Taking Different Paths: Diversity in Retirement Migration Patterns

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1. Introduction

Kansas has one retirement migration destination county, as officially defined by the accepted current classification scheme (Economic Research Service 2005). Nemaha County lies almost in the northeast corner of the state. Sufficiently large numbers of older people moved into the county between 1990 and 2000 in order to pass the 15% population growth threshold of those aged 60 and above. Being in Kansas, it is easy to imagine that this is not a typical case of natural or recreational amenities attracting retirees for "fun in the sun." Further investigation revealed that, in fact, Nemaha County was drawing from a pool of very old migrants (Kulcsár and Bolender 2008). People were moving into the area both for cultural and health service amenities that made the area stand out compared to its neighbors. If Nemaha could become an "official" retirement destination without the factors usually associated with this status, what other kinds of things might be drawing different kinds of retirees to different kinds of places.

This project is a step toward exploring the answers to this question. The goal is to uncover and begin to explain differences in retirement migration patterns based on different age/sex/race-ethnicity groups. The current binary definition, while quite useful, masks the diversity in people's and counties' retirement migration experiences. To begin to untangle the variety of retirement migration patterns, this paper uses age/sex/race-ethnicity specific net migration rates in a percentile rank format as dependent variables in its models. It also includes additional sections which begin to measure the effects of health service related variables and early attempts at maximum likelihood estimation using spatially lagged dependent variables.

The main contribution of this piece is twofold. First, it challenges the dominant theoretical understanding of retirement migration on the grounds that it does not acknowledge enough diversity. Further, it tries to highlight some of this diversity to provide a starting point and suggestions for future research. Second, it takes an innovative approach to the methods of studying retirement migration. If this diversity is to be understood, we may need to go beyond looking at retirement destination counties in a binary fashion. Instead, we may learn more by examining a more complex set of dependent variables based on actual migration rates for different categories of people. Further, the addition of health related predictors and spatially lagged dependent variables allow us to begin to explore and expand upon existing knowledge of migration patterns at older ages.

2. Background

While rural retirement migration is not a new phenomenon (Johnson and Cromartie 2006), it is beginning to gain increased attention from policy makers. This is partly because many rural places are doing poorly in terms of population and economic development, and it is partly because of the impending retirement of the Baby Boom generation. While previous research has demonstrated that retirement migration is a selective process in terms of migrants and destinations (Brown and Glasgow 2008; Litwak and Longino 1987; Haas and Serow 1993; Longino and Bradley 2003), few have attempted to model county level net migration by age, sex, or race (Beale and Fuguitt 2006; Longino and Smith 1991). This study is an attempt to fill this gap and provide an overview of the differences in retirement migration destination choice based on often ignored personal characteristics of the migrants themselves.

Conventional wisdom is that retirement migration contributes to economic growth in the destination communities (Fagin and Longino 1993; Glasgow and Brown 2006; Haas and Serow 1993; Serow 2003). It has even been seen as a possibility for an intentional development strategy (Reeder 1998). However, this model assumes that retirement migration tends to primarily follow an amenity based pattern. This is understandable, since natural amenities (McGranahan 1999) and recreation opportunities (Johnson and Beal 2002) have been so closely tied to rural population growth. However, this paper argues that these statements are based on the assumption that retirement migration is confined primarily to younger old people and non-Hispanic whites.

The problem is that other kinds of older age migration are left unexamined. First, it is likely that the younger old choose to migrate to amenity hotspots. As people continue to age, however, their loss of family, financial resources, or health may induce migration more for reasons of need than of preference. In this case, we could expect to see much less concentration of retirement destinations and a stronger preference for more urban areas with greater levels of service and healthcare employment.

Second, we do not know if older men and older women prefer the same kinds of places. It is likely that older men may continue to seek out amenity rich locations because they have the desire and the financial means to do so. Older women, on the other hand, are more likely to be poor and widowed and therefore have their residential decision making ability restricted. Third, we know comparatively little about how migration patterns vary by race and Hispanic origin. Again, whites are most likely to be concentrated in amenity-rich areas while blacks and Hispanics may show preference for particular geographic regions.

3. Data and Methods

This study uses primarily quantitative secondary data analysis. The county level US data were compiled from a variety of sources. Many of the demographic and socioeconomic variables come from the United States Census of the Population (1970-2000). Employment data was compiled from the Regional Economic Information System (1969-2000) and County Business Pattern data (1986-2006). Age/Sex/Race-Ethnicity specific net migration rates (1990-2000) were drawn from data compiled by Voss et al (2003) from the US Census of the Population. This presents a significant advantage over the more typical binary "retirement destination county" classification used by the Economic Research Service (ERS) of the USDA. Not only can these data be aggregated to mimic the ERS classifications for different age/sex/race-ethnicity characteristics, they can also be used in their raw, five-year age group form. The seven groups analyzed are 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, and 85+. Race-Ethnicity and sex are also divided into seven comparison groups: Total population (TT), non-Hispanic white males (WM), non-Hispanic white females (WF), non-Hispanic black males (BM), non-Hispanic black females (BF), Hispanic males of any race (HM), and Hispanic females of any race (HF). An "other" category, including Asians, Native Americans, Alaskan Natives, and Pacific Islanders among others, was excluded from this analysis.

There are a few problems, though, with using net migration rates in their raw form. For one thing, the distributions of net migration rates almost always exhibit a high degree of positive skew. This is because, at a per person level, net migration rates have a lower bound of -1 and an upper bound of infinity. A county can gain any number of people, but it can only lose what it had at the beginning of the period in question. For another, it is difficult to intuitively interpret regression coefficients in terms of raw net migration data after it has gone through a series of

power transformations. As a solution, I propose a method using county percentile ranks on net migration rates. All counties were ranked on their level of net migration with -1 receiving the lowest rank. Ties were given the average rank of their respective locations. These ranks were then converted to percentile ranks by subtracting .5 from the ranks of the scores, dividing by the maximum rank (or the sample size for each age/sex/race-ethnicity group), and multiplying by 100.

The resulting distribution of percentile ranks still differs from the appearance of a normal curve, but there are several advantages to this approach. First, the deviation from normality is much less drastic. Frequency distribution histograms present a primarily rectangular shape with lower bars on the tails of the distribution as opposed to the extreme skewness associated with the raw migration scores. Second, percentile ranks also easily comparable across groups. For exploratory comparative work such as this, the ability to compare like models across different groups could be compromised by the various degrees of power transformations necessary to approximate normality within each of the groups. Finally, percentile ranks have a much more user friendly interpretation for policy makers and the public. They can be seen as a kind of desirability score for each county. In essence, what the models will be predicting is the influence of various factors on the overall relative desirability of one county over others for people in particular age/sex/race-ethnicity groups. It is easier for lay people to understand statements about a factor raising the desirability rank by some percentage as opposed to raising the natural logarithm of the net migration rate.

Predictive variables include both economic and demographic factors. Average business size and family business prevalence are measured as the average number of employees per establishment and the rate of non-farm proprietors employment per 1000 population. Economic

sectoral concentration is measured as a ratio of the number of employees in major industries per 1000 population. Major industries represented include (as coded under the Standard Industrial Classification scheme used by the REIS and County Business Patterns datasets): farming, manufacturing, retail trade, services, and government. Change variables, measuring percent change between 1990 and 2000, are also included for all these factors. Supplemental models also include measures for the ratio of health employees per 1000 population, the number of health establishments per 1000 population, and the change in these factors over the 1990s.

Demographic independent variables include population size (in thousands), the percentage of the population within different older age categories (55-64, 65-74, 75-84, and 85+), the percent at or above age 25 with a bachelor's degree or higher, the percent of the county population in 2000 that lived outside the county's border five years previous, the percent urban, the percent non-Hispanic white, the percent population growth between 1990 and 2000, the McGranahan's natural amenity scale, and the county's metropolitan status in 2003 (with nonmetro being the reference category). There are two issues with the use of these particular factors. First, the author is aware that adding the binary metro classification as an independent variable automatically makes the rest of the slopes pertain to the reference category (in this case, nonmetro counties). This is deemed acceptable because retirement migration is, in theory, both more prevalent and more meaningful to nonmetropolitan areas. Second, it is possible that some of these factors, principally population growth rates and the proportion in certain age categories, might exhibit automatic correlation with a county's percentile rank on net migration rates. However, both these and metropolitan status are vital controls that help ensure the validity of the rest of the model. They should be included for theoretical reasons even with the statistical hassle they may cause.

The principle method used here is standard OLS multiple regression modeling. Separate models were created for each of the 49 age/sex/race-ethnicity groups. Independent variables are presented in single models for each group, and tables were arranged by age group for the sake of parsimony. In addition, several maps were constructed, based on counties' percentile rank scores. These maps clearly display spatial concentration differences in net migration patterns for different age/sex/race-ethnicity groups. They also allow the reader to get a more intuitive feel for how the relative retirement migration desirability of changes across space. These are compared and contrasted both with each other and with a re-made version of the ERS current classification scheme.

In addition, this paper makes an effort to expand the current methodological thinking on retirement migration in other ways. First, a supplemental model is presented which includes crude measures for health employment and health establishments in the area as ratios to the population size. The problem with these models is that the data was only available for a subsection of the total number of counties in the sample. Using it in the regression models dropped the average sample size considerably. This creates two problems. First, there may be problems with the significance tests in the models due to the smaller sample base. Second, it is likely that the missing counties were not excluded randomly (based on disclosure problems in smaller areas). Because of this, the slopes may be biased substantively as well as statistically. In further research, I intend to explore different ways to measure the influence of health services with data that does not compromise the sample size as much.

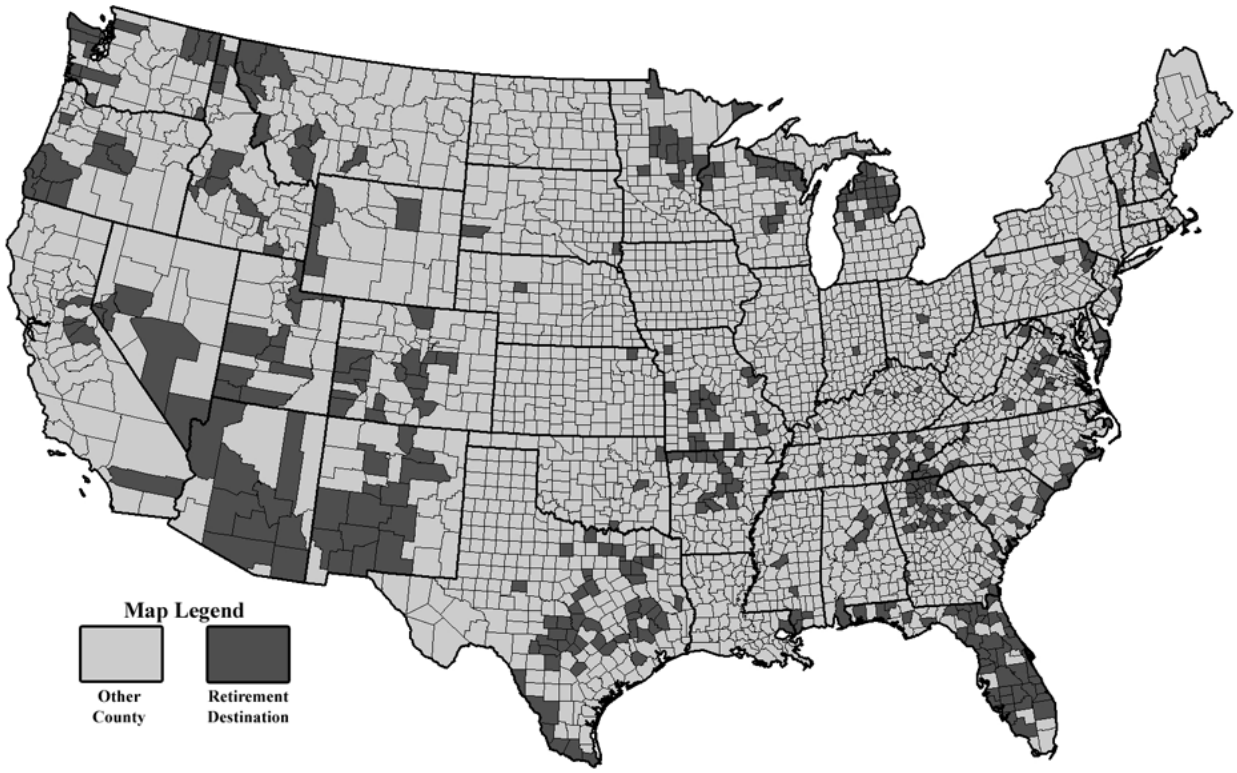
Second, maximum likelihood estimation models were fitted using spatially lagged dependent variables. Retirement migration patterns (at least in general) are thought to be relatively concentrated based on space. In popular culture, there are numerous references to

Florida and Arizona as retirement havens. In addition, there is the appearance of a spatial clustering effect when looking at official maps of retirement destinations in the US. The goal of these models was to discover if adding an explicitly spatial factor substantively changed the interpretation of any of the other findings. Unfortunately, this work is only in its beginning stages. No models will be presented in this paper, although the preliminary findings will be briefly discussed.

4. Maps and Visual Interpretation

This section presents the results of map construction based on county level percentile ranks on net migration rates for various age/sex/race-ethnicity groups. To begin, it would be good to see the distribution of retirement migration destination counties as defined by the ERS. Figure 1 was constructed based on their definition of a retirement county having to have a greater than 15% population increase at ages 60+ due to migration. As we can see, there seems to be a fairly high degree of spatial concentration in the data. A large number of counties in Florida, Arizona, and New Mexico qualify for the status. Also, there seem to be pockets in upper Michigan, Texas, around the northern part of Georgia, and some scattered counties in the northwest.

Figure 1:
Official Retirement Destination Counties - 2004 ERS Definition



The rest of this section compares maps for several of the percentile rank on net migration for other age/sex/race-ethnicity groups. Due to space limitations, only groups age 60-64, 70-74, and 80-84 will be represented in the maps. The shades of the maps are divided into five categories, each representing a quintile of the cases. The lightest shade indicates counties in the lowest 20% of the distribution. These would be considered less desirable or even undesirable for that group. The darkest shade, in contrast, represents the highest 20% of the cases. These are the most attractive places with the highest rates of net in-migration for people in those groups. Obviously, the three shades mediating shades correspond to the quintiles in the middle of the distribution.

Figures 2, 3, and 4 show the spatial distribution of percentile ranks for the total population at three age groups. The 60-64 year old group (Figure 2) greatly resembles the spatial

pattern present in the ERS classification. The reason that more counties are represented as dark is due to the more inclusive nature of the measure compared to a binary either/or situation. We can broadly see a similar pattern of hotspots, though, centered on Florida, Arizona, New Mexico, upper Michigan, Texas, and northern Georgia. In contrast, the Great Plains looks like a retiree dessert. The distribution for the 70-74 year olds (Figure 3) looks similar, although it appears as though the spatial concentration is breaking up a bit. Visible pockets still exist, but they are often interrupted by counties with lower rankings. For the 80-84 year old total population group (Figure 4), the pattern is much more diverse. The country takes on more of the appearance of a checkerboard. Further, places that seemed to attract a large proportion of younger migrants have apparently less interest, on average, for people in the more advanced age categories. For example, large parts of Florida rank fairly low on the measure of desirability.

We could postulate that these differences are likely due to the different reasons that older people migrate at different age groups. Younger migrants, fresh into their retirement, have the desire and resources to pick a location based on desirable amenities such as local culture, climate, or the availability of activities. This fits well with the standard theoretical interpretation of retirement migration patterns. However, as people continue to age, their migration patterns may start to become more dependent on other factors, such as seeking help from adult children or needing health services in an area. They are also more likely to have limited resources to make their moves. Therefore, as age increases, the spatial tightness of the distribution decreases. By the time people are in their 80s, moves are often either to be closer to family members or to assisted living facilities of some kind. This means that their spatial distribution may appear to become quite diverse.

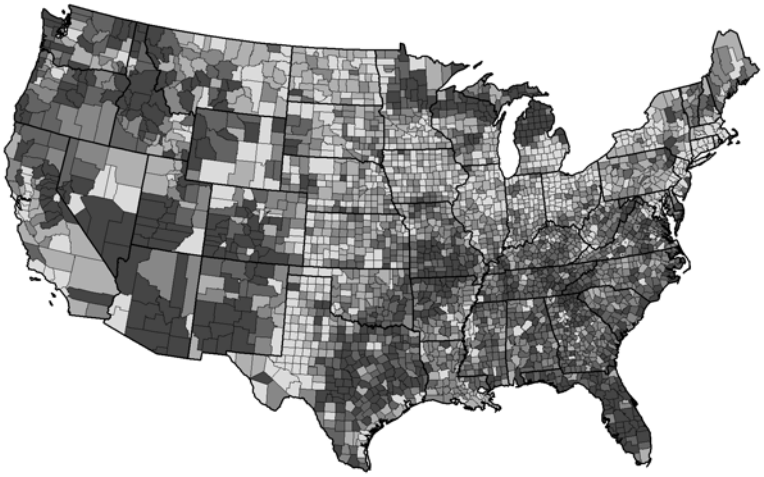


Figure 2:
Total Population
Age 60-64

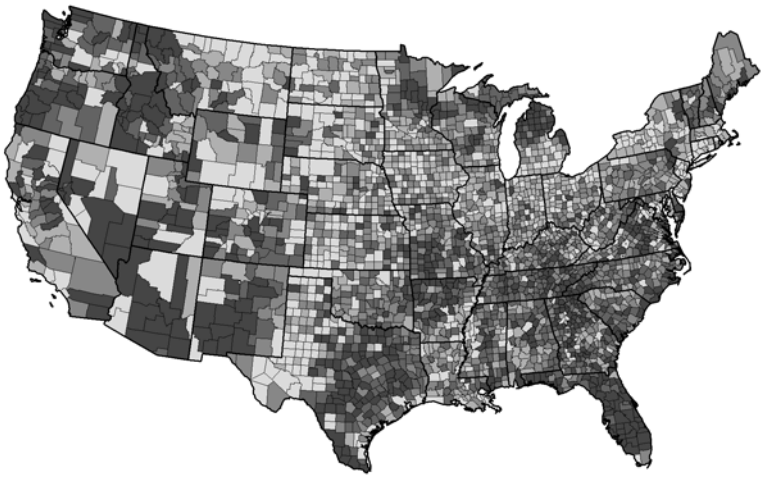


Figure 3:
Total Population
Age 70-74

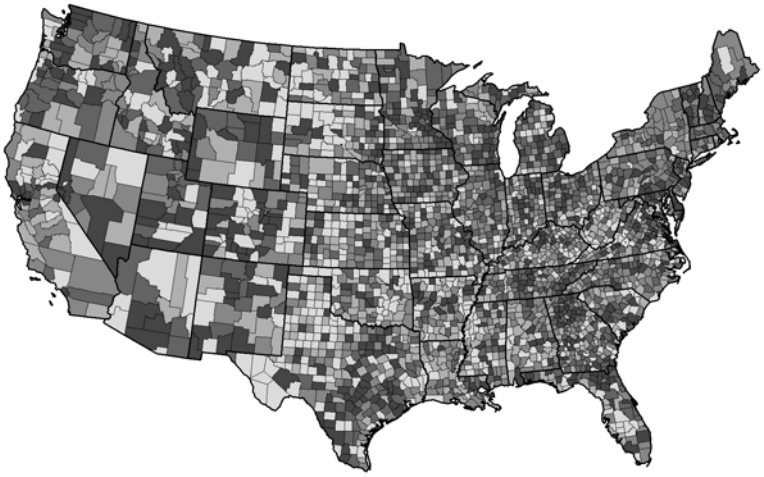
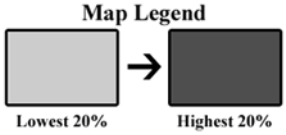


Figure 4:
Total Population
Age 80-84



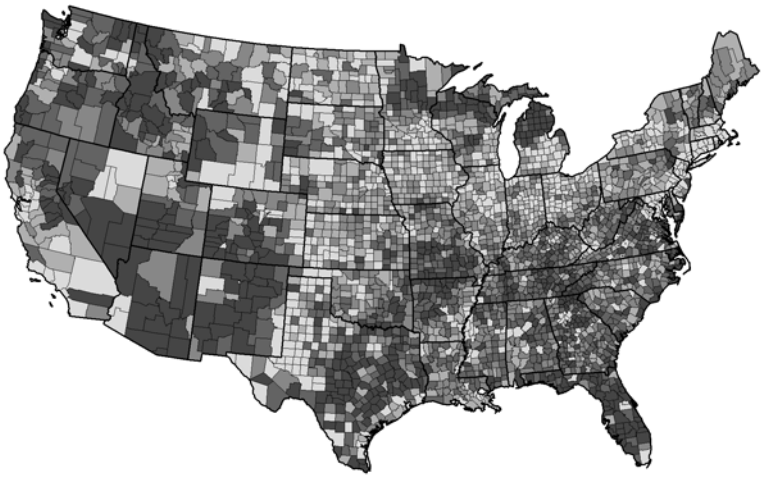


Figure 5:
White Male
Age 60-64

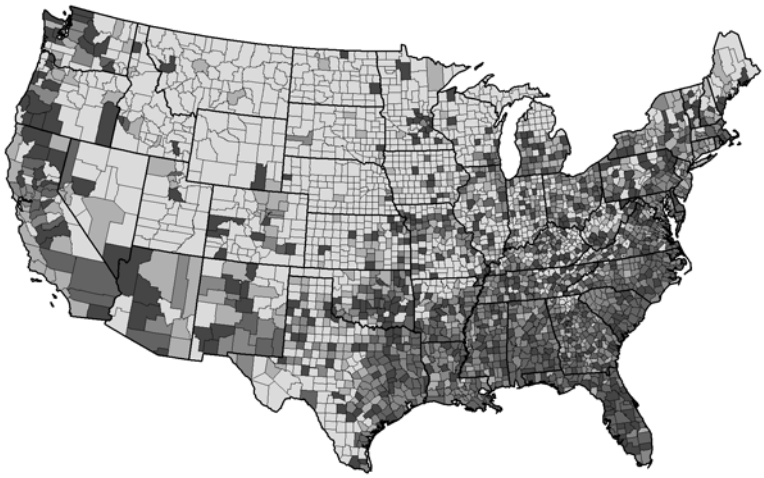


Figure 6:
Black Male
Age 60-64

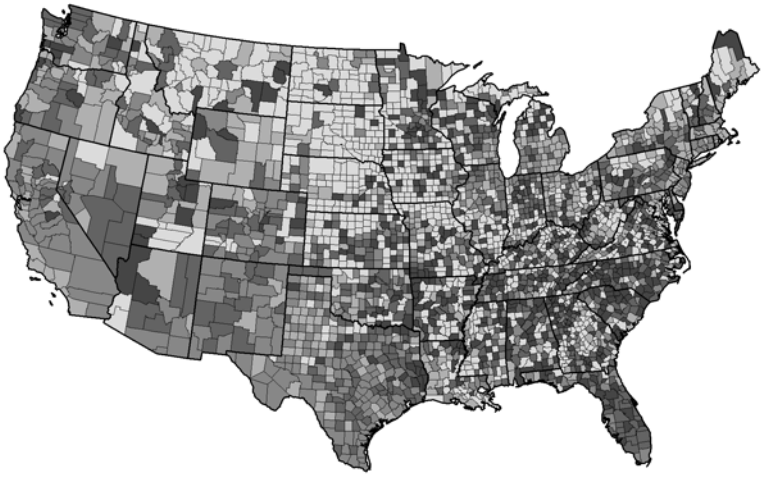
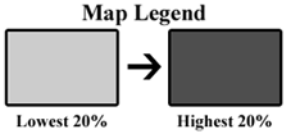


Figure 7:
Hispanic Male
Age 60-64



Figures 5, 6, and 7 show what the spatial distribution of percentile ranks for males age 60-64 in each of the three race/ethnicity groups. The pattern for non-Hispanic white males (Figure 5) looks very similar to the rates for the total population. This is probably because whites make up such a large proportion of the people who are actually able to migrate in their later years. The literature citing the white advantage in terms of resources is too voluminous to mention. The distributions for non-Hispanic black males (Figure 6) and Hispanic males (Figure 7), on the other hand, look very different. Counties with high ranks in terms of black male migration are extremely concentrated in the southeast portion of the country along with a few counties in the West. The Midwest and northern central parts of the country have very low ranks. The pattern for Hispanic males is fairly diverse. The eastern half of the country has high rank counties interspersed with ones having a low rank. The southwestern portion seems to hover more around the median. These patterns make sense when we think about the distribution of these populations in the country in general. Blacks are primarily concentrated in the South while Hispanics are most prevalent across the South and West.

Figures 8, 9, and 10 display maps for the same age and race/ethnicity groups, but for females. White females closely follow the pattern for their male counterparts. Many of the same counties are ranked high on both male and female migration. Black females also seem to somewhat follow the male pattern, with most of the highly ranked counties in the southeastern states. However, they also seem to be attracted to areas in the southwestern states, like Arizona. Female Hispanics also largely go to the same places as males. They also seem to be more likely to move northward as well. We should not be surprised at the relative similarity between male and female migration patterns at these ages. In younger old age, many people are still married. It would make sense that where one person in a married couple moves, the other will also.

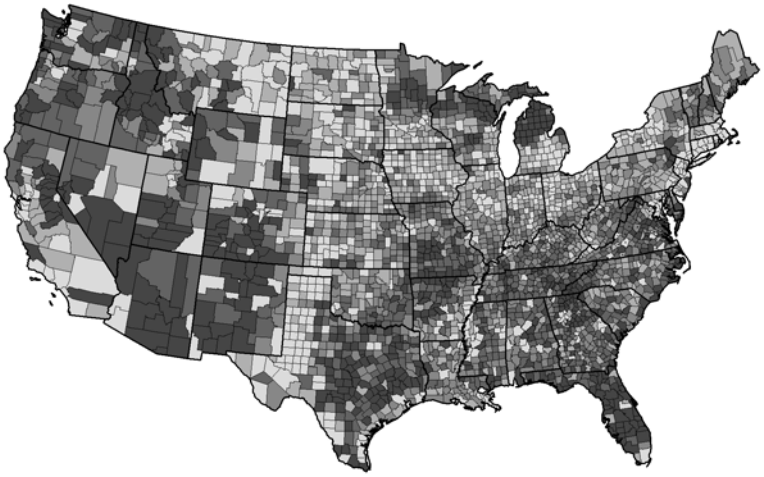


Figure 8:
White Female
Age 60-64

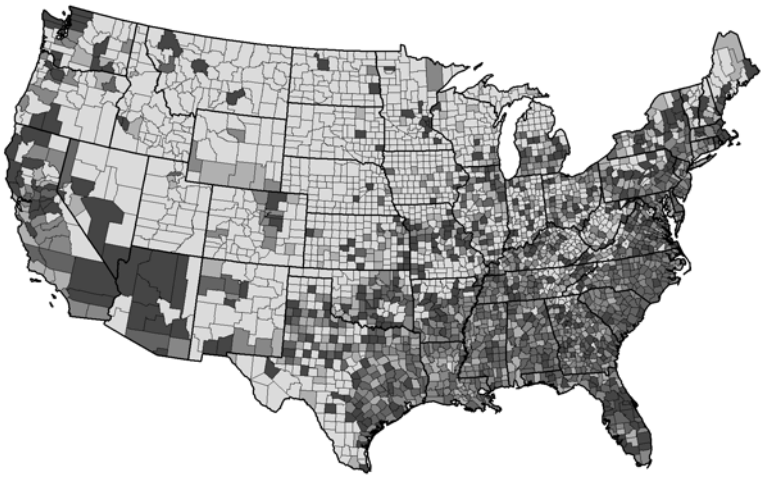


Figure 9:
Black Female
Age 60-64

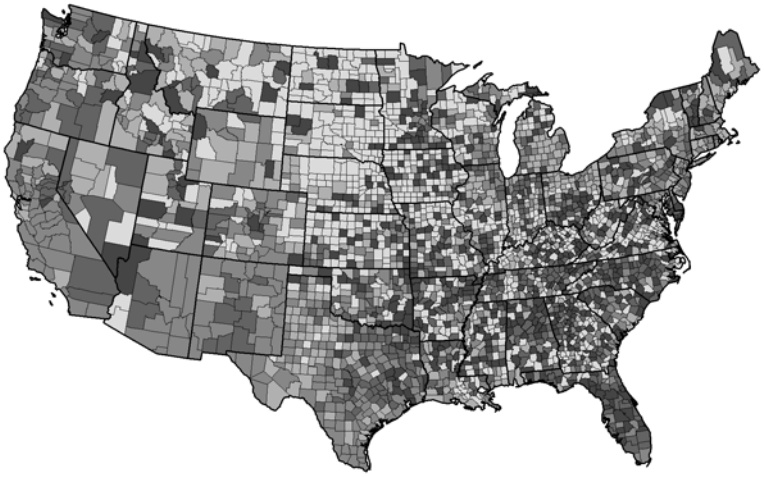
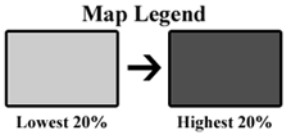


Figure 10:
Hispanic Female
Age 60-64



Figures 11 through 16 present the ranking distribution for males and females at ages 70-74. Many of the same patterns exist. White males and females show great similarity to the overall population trends. Blacks of both sexes concentrate in the southeastern states. Hispanics of both sexes have both high and low rank counties in the eastern part of the country, but seem to be much more consistently spread throughout the West. In this age group, though, we can see two patterns starting to break down. First, high ranking counties are not as tightly clustered as they are for the younger age groups. Again, this is probably due to the increasing need for help and reduced resources that people have as they continue to age. Second, the connection between patterns of male and female migration appear to be weakening as well. This probably at least partially due to the fact that the older people get, the less likely they are to be married due to widowhood. As such, it seems likely that the sex based patterns would start to diverge.

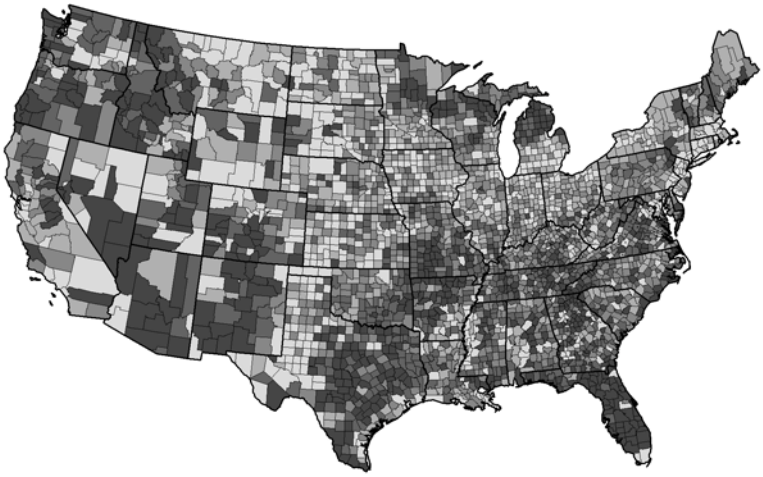


Figure 11:
White Male
Age 70-74

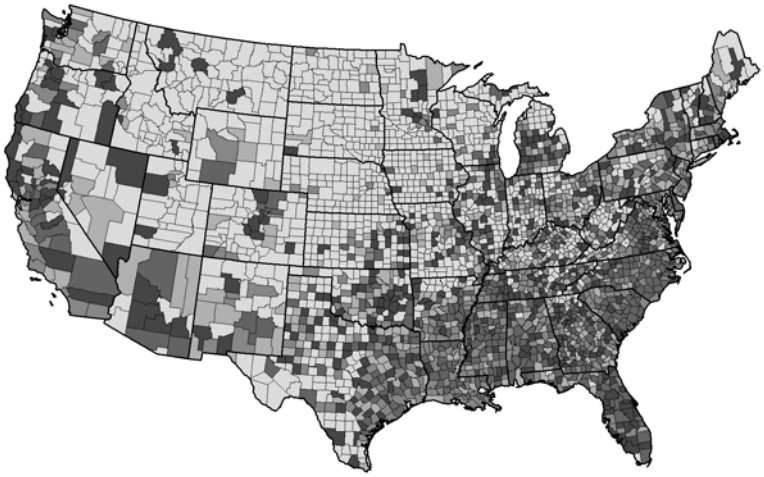


Figure 12:
Black Male
Age 70-74

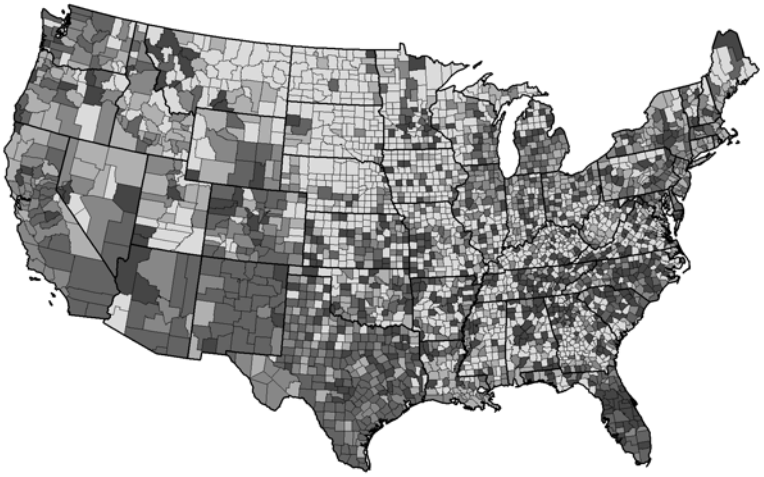
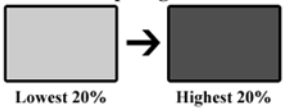


Figure 13:
Hispanic Male
Age 70-74

Map Legend



Lowest 20% **Highest 20%**

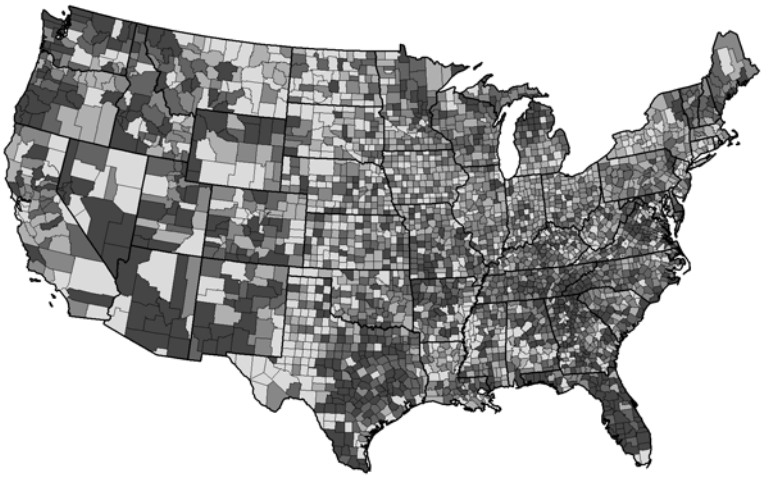


Figure 14:
White Female
Age 70-74

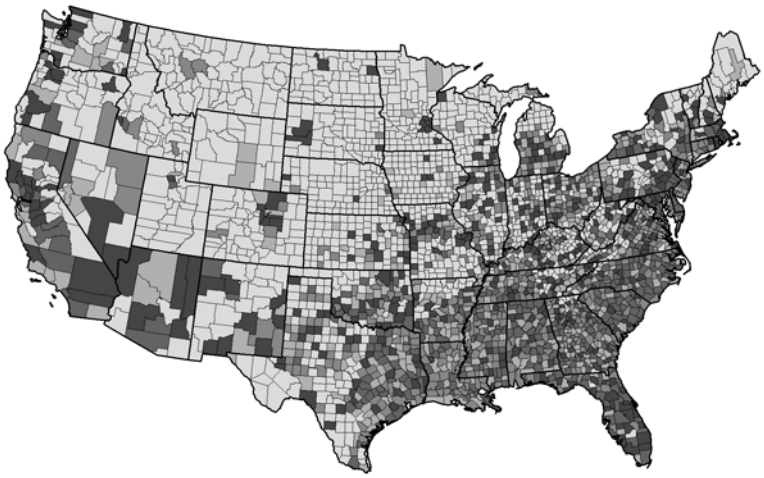


Figure 15:
Black Female
Age 70-74

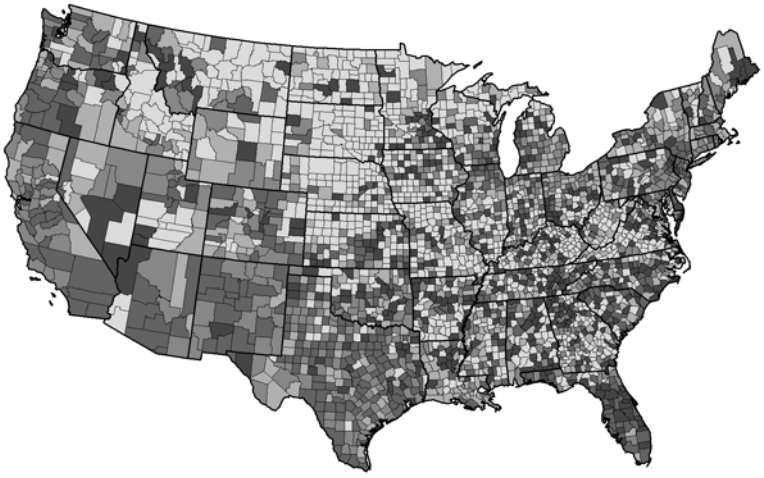
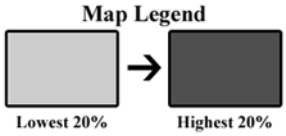


Figure 16:
Hispanic Female
Age 70-74



Finally, Figures 17 through 22 show the distribution of net migration rate percentile ranks for counties based on the movements of 80-84 year olds. The movements of white males and females seems to be distributed almost randomly across the country. Both black males and females still concentrate in the South and along the East Coast. Hispanics of both sexes still consistently move to areas in the South and West. High and low ranking counties checkerboard the eastern half of the country. In general, whites seem to exhibit almost no spatial patterns, blacks appear to continue to follow region based retirement migration patterns established at younger ages, and Hispanic destination choice becomes increasingly diverse in some areas while increasingly smooth in others. Again, these patterns point to the fact that need becomes an ever greater factor as potential migrants age. Blacks and Hispanics, having lower average access to resources than whites, are more likely to congregate in particular areas at any age. However, as all groups age, their distributions begin to become more random over small areas (e.g. this county, not its neighbor) while becoming more stable over larger areas. This discussion, however interesting, is still based on visual representations that carry little if any statistical weight. The next section begins to unravel the differences in county rank on net migration through the use of more quantitatively sophisticated methods.

Figure 17:
White Male
Age 80-84

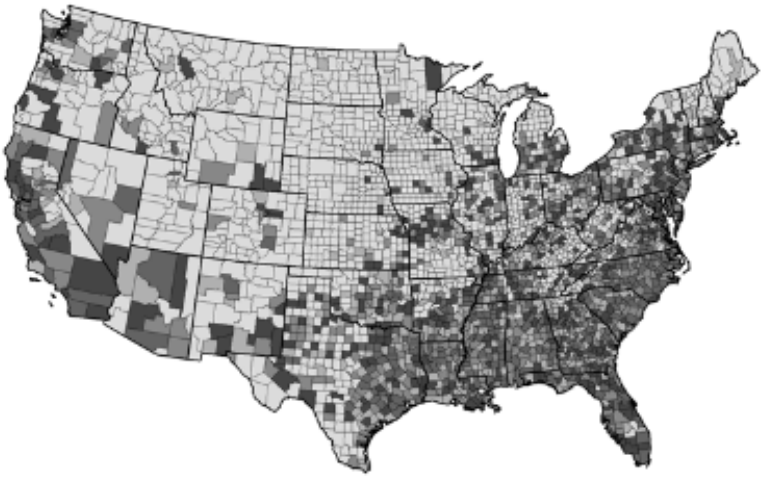


Figure 18:
Black Male
Age 80-84

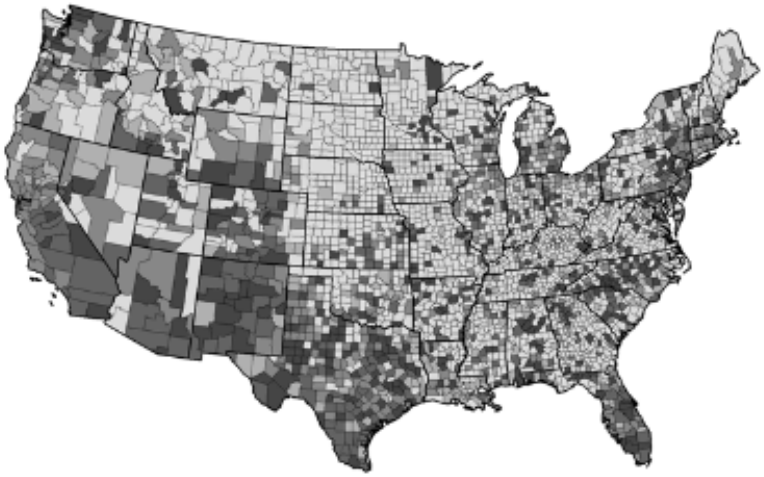
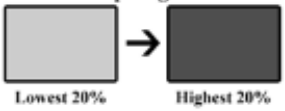


Figure 19:
Hispanic Male
Age 80-84

Map Legend



Lowest 20% **Highest 20%**

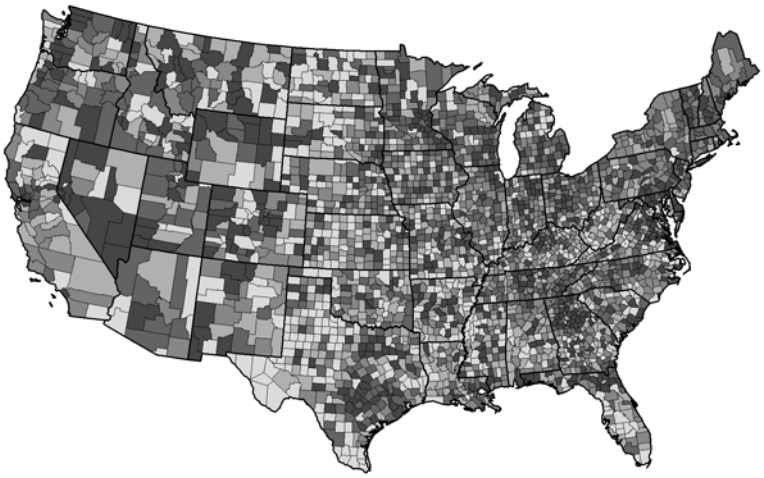


Figure 20:
White Female
Age 80-84

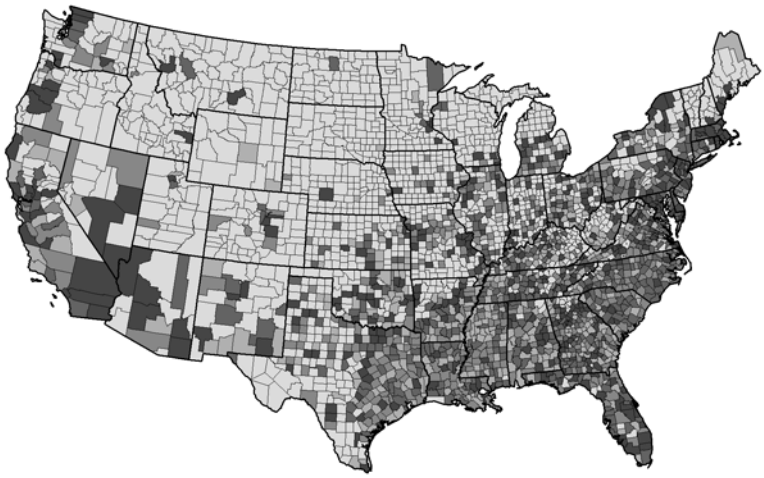


Figure 21:
Black Female
Age 80-84

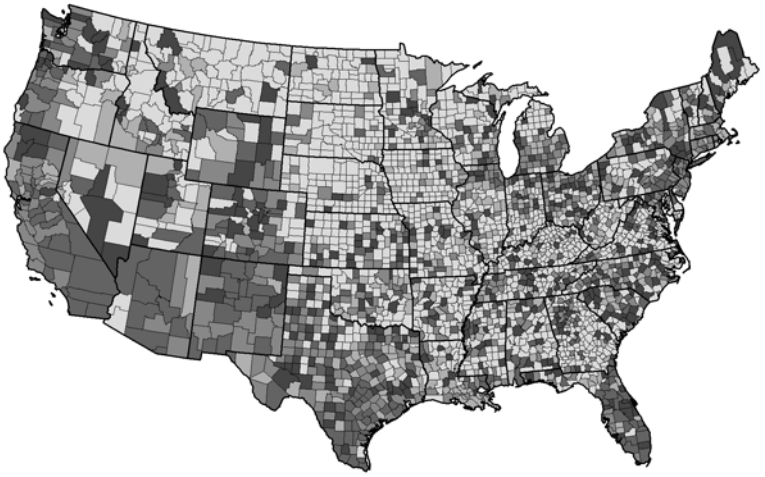
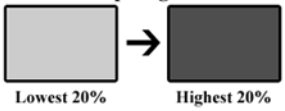


Figure 22:
Hispanic Female
Age 80-84

Map Legend



Lowest 20% **Highest 20%**

5. OLS Regression Models

This section examines the 49 age/sex/race-ethnicity group percentile ranks as the outcome variables in standard OLS multiple regression modeling. The tables in this section are organized to compare different sex/race-ethnicity groups at different age levels, though it would be equally interesting to arrange the tables to show age groups side by side. The tables themselves present standardized beta coefficients for each of the variables in their respective models. Because the dependent variables are in the form of percentile ranks, standardized betas allow the effects of each factor to be compared both within its own model and across models. The discussion will first focus on example based comparisons of the individual slopes. Then it will move to cover measures of the goodness of fit for all the models.

Tables 1 and 2 display the standardized betas for all sex/race-ethnicity groups age 55-59 and 60-64 respectively. When looking at the total population, people in this age group seem to be drawn toward places that are growing, with a higher proportion of people in the 65-84 year old categories that also have fairly high in-migration rates, a high proportion of employment retail employees, and a high level of natural amenities. In contrast, they tend to avoid counties with larger, more urbanized, more educated populations, or ones that focus primarily on farm employment. This conforms nicely to the standard theories of retirement migration. The picture we get is one of relatively affluent retirees moving to the places they want to live out their lives in a relaxing manner. This pattern also holds fairly well for white males and females. In fact, whites are even more attracted to both larger businesses and places with a high level of proprietors' employment. This again makes sense since they make up a large proportion of the migrating population due to their access to resources.

Table 1: OLS Regression Models by Sex/Race-Ethnic Group ~ Age 55-59

	Total	WM	WF	BM	BF	HM	HF
1990 Total Employees Per Establishment	-0.052*	-0.098***	-0.063*	0.039	0.063	0.113**	0.05
1990 REIS/PopK NonFarm Proprietor's Employment	0.031	0.001	0.037	-0.034	-0.025	0.002	0.002
1990-2000 Change in Emp/Est Total	0.007	-0.011	0.011	0.09*	0.081*	0.013	-0.011
1990-2000 Change in Job/PopK NonFarm Proprietors	0.049***	0.052***	0.05***	-0.045	-0.02	-0.046*	-0.04
1990 REIS/PopK Farm Employment	-0.148***	-0.13***	-0.162***	-0.128***	-0.116***	-0.055	-0.075*
1990 REIS/PopK Manufacturing Employment	0.026	0.031	0.027	-0.043	-0.029	0.121***	0.08*
1990 REIS/PopK Retail Trade Employment	0.094***	0.081***	0.093***	0.042	0.062	0.14***	0.114***
1990 REIS/PopK Services Employment	-0.052*	-0.028	-0.052*	-0.015	-0.111**	-0.075*	-0.029
1990 REIS/PopK Government Employment	-0.003	-0.005	0.002	-0.068*	-0.108***	-0.032	-0.035
1990-2000 Change in Job/PopK Farm	-0.042***	-0.022	-0.046***	0.016	0.018	0	0.038
1990-2000 Change in Job/PopK Manufacturing	-0.031*	-0.021	-0.04**	-0.047	-0.069*	0.004	0.007
1990-2000 Change in Job/PopK Retail Trade	0.019	0.012	0.033**	0.015	-0.003	0.016	0.035
1990-2000 Change in Job/PopK Services	0.005	0.029	-0.012	-0.049	-0.043	-0.007	-0.014
1990-2000 Change in Job/PopK Government	-0.031**	-0.03*	-0.041**	0.066**	-0.026	-0.024	0.008
1990 Pop in Thousands	-0.047***	-0.05***	-0.05***	-0.08**	-0.061*	-0.043	-0.024
1990 Percent Age 55-64 years	0.039	0.057*	0.034	0.088	-0.037	0.002	-0.044
1990 Percent Age 65-74 years	0.167***	0.185***	0.158***	-0.094	0.108	0.052	0.101
1990 Percent Age 75-84 years	0.198***	0.158***	0.199***	0.173**	0.063	0.107	0.066
1990 Percent Age 85+ years	-0.01	-0.02	-0.014	-0.034	0.01	-0.017	-0.041
1990 Percent Age 25+ with Bachelor's Degree or Higher	-0.225***	-0.237***	-0.222***	-0.059	0.086*	-0.052	-0.086*
2000 Percent Lived Outside County in 1995	0.101***	0.112***	0.142***	-0.041	0.013	-0.006	-0.022
1990 Percent Urban	-0.261***	-0.25***	-0.272***	0.051	0.007	-0.062*	-0.065*
1990 Percent White Non-Hispanic	-0.087***	-0.042**	-0.039**	-0.04	-0.073**	-0.073**	-0.034
1990-2000 Percent Population Growth	0.536***	0.492***	0.454***	0.298***	0.235***	0.327***	0.317***
Natural Amenity Scale	0.173***	0.146***	0.188***	-0.011	0.013	-0.054*	-0.048
Metro-nonmetro 2003	-0.064***	-0.064***	-0.042**	-0.028	0.036	-0.035	-0.07**
Adjusted R^2	**0.709**	**0.672**	**0.668**	**0.091**	**0.1**	**0.143**	**0.112**

Table 2: OLS Regression Models by Sex/Race-Ethnic Group ~ Age 60-64

	Total	WM	WF	BM	BF	HM	HF
1990 Total Employees Per Establishment	-0.076**	-0.065**	-0.087***	-0.003	0.002	0.056	0.083
1990 REIS/PopK NonFarm Proprietor's Employment	0.036	0.022	0.049*	-0.045	0.005	0.006	0.007
1990-2000 Change in Emp/Est Total	0.009	0.006	0	0.067	0.027	0.142***	0.036
1990-2000 Change in Job/PopK NonFarm Proprietors	0.029*	0.041**	0.025	-0.02	-0.008	-0.008	-0.031
1990 REIS/PopK Farm Employment	-0.165***	-0.157***	-0.171***	-0.14***	-0.073*	-0.111***	-0.036
1990 REIS/PopK Manufacturing Employment	0.022	0.001	0.032	-0.045	-0.002	0.126***	0.049
1990 REIS/PopK Retail Trade Employment	0.091***	0.08***	0.094***	0.084*	0.019	0.128***	0.087*
1990 REIS/PopK Services Employment	-0.027	-0.017	-0.041	-0.067	-0.066	-0.09*	-0.051
1990 REIS/PopK Government Employment	0.017	0.021	0.017	-0.072*	-0.092**	0.004	-0.046
1990-2000 Change in Job/PopK Farm	-0.031*	-0.023	-0.028*	0.032	0.065*	-0.014	0.012
1990-2000 Change in Job/PopK Manufacturing	-0.043**	-0.041**	-0.033*	-0.067*	-0.024	-0.023	-0.047
1990-2000 Change in Job/PopK Retail Trade	0.034**	0.026*	0.04**	-0.016	0.004	0.005	0.026
1990-2000 Change in Job/PopK Services	-0.011	0.003	-0.017	-0.042	-0.028	-0.147***	-0.031
1990-2000 Change in Job/PopK Government	-0.042***	-0.038**	-0.038**	0.006	0.008	0.022	-0.065**
1990 Pop in Thousands	-0.038**	-0.044***	-0.041**	-0.058*	-0.052	-0.037	-0.041
1990 Percent Age 55-64 years	-0.07**	-0.018	-0.075**	-0.106*	-0.099	0.101*	-0.074
1990 Percent Age 65-74 years	0.271***	0.243***	0.271***	0.138*	0.259***	-0.017	0.133*
1990 Percent Age 75-84 years	0.214***	0.189***	0.21***	0.077	-0.014	0.101	0.036
1990 Percent Age 85+ years	-0.05*	-0.043*	-0.062**	-0.002	-0.069	0.026	-0.005
1990 Percent Age 25+ with Bachelor's Degree or Higher	-0.28***	-0.287***	-0.269***	-0.062	0.052	-0.05	-0.12***
2000 Percent Lived Outside County in 1995	0.079***	0.097***	0.112***	-0.115***	0.027	-0.009	-0.019
1990 Percent Urban	-0.27***	-0.281***	-0.258***	-0.022	0.052	0.004	0.015
1990 Percent White Non-Hispanic	-0.083***	-0.046***	-0.026	-0.137***	-0.101***	-0.034	-0.025
1990-2000 Percent Population Growth	0.484***	0.421***	0.442***	0.301***	0.188***	0.311***	0.276***
Natural Amenity Scale	0.184***	0.196***	0.171***	-0.031	-0.03	-0.029	0.008
Metro-nonmetro 2003	-0.095***	-0.108***	-0.058***	-0.001	0.023	-0.032	-0.058*
Adjusted R^2	**0.694**	**0.68**	**0.641**	**0.114**	**0.073**	**0.132**	**0.096**

However, the picture does not hold as well for blacks and Hispanics of either sex. It seems that almost everyone at these ages is attracted to growing places and away from places with a high degree of farm employment. However, Hispanics are attracted to places with higher retail employment while blacks are not. Blacks, on the other hand, seem to move away from places with larger populations and high levels of government employment while these have no effect for Hispanics. There are also a number of single group effects. Hispanic males age 60-64, for example, are the only ones attracted to places with growing average business size. Also, for both sexes, blacks age 60-64 are attracted to places with a high proportion of people age 65-74 while this is not true for the younger group.

Tables 3 and 4 present the same statistics for people age 65-69 and 70-74. Again, most groups seem generally attracted to growing areas and repelled by farming and manufacturing counties. Even non-significant slopes for the effects of concentration in these sectors are in a negative direction. Also, both whites and blacks at this age seem to avoid places with a higher proportion age 55-64 while being attracted to places with other 65-74 year olds. Only Hispanic males show a preference for age groups that do not conform to the pattern. Migration patterns for Hispanic females show no preference at all.

Table 3: OLS Regression Models by Sex/Race-Ethnic Group ~ Age 65-69

	Total	WM	WF	BM	BF	HM	HF
1990 Total Employees Per Establishment	-0.099***	-0.106***	-0.115***	0.09*	0.138**	0.011	-0.014
1990 REIS/PopK NonFarm Proprietor's Employment	0.033	0.027	0.027	-0.079*	0.006	-0.011	-0.067
1990-2000 Change in Emp/Est Total	0.003	0.005	-0.028	0.035	0.04	0.037	0.058
1990-2000 Change in Job/PopK NonFarm Proprietors	0.007	0.013	0.008	-0.047	-0.07**	-0.068**	-0.031
1990 REIS/PopK Farm Employment	-0.189***	-0.171***	-0.194***	-0.114***	-0.044	-0.053	-0.074*
1990 REIS/PopK Manufacturing Employment	0.006	0.006	0.025	-0.057	-0.092*	0.077*	0.001
1990 REIS/PopK Retail Trade Employment	0.127***	0.106***	0.116***	0.093*	0.051	0.111**	0.169***
1990 REIS/PopK Services Employment	-0.057*	-0.029	-0.065**	-0.06	-0.142**	-0.051	-0.033
1990 REIS/PopK Government Employment	0.012	0.03	-0.014	-0.029	-0.029	-0.03	-0.05
1990-2000 Change in Job/PopK Farm	-0.032*	-0.033*	-0.004	0.027	0.046	-0.014	0.014
1990-2000 Change in Job/PopK Manufacturing	-0.073***	-0.061***	-0.055**	-0.041	-0.062*	0.017	-0.022
1990-2000 Change in Job/PopK Retail Trade	0.066***	0.049***	0.086***	-0.008	0.004	0.003	0.012
1990-2000 Change in Job/PopK Services	-0.015	-0.013	-0.01	-0.03	-0.01	-0.046	-0.017
1990-2000 Change in Job/PopK Government	-0.05***	-0.035**	-0.046**	0.007	0.003	-0.029	-0.004
1990 Pop in Thousands	-0.043**	-0.041**	-0.044**	-0.088***	-0.046	-0.041	-0.045
1990 Percent Age 55-64 years	-0.156***	-0.082**	-0.175***	-0.139**	-0.159**	-0.013	-0.084
1990 Percent Age 65-74 years	0.293***	0.268***	0.302***	0.154*	0.278***	0.07	0.116
1990 Percent Age 75-84 years	0.254***	0.241***	0.202***	0.171**	-0.009	0.148*	0.083
1990 Percent Age 85+ years	-0.031	-0.051*	-0.008	-0.067	-0.055	-0.121**	-0.036
1990 Percent Age 25+ with Bachelor's Degree or Higher	-0.266***	-0.289***	-0.236***	-0.01	0.061	-0.082*	-0.029
2000 Percent Lived Outside County in 1995	0.06**	0.085***	0.107***	-0.071*	-0.069	0.023	-0.013
1990 Percent Urban	-0.244***	-0.255***	-0.19***	-0.025	0.012	-0.01	-0.02
1990 Percent White Non-Hispanic	-0.043**	-0.005	0.062***	-0.157***	-0.048	-0.067**	-0.014
1990-2000 Percent Population Growth	0.496***	0.406***	0.47***	0.201***	0.262***	0.255***	0.267***
Natural Amenity Scale	0.186***	0.2***	0.147***	0.044	-0.01	0.014	0.002
Metro-nonmetro 2003	-0.076***	-0.076***	-0.052**	-0.003	0.026	-0.043	0.011
Adjusted R^2	**0.652**	**0.645**	**0.571**	**0.103**	**0.088**	**0.109**	**0.087**

Table 4: OLS Regression Models by Sex/Race-Ethnic Group ~ Age 70-75

	Total	WM	WF	BM	BF	HM	HF
1990 Total Employees Per Establishment	-0.063*	-0.074*	-0.039	0.04	0.106*	0.169***	0.035
1990 REIS/PopK NonFarm Proprietor's Employment	0.013	0.015	-0.001	0.045	0.041	0.026	-0.052
1990-2000 Change in Emp/Est Total	0.007	0.012	-0.009	0.063	0.043	0.079	0.093*
1990-2000 Change in Job/PopK NonFarm Proprietors	-0.012	-0.003	-0.025	0.004	-0.04	-0.003	-0.012
1990 REIS/PopK Farm Employment	-0.202***	-0.193***	-0.167***	-0.129***	-0.085*	-0.014	-0.016
1990 REIS/PopK Manufacturing Employment	0.009	0.008	0.006	0.026	-0.058	-0.022	0.057
1990 REIS/PopK Retail Trade Employment	0.115***	0.069**	0.146***	0.055	0.03	0.079*	0.049
1990 REIS/PopK Services Employment	-0.089**	-0.061*	-0.105***	-0.054	-0.095*	-0.09*	-0.02
1990 REIS/PopK Government Employment	-0.019	0.004	-0.051*	-0.052	-0.048	0.006	-0.007
1990-2000 Change in Job/PopK Farm	-0.008	0.003	-0.002	0.018	0.029	0.055*	0.05*
1990-2000 Change in Job/PopK Manufacturing	-0.071***	-0.056**	-0.066**	-0.065*	-0.074*	-0.009	-0.028
1990-2000 Change in Job/PopK Retail Trade	0.092***	0.078***	0.104***	0.003	-0.006	0.028	0.043
1990-2000 Change in Job/PopK Services	-0.011	-0.007	0.003	-0.047	-0.011	-0.086*	-0.122**
1990-2000 Change in Job/PopK Government	-0.051**	-0.037*	-0.049**	-0.042	-0.016	0.007	0.001
1990 Pop in Thousands	-0.066***	-0.056***	-0.083***	-0.052*	-0.022	-0.054*	-0.044
1990 Percent Age 55-64 years	-0.217***	-0.174***	-0.237***	-0.115*	-0.107*	-0.02	0.056
1990 Percent Age 65-74 years	0.275***	0.309***	0.212***	0.191**	0.176*	0.181*	-0.04
1990 Percent Age 75-84 years	0.234***	0.229***	0.208***	0.032	0.013	-0.097	0.057
1990 Percent Age 85+ years	0.043	-0.007	0.069*	-0.063	-0.049	0.047	0.018
1990 Percent Age 25+ with Bachelor's Degree or Higher	-0.226***	-0.266***	-0.148***	-0.056	0.08	-0.1*	-0.025
2000 Percent Lived Outside County in 1995	0.032	0.071**	0.039	-0.009	-0.048	0.059	0.026
1990 Percent Urban	-0.077***	-0.125***	-0.036	0.022	0.031	0.095**	0.139***
1990 Percent White Non-Hispanic	0.022	0.048**	0.112***	-0.126***	-0.06*	-0.009	-0.014
1990-2000 Percent Population Growth	0.554***	0.467***	0.494***	0.191***	0.208***	0.197***	0.264***
Natural Amenity Scale	0.129***	0.151***	0.079***	0.014	-0.049	0.044	0.008
Metro-nonmetro 2003	-0.046*	-0.074***	0.024	-0.016	-0.003	0.028	0.033
Adjusted R^2	**0.482**	**0.516**	**0.357**	**0.079**	**0.069**	**0.073**	**0.088**

Three effects in these tables show particular variation across groups. For one thing, natural amenities seem to create quite a pull for the total population and whites in these age groups. At the same time, they are completely insignificant for any other group. There is a similar negative trend in the slopes for urbanization. Another is the effect of the percent non-Hispanic white in the county. Whites are particularly attracted to other white areas. Black males, black females, and Hispanic males, on the other hand, display a negative pattern when it comes to percentile rank on net migration scores. This could show one of two things. First, blacks and Hispanics could be being excluded from white destination areas either through discriminatory or pricing means. A second possibility is that blacks, Hispanics, and whites tend to prefer to retire to areas that are more homogenous in their racial/ethnic characteristics.

Tables 5 and 6 display the same models for 75-79 and 80-84 year olds. Now, it seems, more urbanized counties become attractive for many groups and exert a considerable pull effect for 80-84 year old Hispanics. Overall population growth is still strong, positive, and highly significant except for 80-84 year old black males. Here again, farm employment produces negative effects, but only for whites. The natural amenity scale is completely insignificant for 75-79 year olds. In the 80-84 age range, it becomes mildly negative for whites, yet positive for Hispanic males. The percent white still exerts a positive effect for whites and a negative effect for black males, but it has lost significance for the other groups. It seems that whites especially are favoring locations with more people in the advanced age categories and fewer of the younger old. 80-84 year old Hispanic males also seem to be avoiding places with younger old, but no slopes for any other group are significant. Whites seem particularly attracted to areas with large and growing retail sectors, while black females and Hispanic males seem to avoid places with growing manufacturing.

Table 5: OLS Regression Models by Sex/Race-Ethnic Group ~ Age 75-79

	Total	WM	WF	BM	BF	HM	HF
1990 Total Employees Per Establishment	-0.028	-0.045	-0.069	0.076	0.1*	0.126*	0.141**
1990 REIS/PopK NonFarm Proprietor's Employment	-0.05	-0.036	-0.057	-0.057	-0.065	0.003	0.004
1990-2000 Change in Emp/Est Total	-0.008	-0.024	-0.028	0.054	0.023	0.105***	0.012
1990-2000 Change in Job/PopK NonFarm Proprietors	-0.049*	-0.049*	-0.057**	0.01	0.007	-0.045	-0.07*
1990 REIS/PopK Farm Employment	-0.121***	-0.116***	-0.1***	0.006	-0.004	0.04	0.048
1990 REIS/PopK Manufacturing Employment	0.012	-0.013	0.077**	-0.002	-0.066	-0.089*	0.017
1990 REIS/PopK Retail Trade Employment	0.132***	0.114***	0.092**	-0.012	0.064	0.081*	0.027
1990 REIS/PopK Services Employment	-0.082*	-0.1**	-0.023	-0.047	-0.042	-0.082	-0.096*
1990 REIS/PopK Government Employment	-0.027	0.021	-0.064**	-0.013	-0.02	0.011	-0.003
1990-2000 Change in Job/PopK Farm	-0.006	0.035	0	0.064*	0.015	0.029	0.101***
1990-2000 Change in Job/PopK Manufacturing	-0.075***	-0.071**	-0.05*	-0.026	-0.066*	-0.101***	0.015
1990-2000 Change in Job/PopK Retail Trade	0.084***	0.089***	0.08***	0.018	0.011	0.023	0.021
1990-2000 Change in Job/PopK Services	-0.01	-0.026	-0.024	-0.017	-0.015	-0.031	0.019
1990-2000 Change in Job/PopK Government	-0.04*	-0.036	-0.021	0.027	0.001	-0.01	0.015
1990 Pop in Thousands	-0.097***	-0.089***	-0.092***	-0.031	-0.006	-0.04	-0.037
1990 Percent Age 55-64 years	-0.287***	-0.318***	-0.223***	0.017	-0.028	-0.038	0.08
1990 Percent Age 65-74 years	0.003	0.15**	-0.092	0.095	0.106	0.071	-0.05
1990 Percent Age 75-84 years	0.251***	0.291***	0.182***	-0.035	0.007	-0.021	0.004
1990 Percent Age 85+ years	0.147***	0.098**	0.128***	-0.004	-0.053	-0.013	-0.018
1990 Percent Age 25+ with Bachelor's Degree or Higher	-0.022	-0.105***	0.049	0.075	0.123**	-0.031	0.067
2000 Percent Lived Outside County in 1995	-0.08**	-0.076**	0.002	-0.027	-0.013	-0.073*	0.013
1990 Percent Urban	0.106***	0.082**	0.088**	0.125**	0.074	0.138***	0.116**
1990 Percent White Non-Hispanic	0.135***	0.157***	0.185***	-0.098***	-0.014	0.047	-0.013
1990-2000 Percent Population Growth	0.508***	0.487***	0.349***	0.155***	0.177***	0.251***	0.226***
Natural Amenity Scale	-0.002	-0.008	-0.026	-0.025	-0.01	0.044	0.024
Metro-nonmetro 2003	0.035	0.016	0.077***	-0.003	0.01	0.005	-0.012
Adjusted R^2	**0.267**	**0.224**	**0.252**	**0.042**	**0.077**	**0.083**	**0.083**

Table 6: OLS Regression Models by Sex/Race-Ethnic Group ~ Age 80-84

	Total	WM	WF	BM	BF	HM	HF
1990 Total Employees Per Establishment	-0.114**	-0.087*	-0.084*	0.103*	0.079	0.055	-0.03
1990 REIS/PopK NonFarm Proprietor's Employment	-0.07*	-0.051	-0.031	-0.06	-0.065	-0.014	0.039
1990-2000 Change in Emp/Est Total	-0.057*	-0.02	-0.03	-0.019	0.016	0.07*	-0.014
1990-2000 Change in Job/PopK NonFarm Proprietors	-0.033	-0.044*	-0.028	-0.053*	0.013	-0.019	-0.035
1990 REIS/PopK Farm Employment	-0.117***	-0.094***	-0.115***	-0.038	-0.025	-0.056	-0.012
1990 REIS/PopK Manufacturing Employment	0.1***	0.067*	0.101***	-0.017	0.049	-0.028	0.022
1990 REIS/PopK Retail Trade Employment	0.097***	0.068*	0.064*	0.052	0.01	0.02	0.059
1990 REIS/PopK Services Employment	0.013	-0.02	0.025	-0.053	-0.017	-0.044	-0.079
1990 REIS/PopK Government Employment	-0.031	-0.022	-0.066**	-0.087**	-0.029	-0.01	-0.019
1990-2000 Change in Job/PopK Farm	0.002	0.01	0.01	0.018	0.026	0.071**	0.04
1990-2000 Change in Job/PopK Manufacturing	-0.023	-0.043	-0.018	-0.046	-0.027	-0.046	-0.058*
1990-2000 Change in Job/PopK Retail Trade	0.088***	0.096***	0.097***	-0.021	-0.038	-0.001	0.05*
1990-2000 Change in Job/PopK Services	0.009	-0.025	-0.01	0.046	-0.002	-0.067*	-0.034
1990-2000 Change in Job/PopK Government	-0.05**	-0.04*	-0.064***	-0.011	0.003	0.016	-0.02
1990 Pop in Thousands	-0.072***	-0.073***	-0.069***	-0.017	0.006	-0.053	-0.039
1990 Percent Age 55-64 years	-0.154***	-0.172***	-0.095**	-0.049	-0.004	0.078	-0.024
1990 Percent Age 65-74 years	-0.258***	-0.213***	-0.266***	0.001	-0.018	-0.156*	0.027
1990 Percent Age 75-84 years	0.098*	0.183***	0.047	0.089	0.071	0.121	-0.046
1990 Percent Age 85+ years	0.266***	0.268***	0.214***	-0.072	-0.069	-0.037	0.008
1990 Percent Age 25+ with Bachelor's Degree or Higher	0.082**	0.049	0.102***	0.042	0.069	0.07	0.06
2000 Percent Lived Outside County in 1995	-0.082**	-0.086**	-0.006	0.046	0.024	-0.068	-0.04
1990 Percent Urban	0.133***	0.173***	0.08**	0.058	0.112**	0.225***	0.213***
1990 Percent White Non-Hispanic	0.174***	0.231***	0.166***	-0.088**	0.004	-0.035	-0.051
1990-2000 Percent Population Growth	0.38***	0.346***	0.278***	0.059	0.118**	0.243***	0.199***
Natural Amenity Scale	-0.084***	-0.053*	-0.093***	0.021	0.014	0.083**	0.05
Metro-nonmetro 2003	0.048*	0.021	0.081***	0.018	0.041	-0.032	-0.029
Adjusted R^2	**0.32**	**0.246**	**0.31**	**0.063**	**0.077**	**0.135**	**0.106**

Finally, Table 7 presents the model for those age 85+. Here, the effects of industrial concentration seem to lose a consistent pattern across groups. Natural amenities now repel whites but attract Hispanics. Higher degrees of urbanization now draw members of all groups other than white females and black males. This effect is particularly strong for older Hispanics. Older whites seek out places with higher average education and percent in the 85+ age range, but neither factor is significant for other groups. On the whole, there are fewer easily discernable patterns as we move into older and older age groups.

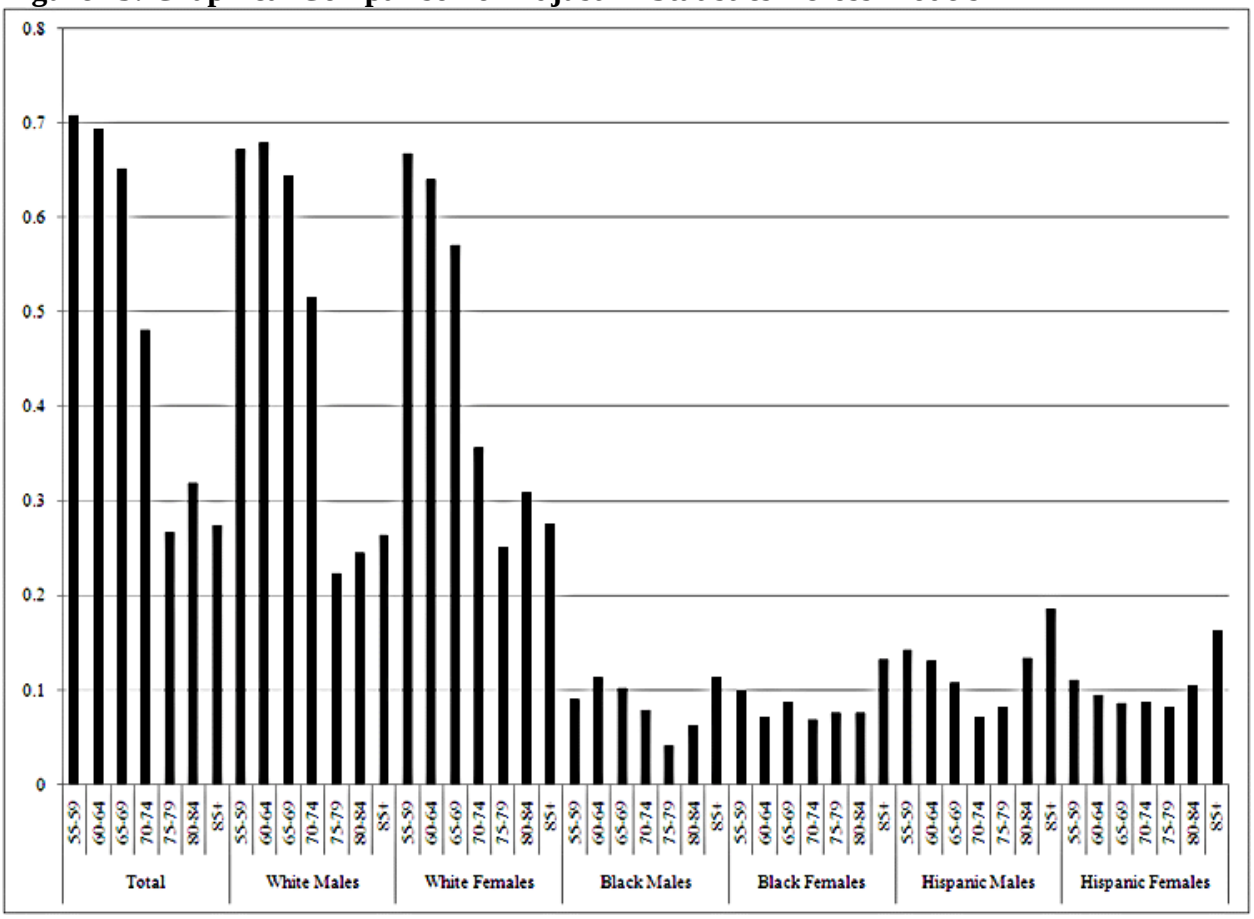
Table 7: OLS Regression Models by Sex/Race-Ethnic Group ~ Age 85+

	Total	WM	WF	BM	BF	HM	HF
1990 Total Employees Per Establishment	-0.121***	-0.045	-0.126***	0.09	0.023	0.013	0
1990 REIS/PopK NonFarm Proprietor's Employment	-0.015	-0.005	0.023	-0.039	-0.08*	0.052	0.01
1990-2000 Change in Emp/Est Total	-0.034	-0.002	-0.04	0.041	0.031	-0.016	0.025
1990-2000 Change in Job/PopK NonFarm Proprietors	-0.049*	-0.061**	-0.039*	-0.07**	-0.036	-0.046	-0.045
1990 REIS/PopK Farm Employment	-0.044	0.003	-0.071**	-0.079*	-0.005	0.035	0.034
1990 REIS/PopK Manufacturing Employment	0.047	0.03	0.093***	-0.028	0.011	-0.025	-0.069
1990 REIS/PopK Retail Trade Employment	0.069*	0.056	0.02	0.157***	0.093*	0.037	0.051
1990 REIS/PopK Services Employment	0.05	0.045	0.04	-0.046	-0.001	-0.102*	-0.071
1990 REIS/PopK Government Employment	-0.008	-0.029	-0.033	-0.037	0.007	0.028	-0.003
1990-2000 Change in Job/PopK Farm	-0.01	0.011	-0.002	0.035	0.073**	0.024	0.089***
1990-2000 Change in Job/PopK Manufacturing	-0.039	-0.039	-0.033	-0.045	-0.015	0.028	-0.047
1990-2000 Change in Job/PopK Retail Trade	0.071***	0.077***	0.084***	0.011	-0.036	0.001	0.033
1990-2000 Change in Job/PopK Services	-0.006	-0.027	-0.011	-0.006	-0.009	-0.033	-0.031
1990-2000 Change in Job/PopK Government	-0.023	-0.036	-0.031	-0.026	0.004	-0.005	-0.012
1990 Pop in Thousands	-0.05*	-0.033	-0.036	0.026	0.054*	-0.033	-0.028
1990 Percent Age 55-64 years	0.009	-0.057	0.017	0.071	0.105*	0.071	0.086
1990 Percent Age 65-74 years	-0.138**	-0.216***	-0.031	-0.041	0.035	-0.079	-0.002
1990 Percent Age 75-84 years	-0.239***	-0.059	-0.269***	0.063	-0.086	0.063	-0.1
1990 Percent Age 85+ years	0.263***	0.256***	0.202***	-0.031	-0.08	-0.061	-0.049
1990 Percent Age 25+ with Bachelor's Degree or Higher	0.168***	0.148***	0.177***	-0.03	0.059	0.059	0.072
2000 Percent Lived Outside County in 1995	-0.073**	-0.057*	0.03	0.029	0.053	-0.119**	-0.035
1990 Percent Urban	0.065*	0.093***	0.022	0.047	0.1**	0.374***	0.211***
1990 Percent White Non-Hispanic	0.14***	0.208***	0.166***	-0.179***	0.002	-0.013	-0.005
1990-2000 Percent Population Growth	0.295***	0.207***	0.247***	0.099*	0.11**	0.248***	0.153***
Natural Amenity Scale	-0.103***	-0.144***	-0.091***	-0.016	-0.004	0.086**	0.121***
Metro-nonmetro 2003	0.036	0.022	0.053*	0.087**	0.06*	-0.005	0.012
Adjusted R^2	**0.275**	**0.265**	**0.277**	**0.114**	**0.133**	**0.187**	**0.163**

This brings us to the discussion of the overall fit of the models. Figure 23 is a graphical presentation of the individual models' adjusted R^2 statistics converted to a column chart for easy visual comparison. On average, the models do a pretty good job of predicting counties' percentile ranks for the net migration rates of younger age groups, the total population, and

whites. It does progressively worse for these categories the older the age group examined. At the same time, the models are fairly ineffective at predicting what kinds of places should be hotspots for black or Hispanic retirement migration. The highest adjusted R^2 it can produce for blacks is .13 for women age 85+. For Hispanics, the models' fit vary in a non-linear pattern with age. Though never really strong, they do a better job of predicting high ranking Hispanic retirement counties for the younger old and for very advanced ages. These patterns and relationships suggest that there is a lot of diversity in retirement migration patterns that our current understanding is failing to grasp.

Figure 23: Graphical Comparison of Adjust R^2 Statistics Across Models



Further, these equations are designed primarily with choice factors in mind. It is theorized that people choose to move toward natural amenities, others like themselves, and towards or away from businesses based on their personal preference. As such, they do a poorer job of predicting people who are not selecting a retirement destination out of pure choice. Older old people, blacks, and Hispanics tend to be socially and economically disadvantaged. As such, they are less likely to have as much control over their migration patterns as do younger old people and whites. These models present strong support for the idea that retirement migration, as it is presented in most of the literature, is really about younger, white migration and less about the full diversity of the retirement migration experience.

6. Extensions – Health Services and Spatial Concentration

This section briefly presents two extensions on the previous discussion. First, there is the inclusion of health service related factors to the regression models. It is hypothesized that health service employment and establishments will exert a pull effect on need based migrants, especially older ones. Unfortunately, limited data availability currently causes difficulties in model estimation due to reduced sample size. A set of models for 85+ year olds is presented as an example. Second, there is a brief discussion of ongoing work to expand these models using maximum likelihood estimation and spatially lagged dependent variables. Models are currently specified at a simple level, but interpretations and adjustments are still being made. As such, no models will be presented. Instead, there will be a brief discussion of preliminary findings.

Table 8: Example OLS Regression Models Including Health Factors ~ Age 85+

	Total	WM	WF	BM	BF	HM	HF
1990 Total Employees Per Establishment	-0.133***	-0.032	-0.139***	0.089	0.03	0.029	-0.039
1990 REIS/PopK NonFarm Proprietor's Employment	-0.002	0.006	0.035	-0.041	-0.08*	0.048	0.014
1990-2000 Change in Emp/Est Total	-0.026	0.008	-0.033	0.041	0.036	-0.004	0.025
1990-2000 Change in Job/PopK NonFarm Proprietors	-0.031	-0.042*	-0.022	-0.067*	-0.03	-0.04	-0.045
1990 REIS/PopK Farm Employment	-0.015	0.026	-0.044	-0.068	0.01	0.056	0.035
1990 REIS/PopK Manufacturing Employment	0.056	0.024	0.102***	-0.026	0.009	-0.032	-0.045
1990 REIS/PopK Retail Trade Employment	-0.007	-0.014	-0.052	0.109**	0.06	0.027	0.048
1990 REIS/PopK Services Employment	-0.019	-0.024	-0.025	-0.086	-0.031	-0.118*	-0.075
1990 REIS/PopK Government Employment	-0.023	-0.035	-0.047*	-0.044	0.004	0.031	-0.009
1990-2000 Change in Job/PopK Farm	-0.013	0.008	-0.006	0.04	0.081**	0.031	0.09***
1990-2000 Change in Job/PopK Manufacturing	-0.038	-0.043	-0.031	-0.041	-0.013	0.027	-0.044
1990-2000 Change in Job/PopK Retail Trade	0.039*	0.044*	0.056**	-0.003	-0.047	-0.011	0.026
1990-2000 Change in Job/PopK Services	-0.022	-0.042	-0.027	-0.008	-0.015	-0.041	-0.034
1990-2000 Change in Job/PopK Government	-0.03	-0.041*	-0.037*	-0.032	0.001	-0.004	-0.013
1990 Pop in Thousands	-0.045*	-0.031	-0.031	0.029	0.055*	-0.036	-0.025
1990 Percent Age 55-64 years	0.039	-0.028	0.049	0.08	0.105*	0.091	0.082
1990 Percent Age 65-74 years	-0.166**	-0.256***	-0.059	-0.045	0.037	-0.109	0
1990 Percent Age 75-84 years	-0.281***	-0.082	-0.308***	0.036	-0.103	0.065	-0.113
1990 Percent Age 85+ years	0.232***	0.236***	0.171***	-0.039	-0.086*	-0.063	-0.053
1990 Percent Age 25+ with Bachelor's Degree or Higher	0.167***	0.145***	0.178***	-0.035	0.055	0.058	0.072
2000 Percent Lived Outside County in 1995	-0.044	-0.034	0.058*	0.048	0.065	-0.109**	-0.03
1990 Percent Urban	0.021	0.048	-0.019	0.011	0.075	0.356***	0.211***
1990 Percent White Non-Hispanic	0.132***	0.203***	0.156***	-0.184***	-0.005	-0.028	-0.009
1990-2000 Percent Population Growth	0.314***	0.228***	0.266***	0.103**	0.117**	0.246***	0.151***
Natural Amenity Scale	-0.114***	-0.158***	-0.1***	-0.026	-0.012	0.076*	0.128***
Metro-nonmetro 2003	0.03	0.021	0.046*	0.086**	0.061*	-0.002	0.013
1990 Emp/PopK Health	0.095***	0.048	0.09***	0.048	0.018	-0.015	0.076*
1990 Est/Kpop Health Svc	0.145***	0.171***	0.138***	0.103*	0.086	0.07	-0.034
1990-1997 Change in Emp/KPop Health Svc	0.078***	0.048*	0.074***	0.045	0.015	-0.065*	-0.005
1990-1997 Change in Est/KPop Health Svc	0.047*	0.061**	0.043*	-0.018	0.015	0.062*	0.017
Adjusted R^2	**0.295**	**0.285**	**0.297**	**0.118**	**0.134**	**0.187**	**0.163**

First, Table 8 displays similar models to those in the previous section for counties' rank on net migration rates for people age 85+. However, this model also includes measures for the ratio of health employees and establishments to the size of the population and the change in these factors between 1990 and 1997 (which was the last year with comparable data). The effects of most factor change little if any. However, two things are apparent. First, the adjusted R values for all groups except Hispanics rise slightly. Second, we can see that, according to the standardized betas, at least some (if not all) health service variables are significant and positive for all groups except black females. There is also one negative effect for Hispanic males. However, even with the reduced sample size, this points to the fact that obtaining quality healthcare can be a significant factor motivating retirement migration. It is possible that the

slopes for blacks and Hispanics are not as significant either because of a smaller sample or for a substantive reason, like reduced access to health care choice or more involved family units. At this point, the reason is unknown. Further research is recommended.

Second, one of the author's current projects is to add spatial factors explicitly to this analysis. Maximum likelihood models with spatially lagged dependent variables were fitted using the same set of independent variables as the OLS models presented in the previous section. Though further testing is necessary to ensure valid findings, it is possible to make statements about the significance and strength of the spatially lagged terms. In general, the spatial lag was significant and positive in all models except that for 85+ year old white males. Further, for the total population and whites, the strength of the coefficient associated with the lag term becomes progressively weaker as the age category of interest increases. This means that overall and for whites, the weakening of the pattern of spatial concentration observed in the maps really does exist. In contrast, for black and Hispanic males it gets stronger as age increases. Black and Hispanic females exhibit no real trend, with the strength of the coefficient varying up and down by age group.

This indicates two things. First, the fact almost all the lag terms are significant shows that there is real spatial concentration involved in retirement migration patterns. Second, the results of the visual analysis above can be statistically confirmed. Whites really do move to less concentrated areas, minority males move toward more concentrated areas, and the distribution of females, though it changes over age group, does not change in its relative concentration.

7. Conclusions

What does all this mean? It means that retirement migration patterns are actually fairly diverse with respect to the age, sex, and race-ethnicity of the migrants. A majority of the literature, however, tries to explain broad patterns through theories that only really fit well to younger, white migrants. Amenity based migration schemes only really work for these groups. Older people and minorities have different spatial patterns, different preferences, and different experiences that do not match well to the standard model.

First, their spatial patterns are diverse. Young whites tend to concentrate on certain classic retirement destinations. Older whites become much more dispersed. Black retirement migration is primarily concentrated in the South and East of the country at all ages. Hispanics have high and low rank counties in the East, but consistently send some retirees toward the Southwest. Minority males' destinations become more concentrated as their age increases while high ranking counties for minority females do not.

Second, their preferences are diverse. Younger white retirees gravitate toward amenity rich locations in rural areas. Older whites spurn amenities in favor of urbanized areas that offer health services. Black males at almost all ages tend not to migrate into areas that are predominantly white either do to choice or exclusion. Older Hispanics show a very strong preference for urbanized areas. Many groups have definite, though varied, attraction to areas with a higher proportion of older people in one age category or another.

Third, their older age migration experiences are diverse. Retirement does not hold the same kinds of promises or desires for minorities as it does for more affluent whites. Minorities, on average, do not seem to make amenity based moves just before or just after retirement. Instead, they concentrate in particular geographic regions. This may be because they have a

preference for similarity in the racial-ethnic composition of an area, because they have family or friends in an area, or because they lack the resources, the desire, or the means to overcome white exclusion in these zones.

This paper was an attempt to provide exploratory evidence to suggest that we need to start expanding the way we think about and study retirement migration patterns. Places like Nemaha County, Kansas, further support the idea that we can learn much more about retirement migration patterns using different methods and asking different questions. With the aging of the Baby Boom generation, the movements of retirees will become increasingly important to the provision of services and economic development, especially in rural areas. By taking a wider view, we may be able to better prepare for the challenges and potential that future retirement migration may bring.

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