born instead of immigrants is made necessary by the availability of data. However, this is quite reasonable since it is likely that with respect to location decisions the foreign-born are similar to the immigrants they were once.

REFERENCES

- Bartel, Ann P. (1989, Oct.). Where do the new U.S. immigrants live? *Journal of Labor Economics*, vol. 7, issue 4.
- ____ & Koch, M.J. (1991). Internal migration of U.S. immigrants. In *Immigration, trade, and the labor market*. Edited by J.M. Abowd and R.B. Freeman. Chicago: University of Chicago Press.
- Borjas, George J. (1990). *Friends or strangers: the impact of immigrants on the U.S. economy*. New York: Basic Books.
- George H. & Stein, Jerome L. (1964). *Economic growth in a free market*. New York: Columbia University Press.
- Buckley, F. H. (1996, March). The political economy of immigration policies. *International Review of Law and Economics*, vol. 16.
- Camarota, Stephen. (1998). The wages of immigration: The effect on the low-skilled labor market. Center for Immigration Studies, Center Paper 12.
- Chiswick, Barry R. (1982). “Impact of immigration on economic well-being” In *The gateway: U.S. immigration issues and policies*. Washington, D.C.: American Enterprise Institute for Public Policy Research.
- Crossette, Barbara. (Aug. 20, 2002). Experts scale back estimates of world population growth. *The New York Times*.
- Denison, Edward F. (1962). *The sources of economic growth in the United States and the alternatives before us*. New York: Committee for Economic Development.

-
- Dunlevy, J. A. (1991). On the settlement patterns of recent Caribbean and Latin immigrants to the United States." *Growth and Change*, vol. 22 (Winter).
- Filer, R. K. (1992). The effect of immigrant arrivals on migratory patterns of native workers. In *Immigration and the work force*. Edited by G. J. Borjas and R. B. Freeman. Chicago: University of Chicago Press.
- Florida, Richard L. (2000, Jan.). *Competing in the age of talent: Quality of place and the new economy*. A report prepared for the R.K. Mellon Foundation, Heinz Endowments, & Sustainable Pittsburgh.
- _____. (2002). *The rise of the creative class: and how it's transforming work, leisure, community and everyday life*. New York, NY: Basic Books.
- Greenwood, Michael J. & Sweetland, Dougals. (1972, Nov.). The determinants of migration between standard metropolitan statistical areas. *Demography*, vol. 9, issue 4.
- Greenwood, Michael J. (1975). "A simultaneous-equations model of urban growth and migration" *Journal of the American Statistical Association*. V. 70, no. 352.
- Kritz, Mray & Nogle, June Marie. (1994, Aug.). Nativity concentration and internal migration among the foreign-born. *Demography*, vol. 31, issue 3.
- Kuznets, S. (1964). "Introduction: population redistribution, migration, and economic growth." In *Population, redistribution and economic growth: United States, Vol. III* by Eldridge, H.T. & Thomas, D.S. (Demographic Analysis and Interrelations). Philadelphia: The American Philosophical Association.
- Mooney, Peter J. (1990). *The impact of immigration on the growth and development of the U.S. economy, 1890-1920*. New York: Garland Publishing, Inc.
- Muller, T. (1993). *Immigrants and the American city*. New York: New York University Press.
- _____. (1998). "Immigration and urban areas: the United States experience". In *Immigrants, integration, and cities: exploring the links*. Paris: Organization for Economic Co-operation and Development.
- Muth, Richard F. (1971). "Migration: chicken or egg?" *Southern Economic Journal*. V. 31.
- Simon, Julian. (1989). *The economic consequences of immigration*. Oxford, U.K. Cambridge, Mass.: Blackwell.
- U.S. Census Bureau. (2001, Dec.). *Profile of the foreign-born population in the United States: 2000*.

Winnick, L. (1990). *New People in Old Neighborhoods: The Role of New Immigrants in Rejuvenating New York's Communities*. Newbury, CA.: Russel Sage Foundation.

Zovodny, Madeline. (1998, April). Determinants of recent immigrants' locational choices. Federal Reserve Bank of Atlanta. Working Paper 98-3.

ELECTRONIC RESOURCES

Center for Immigration Studies

Borjas, George. (1999, Nov.). Top ten symptoms of immigration. *Backgrounder*.
<http://www.cis.org/articles/1999/Backgrounder1199/Backgrounder1199.pdf>

Bouvier, Leon F., Poston, Dudley L. Jr. and Zhai, Nanbin Benjamin. (1995, July). Zero Net International Migration: What Does It Really Mean?
http://www.cis.org/articles/1995/Zero_net_migration.pdf

Camarota, Stephen. (2001, Jan.). Immigrants in the United States — 2000 A Snapshot of America's Foreign-Born Population. *Backgrounder*.
<http://www.cis.org/articles/2001/back101.html>

_____. (2001, March). The Slowing Progress of Immigrants: An Examination of Income, Home Ownership, and Citizenship, 1970-2000. *Backgrounder*.
<http://www.cis.org/articles/2001/back401.html>

_____. Importing Poverty: Immigration's Impact on the Size and Growth of the Poor Population in the United States.
http://www.cis.org/articles/poverty_study/index.html

_____. The wages of immigration: The effect on the low-skilled labor market. (1998, Jan.). Center Paper 12.
<http://www.cis.org/articles/1998/wagestudy/wage.pdf>

_____. (2000, Jan.) Reconsidering Immigrant Entrepreneurship: An Examination of Self-Employment Among Natives and the Foreign-Born.
<http://www.cis.org/articles/1999/selfemployment/>

_____. (2001, July). Immigration from Mexico: Assessing the impact on the United States.
<http://www.cis.org/articles/2001/mexico/mexico.pdf>

_____ and Leon Bouvier. (1999, Dec.). The Impact of New Americans: A Review and Analysis of the National Research Council's The New Americans: Economic, Demographic, and Fiscal Effects of Immigration. Center for Immigration Studies Report
<http://www.cis.org/articles/combinednrc.pdf>

Clark, William A.V. (1999, Feb.) Immigration and California communities. *Backgrounders*.
<http://www.cis.org/articles/1999/Backgrounder299/back299.html>

Kolankiewicz, Leon (2000, June). Immigration, Population, and the New Census Bureau Projections. *Backgrounders*.
<http://www.cis.org/articles/2000/back600.html>

Schmidley, A. Dianne, U.S. Census Bureau, Current Population Reports, Series P23-206, *Profile of the Foreign-Born Population in the United States: 2000*, U.S. Government Printing Office, Washington, DC, 2001.

The Impact of Immigration on California Summary and Analysis of Immigration in a Changing Economy. (1998, Summer). *Immigration Review*, no. 32, a publication of the Center for Immigration Studies.
<http://www.cis.org/articles/1998/IR32/impact.html>

BROOKINGS INSTITUTION

Florida, Richard and Gates, Gary. (2002). Technology and Tolerance: The Importance of Diversity to High-Technology Growth. Brookings' Center on Urban & Metropolitan Policy.
<http://www.brookings.org/dybdocroot/es/urban/techtol.pdf>

Leiken, Robert S. (February 25, 2001). Immigration: The Go-Between for U.S.-Mexico Harmony Along the Border. Appeared in *Los Angeles Times*.
<http://www.brookings.org/views/op-ed/leiken/20010225.htm>

Lindsay, James M. (January 5, 2001). A Timid Silence on America's Immigration Challenge. Appeared in *San Diego Union-Tribune*.
<http://www.brookings.org/dybdocroot/webcache/www.brookings.org-80/p10/a0022110.1056.htm>

_____. (November 8, 2001). The Post-Sept. 11 Debate Over Immigration Policy. Appeared in *San Diego Union-Tribune*.
<http://www.brookings.org/views/op-ed/lindsay/20011108.htm>

Singer, Audry. (2002). America's Diversity at the Beginning of the 21st Century: Reflections from Census 2000.

<http://www.brookings.org/dybdocroot/views/papers/singer/20020402.pdf>

THE URBAN INSTITUTE

Fix, Michael E and Passel Jeffrey S. (2001, Aug). U.S. Immigration at the Beginning of the 21st Century--Testimony before the Subcommittee on Immigration and Claims Hearing on "The U.S. Population and Immigration" Committee on the Judiciary U.S. House of Representatives.

<http://www.urban.org/Template.cfm?Section=ByTopic&NavMenuID=62&template=/TaggedContent/ViewPublication.cfm&PublicationID=7321>

Passel, Jeffrey S. and Zimmermann, Wendy. (2000). Are immigrants leaving California? Settlement patterns of immigrants in the late 1990s.

http://www.urban.org/Uploadedpdf/are_immigrants_leaving_ca.pdf

_____ and Rebecca L. Clark. (1998). Immigrants in New York: Their Legal Status, Incomes, and Taxes.

<http://www.urban.org/Template.cfm?Section=ByTopic&NavMenuID=62&template=/TaggedContent/ViewPublication.cfm&PublicationID=6239>

OECD

Coppel, Jonathan, Dumont, Jean-Christophe and Visco, Ignazio. (2001, Feb.). Trends in immigration and economic consequences. Economics Department Working Papers No. 284.

<http://www.oecd.org/pdf/M00029000/M00029204.pdf>

Report Shows Immigration Flows Rising in Many OECD Countries. 19/01/2001.

<http://www.oecd.org/EN/document/0,,EN-document-590-17-no-12-7240-590,00.html>

Salt, John. (1997). International movements of the highly skilled. Occasional Papers No.3.

[http://www.oilis.oecd.org/oilis/1997doc.nsf/3d0f5ae71b96add38025656400595b54/e4d3dbb3192dc70bc125653d004461ff/\\$FILE/10E75613.ENG](http://www.oilis.oecd.org/oilis/1997doc.nsf/3d0f5ae71b96add38025656400595b54/e4d3dbb3192dc70bc125653d004461ff/$FILE/10E75613.ENG)

Visco, Ignazio. (2000, July). Immigration, development and the labour market. Speech given at the International Conference on "Migration: scenarios for the 21st Century", Rome.

<http://www.oecd.org/pdf/M00008000/M00008031.pdf>

THE CATO INSTITUTE

Griswold, Daniel T. (2002, Feb.). NO: Immigrants have enriched American culture and enhanced our influence in the world.

<http://insightmag.com/main.cfm/include/detail/storyid/185225.html>

_____. (2002, April). Should the US Reduce by 50% the Number of Legal Immigrants and 'Immigrant' Students?

<http://www.freetrade.org/pubs/articles/dg-4-23-02.htm>

_____. FAIR ads unfairly blame immigrants for urban sprawl, traffic jams.

<http://www.freetrade.org/pubs/articles/dg-10-04-00.html>

_____. Lift the Congressional Quota on High-Skilled Workers. Originally appeared in the Journal of Commerce.

<http://www.freetrade.org/pubs/articles/dg-quotas.html>

Masters, Suzette Brooks and Ruthizer, Ted. (2000, March). The H-1B Straitjacket: Why Congress Should Repeal the Cap on Foreign-Born Highly Skilled Workers.

<http://www.freetrade.org/pubs/briefs/tbp-007es.html>

Pistone, Michele R.. (1998, March). New asylum laws: Undermining an American ideal. Cato Policy Analysis No. 299.

<http://www.freetrade.org/pubs/pas/pa-299es.html>

Simon, Julian L. (1995, Dec.). Immigration: The demographic and economic facts.

http://www.cato.org/pubs/policy_report/pr-immig.html

Cato Institute – “FAIR ads unfairly blame immigrants for urban sprawl, traffic jams “

<http://www.freetrade.org/pubs/articles/dg-10-04-00.html>

NATIONAL IMMIGRATION FORUM

America's Openness Gives Us a Competitive Edge (2000, March).

http://www.immigrationforum.org/currentissues/articles/032700_openness.htm

Economists on Immigration. (2000, March).

http://www.immigrationforum.org/currentissues/articles/030300_economists.htm

Governor's Task Force Suggests Making Iowa an "Immigrant Enterprise Zone" (2000, June).

http://www.immigrationforum.org/currentissues/articles/062300_iowa.htm

Heartland Looks to Immigrants to Fill Workforce Gap. (2000, April). "Coalition Aids Immigrants: Also Aims to Ease Shortage of Workers," *Cincinnati Enquirer*, March 24, 2000.

http://www.immigrationforum.org/currentissues/articles/041400_heartland.htm

Immigrants and the Economy. (2000).

<http://www.immigrationforum.org/pubs/articles/economy2001.htm>

Labor and Business Unite on Importance of Immigration. (2000, Feb.).

http://www.immigrationforum.org/currentissues/articles/021800_labor.htm

NATIONAL CENTER FOR POLICY ANALYSIS

Dallas Federal Reserve: Immigrants are a diverse group. (2001).

<http://www.ncpa.org/pd/immigrat/oct98c.html>

Effects of Immigration. (2001).

<http://www.ncpa.org/pd/immigrat/effects.html>

Illegal immigration and labor markets. (2001).

<http://www.ncpa.org/pd/immigrat/pd080101e.html>

Immigration fueling US population boom.

<http://www.ncpa.org/pd/immigrat/pdimm/pdimm1.html>

Immigration Laws Out of Sync With U.S. Needs. (2001).

<http://www.ncpa.org/pd/immigrat/pdimm/immmapril98a.html>

Scully, Gerald W. (1995, Aug.). Multiculturalism and economic growth. NCPA Policy Report No. 196.

<http://www.ncpa.org/studies/s196/s196.html>

Welfare reform and food stamps for immigrants. (2001).

<http://www.ncpa.org/pi/welfare/wel19.html>

IMMIGRATION AND ECONOMIC DEVELOPMENT:

Urban Institute

<http://www.urban.org/Template.cfm?Section=ByTopic&NavMenuID=62>

Interplan – “Immigration and World Cities”

<http://interplan.org/immig/immig.html>

<http://www.usais.org/>

Committee for Economic Development -- “US Immigration Policy: Helping meet American’s need for a skilled workforce”

<http://www.ced.org/projects/immigration.htm>

Dowell Myers, University of Southern California – Immigrant adaptation and assimilation

<http://www-rcf.usc.edu/~dowell/imad.htm>

DATA (U.S. AND CLEVELAND-SPECIFIC)

US Census Bureau

<http://www.census.gov/population/www/socdemo/foreign.html>

Immigration and Naturalization Services Statistics

<http://www.ins.usdoj.gov/graphics/aboutins/statistics/>

[Fair Ohio – Cleveland-Lorain-Elyria Metropolitan Area](http://www.fairus.org/html/msas/042ohcle.htm)

<http://www.fairus.org/html/msas/042ohcle.htm>

[Fair Ohio – Ohio Immigrant Admissions](http://www.fairus.org/html/042ohins.htm)

<http://www.fairus.org/html/042ohins.htm>

APPENDIX

PMSAs ordered low-high by foreign-born population size in 1970:

- | | | | |
|---|------------------|----|--------------------|
| 1 | Wichita | 13 | Omaha |
| 2 | Tulsa | 14 | Atlanta |
| 3 | Nashville | 15 | Columbus |
| 4 | Charlotte | 16 | Tucson |
| 5 | Memphis | 17 | Kansas City |

6	Oklahoma City	18	Cincinnati
7	Albuquerque	19	New Orleans
8	Austin	20	Dallas
9	Arlington	21	Fresno
10	Jacksonville	22	Denver
11	Las Vegas	23	Sacramento
12	Indianapolis	24	Phoenix
25	Portland	37	Pittsburgh
26	St. Louis	38	Oakland
27	Houston	39	Wash. DC
28	San Antonio	40	Cleveland
29	El Paso	41	San Francisco
30	Minneapolis	42	Philadelphia
31	Honolulu	43	Boston
32	Baltimore	44	Detroit
33	Milwaukee	45	Miami
34	San Jose	46	Chicago
35	Seattle	47	Los Angeles
36	San Diego	48	New York

Descriptive statistics

		Foreign-born in 48 PMSAs, 1970 – 2000			
		1970	1980	1990	2000
N	48				
Mean		124241.63	184306.42	267355.50	410909.81
Median		40795.50	66834.50	88082.50	189819.00
Std. Deviation		256864.811	360191.236	532064.452	678879.817
Range		1539088	1821019	2881159	3417359
Minimum		4626	11496	13907	32085
Maximum		1543714	1832515	2895066	3449444
Percentiles	25	14491.25	27335.00	35585.75	65981.00
	50	40795.50	66834.50	88082.50	189819.00
	75	107091.00	184334.25	248009.25	495580.00

		Jobs in 48 PMSAs, 1970 – 2000			
		1970	1980	1990	2000
N	48				

Mean		698775.69	850022.92	1048058.33	1228368.75
Median		430150.00	631900.00	772300.00	929700.00
Std. Deviation		801676.347	817303.106	921552.990	988648.455
Range		4015800	3585800	3924300	4140300
Minimum		104800	161900	209000	133900
Maximum		4120600	3747700	4133300	4274200
Percentiles	25	250600.00	343200.00	443500.00	602850.00
	50	430150.00	631900.00	772300.00	929700.00
	75	847850.00	994225.00	1180325.00	1538075.00

Population in 48 PMSAs, 1970 – 2000					
		1970	1980	1990	2000
N	48				
Mean		1765450.75	1906708.60	2138006.96	2450606.65
Median		1196231.50	1412989.50	1511834.50	1692605.00
Std. Deviation		1874044.018	1800640.628	1915099.274	2079304.995
Range		9024854	8197488	8758220	9357414
Minimum		50700	77473	104944	161924
Maximum		9075554	8274961	8863164	9519338
Percentiles	25	646667.50	784550.00	919755.00	1159538.25
	50	1196231.50	1412989.50	1511834.50	1692605.00
	75	1995822.50	2224875.75	2498143.50	2930062.75

Added Foreign-Born in PMSAs, 1970 – 2000				
		1970-80	1980-90	1990-00
N	48			
Mean		60064.79	83049.08	143554.31
Median		18404.00	19653.50	86199.50
Std. Deviation		137870.050	193570.232	171537.828
Range		903888	1278481	849073
Minimum		-26724	-48208	4578
Maximum		877164	1230273	853651
Percentiles	25	6235.00	4417.50	31600.00
	50	18404.00	19653.50	86199.50
	75	53440.25	74271.75	182503.50