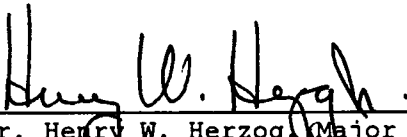
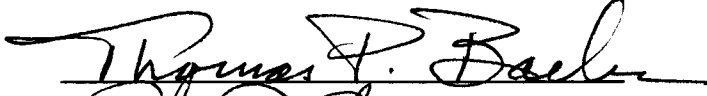
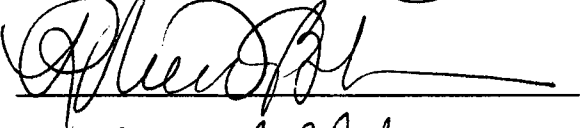
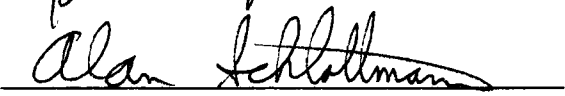


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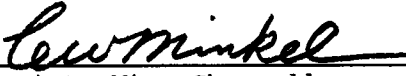
I am submitting herewith a dissertation written by Lori C. Jenkins de Valerio entitled "Romancing the Elderly: Place Characteristics as Lures for Retired Potential Immigrants." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Economics.


Dr. Henry W. Herzog, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:


Associate Vice Chancellor
and Dean of The Graduate School

ROMANCING THE ELDERLY:
PLACE CHARACTERISTICS AS LURES
FOR RETIRED POTENTIAL IMMIGRANTS

A Dissertation
Presented for the
Doctor of Philosophy
Degree
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Lori Christine Jenkins de Valerio

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ABSTRACT

Today's elderly American population is greater in number than the combined populations of 20 of the U.S.'s 50 states and the entire population of Canada (1). As this group continues to grow -- 25% of America's population will be at least 55 years old by 2030 -- along with the propensity toward interstate retirement migration, vast demographic shifts are likely to occur (90). This phenomenon will have, and has had, an important bearing on local economies due to both the contribution of older people to an area's economic and tax base and to the required composition of publicly provided goods and services necessitated by their presence or absence. Due to the relatively great wealth and human capital of the average elderly interstate migrant, it would behoove economic planners to attempt to attract elderly migrants to their areas as well as to encourage local senior citizens not to move away. To do so, knowledge about which place characteristics figure dominantly in elderly migration decisions is needed. The study reported on in this dissertation was designed to further such knowledge. In it place characteristics of areas that have attracted large numbers of elderly migrants in the past were examined in light of the personal characteristics of their residents in order to determine which area traits had a significant impact on retirement immigration decisions between 1975 and 1980. Seven characteristics were identified as significant factors in elderly migration decisions. These characteristics were a locality's 1) number of cold days annually; 2) residential property tax rate; 3)

monthly median rent level; 4) rate of population growth between 1960 and 1970; 5) miles of coastline and square miles of inland water; 6) acres of national forests, parks, and wildlife refuges and number of state parks; and 7) percent of population resident in urban areas. An ordinal ranking of the importance of these seven characteristics to potential elderly immigrants spotlighted the rate of population change between 1960 and 1970 (which serves as a proxy for the presence of friends and relatives in an area), number of cold days, median rent level, and percent of a locality's population in urban areas as the most important factors to elderly decision makers. Of the characteristics found to be significant to elderly potential migrants, only an area's residential property tax rate, median rent level, rate of population growth between 1960 and 1970, and percent of population resident in urban areas were shown to significantly affect the migration decisions of a younger control group of potential migrants that was examined.

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CHAPTER 1

STUDY BACKGROUND AND OBJECTIVES

Today's elderly American population is greater in number than the combined populations of 20 of the U.S.'s 50 states and the entire population of Canada (1). As this group continues to grow -- 25% of America's population will be at least 55 years old by 2030 -- along with the propensity toward interstate retirement migration, vast demographic shifts are likely to occur (90). This phenomenon will have, and has had, an important bearing on local economies due to both the contribution of older people to an area's economic and tax base and to the required composition of publicly provided goods and services necessitated by their presence or absence. Areas that anticipate large outmigrations of elderly people may have more difficulty in funding local school systems, for example, since older families are likely to have more expensive homes and thus to pay more in property taxes than other residents of a community. As Johnson and Beale note, localities with declining population levels "may find themselves falling below the population thresholds needed to sustain local public services, such as schools and hospitals, or to retain retail and service competition, or even to retain certain types of businesses at all. Nonfarm property values may erode, and the tax base as well" (65, p. 15). Areas blessed (in most cases) with an influx of retirees, on the other hand, are likely to prosper as tax

collections and economic activity increase (65).¹ If the push and pull factors that promote retirement in- and outmigration could be identified, local planners could attempt to lure potential elderly migrants to their areas and/or to encourage potential outmigrants to stay.

Surprisingly, few formal analyses exist concerning elderly mobility (53). Several attempts have been made toward identifying retirement migration push and pull factors, often with conflicting results. One such attempt was a theoretical model of elderly migration decisions which was published in 1988 by Philip E. Graves and Thomas A. Knapp (53). In their model, Graves and Knapp assumed that residential spatial equilibrium characterizes the world, that utility is the same everywhere, and that these factors were maintained by continuously occurring trade-offs between amenities on the one hand and wage and land prices on the other. Areas characterized by high levels of desirable amenities would be able to offer lower wages and/or to command higher land rents than areas with fewer desirable features or with high levels of disamenities, such as crime. A potential mover would continuously balance the characteristics of an area, including its amenities, disamenities, wages, and land rents, with those of other areas and thus determine

¹Throughout this volume, "old", "elderly", "retiree", and "post-retirement individual" are used interchangeably as are "young", "labor force member", and "preretirement individual". These terms are defined more fully in Chapter 4.

whether to move to another place or to stay in his present location.² Graves and Knapp theorized that retirees would tend to choose areas where more of the compensation for amenities came from wages (i.e., where lowered wage levels were "traded" for the amenities to a much greater extent than were higher land rents) since they would not be directly affected by the local wage level. Graves and Knapp concluded their article by remarking that little in the way of appropriate research had been conducted on the topic of elderly migration, despite its rising importance, due to the computational difficulty of, among other things, merging location and individual data. Only through such a merger could personal characteristics truly be controlled for, thus preventing the confounding influence of "self-selection" that arises so often in migration studies.

Achieving this melding of data would be problematic enough in and of itself. Even before that difficulty arose, however, a researcher would be confronted with the enormous task of collecting place characteristic data for all potential elderly residence sites on a sufficiently restricted geographic scale to be meaningful. The overall process would thus require tremendous amounts of labor and computer resources.

In the study described in this volume, this Herculean process was undertaken. Several steps were implemented to make it more manageable, however, the most important of which was the definition

²Throughout this volume, "he" and "his" will be used rather than "he/she" and "his/her" to avoid awkward sentence structure. These words should be understood to refer to both males and females unless otherwise indicated.

of a select yet representative grid of potential elderly residence sites. By restricting the location sites to this grid, the study's data requirements were trimmed considerably. (Even so, a tremendous data collection task remained).

To attain the true ceteris paribus conditions that have never before been achieved in the migration literature, a new SAS procedure, SQL ("Statistical Query Language") was utilized. With it, the personal characteristics of each potential elderly immigrant, as well as each member of the study's younger control group, were linked to the characteristics of the grid area in which he was resident in 1980. In this way, the needed data merger that Graves and Knapp envisioned was accomplished.

The practical goal behind this accomplishment and the overall study was to identify which place characteristics significantly impact elderly immigration decisions in order to assist in their efforts local communities desirous of attracting retirees to their areas. Because the funds of these local communities are always limited, development of all local amenities is not fiscally possible. In light of this financial constraint, a second goal of the study was to develop a ranking of the identified place characteristics in order of importance to elderly decision makers.

To determine which of the identified characteristics were uniquely important to retirees, a control group of younger potential immigrants was also studied.

In the remainder of this volume, the methodology and results involved in the accomplishment of these goals will be reported. In

order to more fully acquaint the reader with the importance of elderly migration, however, two chapters will be presented prior to this discussion which document 1) the desirability of attracting retirement migrants to one's locale and 2) the factors which have been identified by prior studies as significant impactors on elderly migration decisions.

CHAPTER 2

ELDERLY MIGRANTS: BLESSING OR BURDEN?

Increasing numbers of America's elderly are engaging in interstate migration each year. The importance of this is enhanced by the fact that elderly migration flows are concentrated among a relatively small number of origin and destination states: between 1965 and 1970, for example, 80% of all elderly migrants moved from five Northeastern states³ while an even bigger percentage migrated into five Southern or Western states⁴ plus Oregon (33; 101; 47). This concentration of streams continued between 1975 and 1980 when Florida alone received 26% of all older migrants (9). Considering the typical stereotypes of the poor, sickly, penny-pinching older person on the fringes of society, one might be tempted to pity Florida and the other five states for being burdened with so many senior citizens. Are the stereotypes on-target though? Would it really be wiser, as the stereotypes imply, for local communities to deter the immigration of older Americans and possibly even encourage their outmigration? In this chapter, these questions will be considered by looking at several prevalent stereotypes about the elderly including the widespread beliefs that older Americans are a marginal population group; that most older people are very frugal

³These states were New York, Pennsylvania, Ohio, Illinois, and Michigan.

⁴These states were Florida, Arizona, Arkansas, California, and Texas.

consumers; that the majority of the elderly live in poverty; and that many older Americans are in poor health.

I. "The Elderly Are A Marginal Population Group"

Statistics on the size of America's elderly population are striking: while the total U.S. population is projected to grow 19% between 1987 and 2015, the subgroup of those 55 and older will grow 62% and will account for more than 25% of the nation's population by 2030 (69; 90). As was mentioned earlier, this subgroup, which currently heads one out of three U.S. households, is greater in number than the combined populations of 20 of the U.S.'s 50 states and the entire population of Canada (1).

The sheer number of senior citizens -- there were over 52 million people 55 years or older in 1990 -- makes them important to their potential sending and receiving areas for several reasons (125). One is that areas receiving net inflows of elderly (as well as other) migrants will gain in political power (e.g., a state's number of Congressional Representatives is determined by its population) while those with net outflows will lose political influence. The allocation of federal revenue sharing funds is also based on population counts.

A second reason is that their immigration may lead to more effective resource utilization at destination sites. Economies of scale may be achieved, perhaps making formerly noneconomic ventures feasible (e.g., rural hospitals). Since a sizable number of the

retired, migrating elderly move to rural areas (especially those that are relatively younger, healthier, and more affluent), they may enhance the utilization of existing housing in fairly remote areas (those too far from job centers to function as bedroom communities) and perhaps help stem the flow of rural outmigrants to larger areas in search of employment.

Rather than being a marginal group, then, it seems clear that the elderly represent an already sizable and still-growing proportion of America's population.

II. "The Elderly Are Haunted by Memories of the Great Depression and Are Penny-Pinchers Because of It"

A prevalent stereotype of elderly persons pictures them as penny-pinching hoarders, saving every possible dime to enable them to "leave something for the children" and provide for the proverbial, yet surely coming, rainy day. Fortunately for their local communities (but possibly to their children's chagrin), this stereotype is rather passé. Instead of saving estates for their offspring, today's older population is spending an ever larger share of its income, buying now, for themselves. As a percent of pretax income, their consumption increased to about 91% in 1983 from 84% in 1973.

On a per capita basis, elderly purchasing exceeds the national average by two percent (69). In fact, the 55-64 year old portion of the elderly subgroup comprises the United States' single most

important consumer market in terms of per capita expenditures. Their outlays for travel are the highest of any age group; they are also prime buyers of luxury goods such as top-of-the-line cars, vacation homes, expensive jewelry, gourmet food and wine, microwave ovens and high-priced stereo and video recorder systems (7). The 65 and older subgroup are also big spenders, exceeding the national per capita norm for expenditures on many products and services (7).

III. "Most of the Elderly Live In Poverty"

As the previous section implies, this stereotype is grossly untrue. The share of the elderly in poverty is, in fact, lower than that of the rest of the population and has been falling over the past 20 years (93). Not only does the average married couple's retirement income from all sources fully replace their average career earnings, but in more and more cases, the elderly are achieving even higher income levels in retirement than they enjoyed over much of their working lives (7).

Although their numbers currently amount to only 21 percent of the populace, the personal income of those 55 and older -- retired and unretired -- makes up one-quarter of the national total; between 1980 and 1984, the rate of growth for this income outstripped increases for younger subgroups of the population (93; 88; 125). At the beginning of that period, per capita discretionary incomes for this group was 55% higher than average and more than twice as much per capita as those who lived in households headed by people under 35

years old (18). The value of their assets was 30% higher, their financial holdings 80% larger, and their savings accounts 90% greater than the average for all U.S. households. In addition, the value of their homes was 20% higher than those of the average home-owning household in the U.S. (7; 69).

This relative affluence can benefit a receiving community in many ways. The most obvious of these is the direct effect of immigrants' spending on the local economy. This spending, along with its associated multiplier impacts, can have an immense impact on local unemployment. Some economists estimate, for example, that each retired immigrant to Florida generates one job (139). This is especially significant in that elderly immigrants typically do not reenter the labor force after moving and thus do not compete for the newly created positions (84). To make the deal even sweeter, the jobs created, along with other migration-induced impacts on the local economy, are less subject to business cycle fluctuations in that retirement income is steadier than employment income: Social Security and pension checks come regularly, regardless of business cycle upturns and downswings. In 1980, for example, public retirement plans alone distributed \$166 billion in annual pensions to some 45 million Americans, or 9.3% of the nation's disposable income (19). In that year, more than \$10 billion in public pension income came to Florida alone (19). These figures would surely be higher if private pension income was included.

As was mentioned, pension payments come regardless of the economic health of the nation or local community. As a result,

communities that rely more heavily on the income of retirees, as opposed to that of the labor force, should be less affected by recessions than other communities, making them less cyclically sensitive than was formerly true (18).

An additional benefit of elderly immigration is that the comparatively large savings accounts of elderly immigrants may help to ease credit constraints in destination areas, further stimulating local businesses and housing markets.

The elderly's relative affluence, especially with regard to their ownership of high-valued homes, should have a positive impact on an area's public sector as well. Property values -- the basis upon which many local educational systems are funded -- should be directly affected by elderly in- and outmigration since, as was discussed earlier, an area's most valuable residential real estate is typically held by older persons. A large immigration of older people would result in an increase in the demand for relatively expensive housing and thus, ceteris paribus, an increase in the value of that housing and the tax revenues based upon it. Higher tax revenues, in turn, may result in an increase in the funds available for local school systems and other public services. Outmigration of the elderly, on the other hand, may cause a contraction of a locality's tax base directly through decreased collections of both property and luxury taxes (as was mentioned earlier in this chapter, the elderly are prime consumers of luxury goods) as well as indirectly through the multiplicative effect of their lost consumption on local

economies. Because it is often the more affluent who migrate,⁵ origin areas may find themselves with a narrowed tax base unmatched by a correspondingly decreased demand for service provision (e.g., few elementary school children will move with the departing elderly).

It would appear, then, that older immigrants are a boon rather than a burden to a local economy's public and private sectors. In contrast, these sectors are likely to be negatively impacted by elderly outmigration.

IV. "Most of the Elderly Are Sickly"

Contrary to popular stereotypes, the majority of America's older citizens are in fairly good health: only five percent live in nursing homes while 80% live independently without any assistance. The remaining 15% require only limited aid (15; 1). Even so, an area that ended up with a significant portion of the sickly five percent and their high health care bills would be a net loser, wouldn't it? Surprisingly, this is unlikely to be the case since health care for the old is financed primarily by private insurance policies, Medicare (a federally-funded program), and out-of-pocket expenditures. Contributions from Medicaid (a combined federal and state program) account for only 13 cents of each dollar spent on elderly health care with the state portion averaging less than six

⁵Although some members of the poorer, less healthy, and less educated elderly subgroup do move, they tend to move locally rather than between counties or states (10, 12, 136).

cents per dollar (33). This six cents comes, again, from the state- level and thus the receiving community probably averages an even lower contribution. When one considers that the demand for, and earnings of, local medical personnel and institutions benefit from the care needs of older people and that a large portion of this care is financed by extra-community sources, it may be that even the "sickly" five percent of the elderly provide net benefits to their receiving communities and losses to the areas they leave.

V. Summary

In this chapter, common stereotypical views about the elderly are confronted and found to be wanting. Rather than being poor, sickly, penny-pinching individuals on the fringes of society, the average elderly person is shown to be a relatively healthy, affluent consumer of luxury goods whose immigration promises net positive returns to a community and net losses to the community he leaves.

Given that immigration of the elderly promises these net returns while elderly outmigration is likely to negatively affect a local area, how can potential interstate migrants be attracted to or deterred from leaving a particular community? The results of previous studies on this question will be considered in the next chapter.

CHAPTER 3

PERSONAL AND PLACE CHARACTERISTICS AND THE RETIREMENT MIGRATION DECISION: A REVIEW OF THE LITERATURE

When considering post-retirement moves, potential migrants weigh the amenities and disamenities (i.e., place characteristics) of their present location against those of other possible residence sites. This is done intuitively by assigning weights to the various amenities and disamenities on the basis of the potential migrant's personal characteristics and then comparing the benefits and costs of each potential move to determine whether, on net, the move is likely to result in an increase in personal utility. Previous studies of elderly migration decisions have attempted to identify which personal and place characteristics are likely to significantly affect a retiree's migration decisions. Unlike the results presented in this volume, however, these studies typically matched the average personal characteristics of an area with local place data rather than merging personal traits, individual by individual, with the characteristics of their place of residence.

In this chapter, the results of some of these previous studies will be examined, beginning with the effects of place characteristics.

I. Place Characteristics

The attributes of a potential retirement migrant's origin and possible destination(s) will influence not only whether or not he actually moves but also where he goes, should he decide to move. Previous studies have sometimes come to conflicting conclusions as to the significance and impact of various place attributes on the retiree's move decision. These conclusions, most of which refer to interstate migration rather than to more localized moves, will be discussed below as background material for the study discussed in this dissertation.

Climate and Environmental Amenities

Because of their "footloose" economic and labor force status, many of the retired elderly are free to migrate in response to factors other than those related to income and employment opportunities. One of these other factors is climate, often proxied by the number of subfreezing days in an area.⁶ Studies of interstate migrants have come to fairly consistent conclusions with regard to this place attribute: older people tend to move away from areas with colder climates and into those with warmer temperatures (4, 22, 27, 60, 122).⁷

⁶According to Rives, et al., this variable is, to a great extent, a surrogate for North-South location (109).

⁷In addition, the impact of this factor has been increasing over the last half of this century. Heaton, et al., in their study comparing

One notable exception to this consistency of findings was a study done by Fournier, et al., in 1988. Though they came to standard results in determining that an inverse relationship exists between the number of subfreezing days in an area and immigration, they also came to the unexpected conclusion that an increase in the number of these days leads to decreased outmigration (37).⁸

Though climate has been shown to significantly affect younger immigration, it appears to figure more dominantly in the migration decisions of the elderly, perhaps due to the retirees' "footloose" economic status. Long and Hansen found that only 2.6% of interstate migrants aged 20-34 cited climate as a main reason for moving compared to 12.1% of interstate migrants 55 and older (79).⁹

Related to climate in elderly migration decisions are other environmental factors, such as outdoor recreational facilities. Previous research has shown these to be positively related to elderly

the decades of the 1950s, 1960s, and 1970s, found the importance of climate in a potential migrant's move decision to be rising (60).

⁸One other dissenting opinion comes from Langford who determined climate to be one of the least important criteria influencing retirement moves (74).

⁹The significance of climate in elderly migration decisions may actually be reflecting something other than the preference of the elderly for mild temperatures. As Chevan and Fischer point out, "climate signifies more than temperature differences. There are probably differential opportunities associated with climate and region. These take the form of housing costs, general cost of living, and the cost of carrying on outdoor activities, including traveling, all of which are influenced by climate. In a manner of speaking, climate may represent differentials in winter lifestyle, including social life, which tends to be channeled by climate. For the elderly retiree in colder climates, the restriction placed on the use of leisure time may be as significant as the discomfort of low temperatures" (27, p. 1370).

inmigration and negatively related to outmigration (22, 37). These amenities have been proxied by such factors as the number of state, municipal, and county parks per capita, square miles of lakes, miles of coastline, and travel-related employment. All were shown to have a significant impact upon elderly migration (22, 37, 60, 122). These factors are also increasing in importance in the move decisions of younger migrants (60).

Interestingly, the significance of leisure activities seems to be limited to those of the outdoor, natural variety. The presence of such amenities as operas, symphony orchestras, etc., appear to have little relation to elderly migration (4).

Income and Unemployment Levels

Traditional economic factors, such as areal mean or median income and unemployment levels, have been shown to have little impact on retirement migration decisions (21, 79, 91).¹⁰ If there is a significant relationship between elderly migration and areal income and unemployment levels (many researchers seem to believe that there is not (e.g., 21, 27)), then it is opposite that observed among younger migrants. Barsby and Cox found that persons 65 and older move into and out of states at a more rapid rate when median incomes were high than when they were low. While younger persons were also

¹⁰Again, the footloose status of the retired may explain this. Because they are retired, job opportunities should mean little to them and their income levels should be relatively independent of their location of residence.

attracted to states with high median incomes, they, unlike the elderly, were less likely to leave the higher income states. Conversely, older persons were less likely to leave low income states while their own high incomes seemed to facilitate their outmigration (4, 21, 24, 25).¹¹

With regard to unemployment rates, Serow found that an area's high unemployment rate makes it comparatively attractive to older migrants. He also found a negative, though insignificant, relationship between high unemployment and elderly outmigration rates. In contrast, high unemployment rates were found to be a strong push factor for outmigration of the young, yet were insignificant in explaining their immigration (116).^{12 13} These results lend some credence to the hypotheses of Graves and Knapp,

¹¹Part of the explanation for high elderly outmigration from high income areas may be that people who live in such areas are more likely to have high incomes, better enabling them to bear the costs of migration. They are also more likely to have migrated before (since high income areas attract many in-movers) and therefore to have a higher propensity to move (25).

¹²Varady reached similar conclusions though Cebula and Vedder discovered a negative relationship between unemployment rates and immigration (24, 129).

¹³Nevertheless, the importance of income and unemployment levels is declining for both younger and older migrants in comparison with climate and other quality of life factors (60). Although this decline is particularly notable in the younger population, economic factors still have a larger influence on younger than on elderly migration. Long and Hansen found that "57% of interstate movers 20-54 did so for explicitly employment related reasons (job transfer, new job, seeking work) and an additional 11% were indirectly related to employment (military and college moves). Among those 55 and older, only 14% moved for explicitly employment related reasons" (cited in 116, p. 96).

which were discussed earlier in this volume. High unemployment rates may be linked to low wages, since they imply that a labor surplus exists. The existence of a labor surplus should make it easier to capitalize amenities into the labor, rather than the land, market, thus making an area more attractive to potential elderly immigrants.

Cost of Living

Although income and unemployment levels do not appear to be closely associated with elderly migration, it would be foolish to assume that economic factors play no role in directing this migratory flow since differentials in the interareal costs of living determine the purchasing power of the elderly's fixed incomes, and thus their standard of living (14, 37).¹⁴ Fournier, et al., found that lower costs of living attract elderly migrants on fixed incomes in much the same way as higher wages attract members of the labor force. According to their study, the flow of immigrants is inversely related to the cost of living at the destination while outmigration from the origin increases directly with this factor (37).¹⁵ This could explain the elderly's relative aversion to high wage areas. According to Boyer and Savageau, incomes, for the most part, "indicate living

¹⁴By simply moving from higher-cost to lower-cost areas the elderly migrant can increase the purchasing power of his fixed income.

¹⁵They found cost of living to be significantly correlated with housing costs (median contract rent), taxes (per capita state government revenues and per capita local government revenues) and Census region (used to capture differences in the degree of urbanization and development) (37).

costs. According to recent studies from the Bureau of Labor Statistics, 2/3 of the differential in personal incomes between, say, San Diego and Asheville, North Carolina, reflects their different costs of living; the other third reflects their different employers and worker skills and prevailing wages" (15, p. 67).

The elderly are not so very different from the rest of the population in their desire to live in low-cost areas. Indeed, Cebula found that all migrants prefer areas with lower living costs (20). The difference lies in the fact that elderly retirees, liberated from workforce restrictions, have the freedom to go to low cost areas whether or not these areas have employment potential. Labor force members, in contrast, are tied to earnings opportunities. This may explain Serow's findings which show that the elderly move to low cost, low wage, high unemployment areas while labor force members migrate to high cost, high wage areas (116).¹⁶

Housing Cost

Like cost of living, housing cost has been found to significantly affect elderly migration decisions. McLeod, et al., discovered a positive association between median housing cost (1960 median value of owner-occupied housing) at the origin and elderly

¹⁶As mentioned earlier, the elderly's preference for warmer climates may in part reflect a preference for lower cost of living areas. Perhaps by chance, states with below average per capita income levels (and thus, assumably, costs of living) tend to have warmer climates while those in the colder parts of the country have, on average, per capita income levels greater than the national average (22).

outmigration between 1965 and 1970 while Serow, et al., found the same result to hold for the 1975-80 period (91; 119).

This situation also applies to elderly renters who, like younger renters, tend to leave states where rent levels are relatively high (4).¹⁷

Tax and Welfare Levels

Public sector variables such as tax and welfare levels appear to have only a minor impact on retirees' migration decisions. Barsby and Cox found that the elderly failed to be attracted to states with relatively generous income and property tax exemptions, high maximum Old Age Assistance benefits, or relatively lower per capita property and income tax revenues (4).¹⁸ Similarly, Cebula found no relationship between per capita property tax levels and elderly net migration (22). In contrast, Bohland and Treps determined that a negative relationship exists between property tax levels and net immigration while Serow, et al., found property tax levels to be positively associated with elderly outmigration rates (14, 119).

For younger population subgroups, Schlottmann and Herzog determined that outmigration is directly related to the level of

¹⁷Older renters tend to react more strongly than their younger counterparts, to high rental rates, however. This, again, may be due to their "footloose" economic status (4).

¹⁸Bohland and Treps question these findings on Old Age Assistance levels in that Barsby and Cox used state aggregate data for their study, while public assistance resources vary significantly within a state. Nonetheless, Bohland and Treps found this factor to significantly affect net migration only in the South (14).

state and local taxes (113).¹⁹ In a later article, however, they, along with Fox, found that higher income individuals demonstrate a preference for property taxes relative to other tax sources and are less likely to leave areas which intensively use the property tax (39).

Median Age Level

Unlike findings on property taxes, research clearly points to a positive relationship between an area's median age level and elderly immigration (14, 37, 116). Bohland and Treps, in fact, found that the relative size of the resident elderly population at a destination is the most important predictor of elderly immigration rates (14).²⁰ While Fournier, et al., found a negative relationship between the elderly population at the origin and retirement outmigration, Serow failed to corroborate this result (37, 116).

Research suggests that no relationship exists between this factor and either in- or outmigration of younger population subgroups (116).

¹⁹These researchers used state and local taxes divided by the level of personal income to create what they termed "the fiscal pressure index" of an area. It was this index that was shown to be related to outmigration (113).

²⁰Bohland and Treps' study did not include variables for place characteristics such as climate and recreational opportunities which have been shown in other studies to enhance elderly immigration. It may be, therefore, that their variable for median age is picking up the influence of factors that have attracted elderly movers in the past (e.g., climate), rather than solely reflecting an area's age distribution.

High median age levels may actually represent prior elderly migration to an area. Longino postulates that "when retired migrants move into an area a common pattern is the establishment of a visiting routine with other retired family members and friends, especially if the migrant lives near a resort. Visits often precede a move to the area, after which the chain of visits begins anew" (80, p. 253). As a result, sequential elderly migration streams become established leading to the "aging" of popular destination site populations.

Retirees do not follow only prior elderly migration pathways; their migration is also significantly related to the migration of younger households in previous periods (37). As Plaut comments, "Probably a fairly common situation is that elderly persons move to southern and western locations to be close to their children, who have moved there previously in order to take jobs in fast growing local economies" (104, p. 10). To investigate this possibility, Fournier, et al., included a variable in their study which represented the number of earlier migrants, ages 18-35; this variable proved to be significant, suggesting that the elderly do indeed move to be closer to children and grandchildren (37). This movement may be motivated by needs for physical care and emotional support, or because of an elderly person's inability to function independently (118).

The pull of potential destination areas increases along with the number of family and/or friends a possible migrant has there

(4).²¹ At the same time, family and friends at the origin, along with increased residence at one's current location, all contribute to staying among the elderly (4, 129).

Though the findings above have been shown to apply to the migration of younger persons as well, the affects of these variables are stronger on older people (4).²²

Availability of Health Care

Another place characteristic that has been shown to effect elderly migration patterns is an area's supply of health care. Both Serow, et al., and Fournier, et al., found a negative relationship between the number of doctors per capita at the origin and elderly outmigration, yet found the per capita number of doctors at the destination to be an insignificant determinant of elderly inmigration (37, 119). (Surprisingly, Cebula and Vedder found this variable to be significant for migrants in general (24)). In another study, Serow determined the supply of health care facilities (represented by the number of hospital beds per 100,000 persons) to be negatively related to elderly outmigration (116).

²¹"The stream is perpetuated by the flow of information, knowledge of the successful adjustments of others, and the expectation that friends could aid in one's own adjustment to the move" (136, p. 148).

²²The one dissenting voice in this chorus is that of Goldscheider who finds family considerations to be unimportant determinants of elderly mobility (50).

Crime Rate

An additional place characteristic that has been studied is an area's crime rate. The findings on this factor are counterintuitive. Though, as one would expect, research results show a positive relationship between property crimes and elderly outmigration, they also show a strong, positive relationship between property crime levels and immigration (37, 116, 119).²³

Younger outmigration patterns have been shown to be even more strongly and positively related to areal property crime rates than those of the elderly (24, 116).

Urbanization

An area's degree of rurality or urbanization has been shown to have little impact upon elderly in- or outmigration (14, 25).

Younger age groups, however, are strongly attracted to metropolitan

²³Fournier, et al., offer three possible explanations for the latter finding. "First is a measurement problem. Property crime rates are calculated per 100,000 population. Since the top five crime states have high rates of tourism, the 'full time equivalent' population is in fact greater than the resident population that is used to calculate the crime rate. This implies the crime rate in states with many visitors will have an upward bias. Second, it is likely that migrants will have better information about crime at the origin than at the destination, making it plausible for them to assign too low a subjective probability of being a crime victim at the destination state. Finally, crime rates are measured at the state level and there is likely to be substantial intrastate variation in these rates. The latter is particularly relevant in the current discussion since the older migrants often congregate in self-contained communities which are comparatively well-guarded and secure" (38, p. 195).

areas: the more metropolitan the county, the higher their net migration (25).²⁴

II. Personal Characteristics

The importance of any given place characteristic in an individual retiree's migration decision is conditioned to a large degree by the personal characteristics of that individual. These characteristics will affect how he evaluates and weighs the attributes of various places. In addition, from the viewpoint of the potential destination, the migrant's traits will determine whether or not he will benefit the destination area. (For example, will he contribute more in taxes than he requires in public services?)²⁵

In this section, the literature on this topic will be briefly reviewed.

²⁴Chang and Pendleton note that "metropolitan residence probably serves as a surrogate for job availability and county income levels, which are generally sought by younger rather than older migrants" (25, p. 14).

²⁵As Biggar notes, information on the personal characteristics of migrants is "important to public planners in communities which are losing the elderly through outmigration. If general selectivity principles apply to the elderly, this type of community may be losing the most economically able of their older citizens at the same time that they are left with the more dependent segment of the elderly who will place increasing demands on local social services. Information on the characteristics of elderly migrants is also important to public planners in the communities which are gaining elderly migrants in order that they may anticipate the kinds of housing, recreational, and social service needs which these new citizens require" (10, p. 74).

Income

Higher levels of income are related to higher levels of interstate migration among the elderly, as well as the nonelderly (4, 8, 27, 36, 67, 129).^{26 27} Indeed, Biggar, et al., found that both in- and outmigrants who made interstate moves had higher incomes than nonmovers (11). This may be because higher income people are more able to bear the cost of moving or because higher incomes are interconnected with other mobility enhancing factors such as advanced levels of education and prior mobility. Low income levels may also retard migration because persons with low incomes may receive non-income assistance from friends and relatives which would be lost were an interstate move made (4).^{28 29}

²⁶Contrary to the majority of the literature, both Lenzer's and Moon's research showed that an inverse relationship exists between income and elderly mobility (72, 93).

²⁷It is quite likely that the connection between high income levels and elderly migration is more significant than indicated by Census data (which most researchers have used for their studies). Because the Census is taken in May, it fails to detect the frequent movements of retirees who move between winter and summer homes each year; the summer-winter movers would already have moved back to their summer homes by the time the Census was taken. They would thus be counted as nonmigrants, causing the Census data to systematically understate the movement of high-income elderly persons (4).

²⁸Barsby and Cox found that the elderly with very low incomes tend not to change their state of residence (4).

²⁹Though the poorer members of the elderly population may not change their state of residence, they move fairly often within their counties. Flynn, et al., for example, found that migrants 60 years and older who moved across state or county lines were selected from higher educational and income ranks than nonmovers while those relocating within their county were selected from the more "economically dependent" strata (36; 84, p. 284).

Human Capital and Educational Levels

Higher education and skill levels have been shown to be particularly important factors -- outranking such items as income or occupational prestige -- in the migration of older people (3, 4, 14). This may be because high levels of educational attainment generate a willingness to consider moving from the area where retirement occurs.³⁰ Well-educated individuals could also conduct a more effective search in choosing among various destinations (27). Whatever the reason, the well-educated are more likely to experience interstate or intercounty moves than the less educated.³¹ (Long, for example, found that an older person with some graduate education is four times more likely to make an interstate move than his counterpart who did not complete grammar school (78)).³²

Not only are the elderly migrants more educated than nonmigrants at the origin, but they also tend to be better off academically (as well as monetarily) than residents at the destination.³³ Longino and Biggar found that the average elderly

³⁰As Greenwood comments, "education may reduce the importance of tradition and family ties and increase the individual's awareness of other localities with the consequence that the forces that hold him to his present location are weakened" (55, p. 406).

³¹People with little education, however, are much more likely to move locally than those with more schooling.

³²In contrast to these findings are the research results of Lenzer and Moon. Lenzer found no relationship between education and mobility of the aged while Moon determined that the relationship between education and elderly mobility is an inverse rather than a direct one (72, 93).

³³This has been shown to be true at least for the Sunbelt (where most elderly migrants are destined). The Sunbelt includes all states on

immigrant to the Sunbelt had completed almost two more years of school than his counterpart at the destination (84). Though this difference "has little meaning during the retirement years, it indicates the probable difference in preretirement social status between the two groups. No doubt persons in the migrant group had occupations with higher income levels, thus allowing them to invest, save, and hold jobs which provided more favorable retirement pension plans" (8, p. 183).

The positive relationship between education and mobility has been shown to exist for younger population subgroups as well (8, 113, 115).

Marital and Family Status

Though the marital status of retirees has been determined to significantly affect their mobility, the direction of the impact is unclear. While some studies found the married elderly to be less mobile than those who were widowed, single, divorced, or separated, others revealed them to be more mobile (50, 72; 10, 11, 25). One point is clear about marital status, however: for those who are married, mobility rates are enhanced if both partners are retired (27).

The impact of marital status on younger people is much clearer: single, separated, divorced, or widowed persons are more mobile than

the Mexican boundary of the U.S. from Virginia south and west through California plus Arkansas, Oklahoma, and Missouri in which parts of the Ozark Mountains are found (84).

those who are married (8, 10, 25, 54, 113). This is especially true for those families in which the wife is employed (25, 54).

Family status also affects retirement move decisions. Chevan and Fischer found that migrant couples were less likely to have a child in their household and more likely to live alone than nonmigrant couples. Unmarried migrants, however, were more likely to have a child present and less likely to live alone than unmarried nonmigrants (27). Goldscheider found elderly mobility in general to be inversely related to household size as did Chang and Pendleton (25, 50). This inverse relationship is even stronger for younger migrants (25, 63).

Age

Unlike migration by younger population subgroups, increasing age among the elderly is positively associated with moving (108, 113, 129).³⁴ This may be because the "older elderly" are more likely to become widowed or to face debilitating diseases which force them to move into institutions or with relatives (91, 129).

Sex

Research to date has shown that no significant differences exist in elderly migratory tendencies by sex, although Varady did

³⁴Conversely, Biggar, et al., found interstate migrants to be younger than nonmovers at both the origin and destination (11).

find that the presence of a male head is negatively correlated with moving (4, 27, 129).

In contrast, younger men have been shown to be more likely to migrate than younger women (94).

Health

Determining the impact of health on elderly migration is quite complex, not only because of the difficulty in defining a suitable measurement for health status, but also because health is typically interrelated with age, socioeconomic status, and other personal characteristics. Nonetheless, research has shown that an elderly person's health may impact his migration decision in two conflicting ways. First, poor health may decrease his ability to move (4). Indeed, Chevan and Fischer, using 1970 Census data, found that persons in poor health retire earlier and migrate less than those in good health (27). At the same time, however, poor health creates increased pressure to move if a different climate is expected to improve health or if a move is needed in order "to obtain care, either in an institutional setting or from relatives or other social support networks unavailable at their current location" (4; 100, p. 234).

The first way has been shown to prevail among migrants to the Sunbelt while the second relates to counterstream migration from that area. While the dominant stream was characterized by persons with socioeconomic and demographic characteristics that imply a high level of residential independence and low service needs, the counterstream

had a much higher concentrations of the very old, widowed, and poor (8, 11, 12, 33, 70, 85, 136).³⁵

Prior Mobility

As with labor force migrants, retirees with a history of past migration are more mobile than those who have never moved before (14, 27, 50, 62, 113). Indeed, Chevan and Fischer found lifetime migration behavior to be the second most important factor in migration of the elderly (retirement was first). This factor proved to be more important than either income or occupational prestige in differentiating between elderly movers and nonmovers (27).

Home Ownership Status

According to Newman and Reschovsky, 75% of all elderly households own their homes (97). Because it may be difficult to convert this fixed asset into cash, home ownership may serve to dampen elderly migratory propensities (4). Research has borne out this hypothesis, showing a negative relationship between home ownership and elderly (as well as younger) mobility (25, 74, 105, 129).³⁶ Along the same lines, elderly renters were found to be more willing to move out of their neighborhoods than home owners (50,

³⁵Again, Goldscheider reached conclusions opposite those of the majority. He found health-related considerations to be unimportant determinants of elderly mobility (50).

³⁶This is true unless the residence is fairly old; living in an older home was found to promote mobility among the elderly, yet staying among the younger population (129).

74).³⁷ Home ownership may, however, stimulate elderly migration if the retiree is able to convert his house into liquid assets which could then be used to finance a potential move (4).³⁸

Preretirement Occupational Status

Most researchers have found a direct relationship between occupational prestige and elderly interstate migration (4, 16, 27, 78).³⁹ Bultena and Wood, for example, showed that a larger percentage of elderly migrants were in professional and managerial occupations prior to retirement than were nonmigrants while fewer were from blue collar and farm occupations (16). The research does not give unanimous conclusions, however, as evidenced by Moon's study which showed an inverse relationship between occupational status and elderly mobility (93).

³⁷Langford and Johnson, for example, found that while 15% of nonowners moved after retiring, only 3% of homeowners did so (105).

³⁸The incentive to sell one's home is heightened by the Internal Revenue Service's once-in-a-lifetime \$125,000 capital gains exclusion for people older than 55 who sell their homes (15). Since the elderly may wish to relocate to smaller residences following retirement (Goldscheider found that 67.4% of the elderly's mobility behavior was related to dissatisfaction with their current housing and neighborhood), this tax incentive may enhance the migration rate of the elderly (50).

³⁹This is also true for younger migration streams (75).

III. Summary

Previous studies of elderly migration have come to sometimes conflicting results as to the significance of various personal and place characteristics on elderly migration decisions. The results of most of these studies, however, agree that the human capital and socioeconomic status of retired interstate migrants is typically greater than that of elderly nonmigrants. These migrants have, in the past, shown a preference for warm, noncongested, low cost of living areas with a high percentage of elderly residents.

In the remainder of this volume, the methodology and results of the present study will be documented and considered in light of these previous findings.

CHAPTER 4

THE STUDY MODEL, HYPOTHESES, DATA, SAMPLES AND GRID

This study incorporated three goals. One was to determine which place characteristics have a statistically significant impact upon elderly immigration decisions. The second goal was to establish an ordinal ranking of these place characteristics in order of their importance to potential retirement migrants. Finally, the third goal was to compare the results obtained in meeting the first two goals with those related to labor force members. In this chapter, the model used to attain these goals is presented along with its associated hypotheses and data. The results obtained via its use will be discussed in Chapter 5.

I. The Model

According to microeconomic theory, each individual seeks to maximize the utility he derives from the goods and services (economic and noneconomic) within his feasible set. This feasible set, in turn, is determined by the time, income, etc., available to the individual as well as by psychosocial factors which delimit his ability to enjoy the goods and services he can attain. Within the feasible set, among other things, are various places of residence from which the individual can choose, each of which represents a bundle of available goods and services. In maximizing utility, it is

presumed that a person will select from those places the residence which will provide the bundle of goods and services most appealing to him, given the other items chosen from his feasible set.

The bundle of goods and services associated with a locality can be proxied by various characteristics of the place chosen, leaving the individual with the task of maximizing the following function, given the constraints that confront him:

$$(5.1) \quad \text{Utility}_j = f(\text{Place Characteristics}_i \mid \text{Personal Characteristics}_j, \text{All Other Goods and Services})$$

for area i and individual j .

Because of the utility maximization presumption, it can be assumed that the probability of migration by person j to location i will be a function of the utility derivable from the area's bundle of goods and services, given other factors associated with person j . Thus,

$$(5.2) \quad P(\text{Move to area}_{ij}) \approx f(\text{Utility}_i) = f(\text{Place Characteristics}_i \mid \text{Personal Characteristics}_j, \text{All Other Goods and Services})$$

for area i and individual j .

If this is accepted, it can also be assumed that the following equation holds true:

$$(5.3) \quad P(\text{Move}_{ij}) \approx f(\text{Place Characteristics}_i \mid \text{Personal Characteristics}_j, \text{All Other Goods and Services})$$

for area i and individual j .

This equation comprises the framework of the model used in this study. It was used to accomplish the study's first goal -- identifying significant place characteristics. The study's second goal was to develop a ranking of the area traits in order of importance to potential migrants. To do so, equation (5.1) above could have been combined with marketplace data and various assumptions to determine a hedonic price for each characteristic, thus making possible a cardinal ranking of the importance of various place characteristics to elderly immigration to a given area. This process would not only have become extremely complicated, however, but immensely impractical from a "real-world" standpoint. By assuming that area planners can as effectively develop strategies to attract elderly migrants via the use of ordinal rankings as opposed to cardinal hedonic prices, the process of satisfying the study's second goal was greatly simplified. Equation (5.3) could then be (and was) utilized to accomplish this goal via logistic analysis, or, more specifically, through the beta weights determined for each variable by the SAS logistic procedure.⁴⁰

⁴⁰For more information on the logistic method, please see Pindyck and Rubinfeld, pp. 247-254.

In fleshing out the model, the dependent variable in equation 5.3 was defined to represent the following possible responses:

0 = No move during study period
or
1 = Move during study period.⁴¹

Thus, if a person moved into one of this study's grid areas between 1975 and 1980, the value of the dependent variable above was set equal to 1. If no move occurred during that time, a value of 0 was assigned to the dependent variable. Because the "All Other Goods and Services" category of the equation should have been fairly similar regardless of residence and because of a lack of data, it was considered as a ceteris paribus situation and ignored. This could not be done with the personal characteristics category, however, because an individual's tastes and preferences, income, etc., have a profound affect on the utility he will derive from the goods and services represented by a given location and thus upon the location to which he will choose to migrate, should he decide to move. For this reason, variables representing the following head-of-household traits were included in the model as control factors:

- a) Age;
- b) Educational attainment;

⁴¹A multinomial response variable can also be used with the logistic method.

- c) Health status;
- d) Home ownership status;
- e) Household size;
- f) Marital status;
- g) Nonwage income;
- h) Other income;
- i) Preretirement occupation;
- j) Prior migration; and
- k) Sex.

II. Hypotheses

Personal Characteristics

Based on the findings of other researchers, which were discussed in Chapter 3, it was hypothesized that an increase in a potential migrant's education, income, and/or preretirement occupational status would be correlated with a heightened propensity to move to another area following retirement. A positive relationship was also anticipated between retirement migration and prior mobility. A person of relatively high socioeconomic status, as well as one who has moved at some previous time in his life, is more likely to have been exposed to other areas and to have more confidence in his ability to adapt to life in another community; these factors should serve to decrease the psychic cost of a potential move and to thus render it more feasible. The feasibility of a potential move is also affected by one's income since financial

costs will be incurred in making the move. As a result, people with higher income levels should be more able to finance a potential move and thus be more likely to migrate.

A negative relationship was anticipated to exist between migration and the number of people in one's household. As this number rises, the psychic costs of a potential move, as well as the financial ones, are likely to increase since more people will be leaving friends, familiar situations and places, and possibly jobs.

No significant amount of correlation was expected to occur between a person's sex and his or her propensity to migrate.

As was discussed in Chapter 3, the relationships of home ownership, marital status, health and age to migration are unclear. If a potential migrant owns his home and is able to sell it, he will be able to finance a move more easily, thus increasing the probability that the move will occur. If, however, he is unable to sell the home prior to migration, he may feel that he is tied to his present location and unable to migrate. The migratory propensity of a married retiree, relative to his unmarried counterpart, may be heightened in that the psychic costs of the move may be lowered if one does not have to migrate alone. However, the psychic costs of the move may rise, thus decreasing the persons' migratory propensity, if the person's spouse has strong emotional ties to their present location. If the spouse is employed, the financial costs of the potential move will also increase by the amount of the wages that will be foregone, assuming a comparable position is not found at the destination location, should the move be made. Poor health can

encourage migration if one believes that a different climate will be salubrious or if he has a child or relative elsewhere who will care for him; it may also discourage a post-retirement move, however, if the person is feeble or needs to remain at his present location to be near his doctors and/or treatment facilities. The impact of increased age upon migratory propensity is also difficult to call. Like the person in poor health, an older person may need to move in order to be with relatives or others who will care for him, or, conversely, he may need to stay where he is in order to continue to receive the help he presently has available. Because of the conflicting impacts of these variables upon migration propensity, it is hard to formulate hypotheses concerning them.

Most of these hypotheses were expected to apply to labor force members as well as retirees. Two exceptions were those related to the age and sex variables: older and/or female labor force members were anticipated to have lower migratory propensities than their younger male counterparts. These hypotheses are summarized in Table 1 below.

Place Characteristics

In contrast to the congruous personal characteristic hypotheses for retirees and labor force members, the impact of many of the place characteristics on migration was anticipated to vary between the two groups. Because retirees often have fixed incomes, a clearly negative relationship was expected between variables related to an area's cost of living and immigration. Presumably, all people

Table 1
Hypothesized Relationships Between Various Personal Characteristics
and Migration
Retirees and Labor Force Members

Variable	Retirees	Labor Force Members
Age	?	-
Educational Attainment	+	+
Health Status (Poor=1; Other=0)	?	?
Household Size	-	-
Homeownership Status (Home Owner=1; Other=0)	?	?
Income:		
Nonwage	+	+
Other	+	+
Marital Status (Married=1; Other=0)	?	?
Prior Migrant	+	+
Sex (Female=1; Male=0)	?	-
White Collar Preretirement Occupation ^a	+	+

Source: Derived by the author from various sources; see text for further information.

^aRelative to potential blue collar migrants

(rather than just retirees) prefer lower cost of living areas, ceteris paribus, to those in which it is more expensive to live. However, because labor force members did not share the retirees' freedom from labor force constraints, it was postulated that a positive relationship might exist between some or all cost of living proxies and labor force immigration since higher cost of living areas

are often also higher wage areas with more employment opportunities.⁴²

For both retirees and labor force members, it was hypothesized that colder climates would be negatively associated with immigration while warm temperatures would heighten the probability of immigration. Places characterized by pleasant weather may not have been in the feasible set of some labor force members, however, since job openings within some industries may have been concentrated in areas characterized by relatively severe weather (e.g., steel workers).

Job openings are also typically associated with urban, highly populated areas which, in turn, are often characterized by disamenities such as high crime rates, congestion, etc. While the latter traits should discourage elderly immigration, they also tend to be associated with higher service provision and with convenience which may be of special importance to older people. This jumble of pros and cons makes it a bit difficult to make a sound call as to the expected relationships between an area's levels of population and urbanity and migration for either labor force members or retirees. Because of the typically higher costs of these areas, though, it was expected that on balance these factors would be negatively related to elderly immigration. Due to their correlation with job

⁴²In a controlled situation, where employment opportunities were held constant, the hypotheses for the elderly should also apply to the control group.

opportunities, however, they were expected to be positively associated with labor force immigration.

The presence of doctors and health facilities in an area should have been a pull factor for all potential migrants and thus have been positively related to immigration. Each of these factors, however, is likely to be highly correlated with increasing urbanness and with higher population levels, both of which may be considered as disamenities by many people. As a result, the expected relationship between these variables and elderly immigration is unclear. For the labor force members this ambiguousness did not exist since urban areas also tend to be areas characterized by relatively strong labor force opportunities. Therefore, an increase in the number of local doctors and/or health facilities was likely to be positively related to control group immigration.

Although most people would probably prefer to live in an area with high levels of urban and musical amenities (e.g., libraries, symphony orchestras), these factors have the same problem companions as the variables discussed above: their availability is likely to be strongly associated with relatively more urban, highly populated areas, both of which may be regarded as disamenities by many people. All other factors being equal, the relationship between these variables and retiree immigration should be a positive one. The confounding factor of urbanness with its associated higher cost of living makes this relationship unclear, however, and suggests that these amenities might in practice demonstrate a negative relationship

with retiree immigration. For labor force members, the relationship should be clearly positive for the reasons that were discussed above.

Park and water amenity levels are less likely to be associated with highly urban areas; therefore, the relationship between these factors and both older and younger immigration was expected to be positive. The correlation was anticipated to be stronger, however, for elderly potential migrants who were likely to have more leisure time than their labor force counterparts.

As was discussed in Chapter 3, previous studies have found a strong link between a high median age level in an area and elderly immigration. This may be a result of the established sequential migration paths to popular retirement areas that have existed for some time: soon-to-be retirees may have elderly friends who migrated to the area at an earlier time. Having friends at a possible destination, especially if the potential migrant has visited his friends there, lowers the psychic costs of a move and thus makes the move more feasible. Another possible attraction of already established retirement areas is that industries catering especially to elderly needs and desires are more likely to grow up in nondeclining localities with large elderly populations. These industries would thus heighten the lure of areas that were already -- as evidenced by the sequential streams -- attractive to elderly migrants. Due to these factors, a positive relationship was expected between elderly immigration and median age.

For labor force members, median age was anticipated to be inversely related to immigration since high job-opportunity areas are

likely to be home to many young people with children; this would cause the median age to decline.

Not surprisingly, an area's violent and property crime rates were expected to be negatively correlated with elderly immigration. Even this relationship is ambiguous, however, since the incidence of crime is often highly concentrated within a few areas in a locality. These areas are unlikely to be the sections where footloose, high income immigrants settle since popular settlement areas are likely to be highly guarded and fairly untouched by crime. For potential labor force migrants, the urban factor again clouds the picture. Because urban areas are likely to be associated with both higher crime and heightened employment prospects, regression results may indicate a positive association between younger immigration and high crime rates. On balance, however, a negative association was anticipated.

Table 2 below summarizes these hypothesized relationships.

III. The Data

The personal and place data used in this study were gathered from a variety of different sources. Below, these sources are identified along with a description of the study grid, samples, and variables.

Data Sources

Personal characteristic data for this study was gleaned from the 1980 Census Microdata Sample (one-percent "B" sample) which is a

Table 2
Hypothesized Relationships Between Various Place
Characteristics and Immigration
Retirees and Labor Force Members

Variable	Retirees	Labor Force Members
Crime Rate	-	-
Climate:		
Cool	-	-
Warm	+	+
Cost of Living	-	+
Doctors, Health Facilities	?	+
Family & Friends		
Resident Locally	+	+
Median Age	+	-
Park and Water Amenities	+	+
Urban and Musical Amenities	?	+
Urbanity and Pop- ulation Levels	-	+

stratified sample of housing units and the persons in them, as enumerated in the 1980 Census.

Place characteristic data was collected from a variety of sources. One of these was Boyer and Savageau's Places Rated Retirement Guide, which was published in 1983. (For this guide, the authors chose, based on demographic evidence and the advice of experts, 107 popular retirement areas⁴³ and then ranked them in terms

⁴³Herein, retirement areas are considered to be localities that attracted large numbers of retired interstate migrants between 1970 and 1980.

of climate, housing, money matters, personal safety, health care, and leisure facilities). Additional data came from the 1977 and 1983 editions of the County and City Data Book and the Statistical Abstract of the United States, 1987, which are products of the U.S. Bureau of the Census.

Meteorological and climatological data was gathered from Weather of U.S. Cities which provides weather data for various cities averaged over the 1951-1980 period.

Study Grid

The grid used for this study was derived from that defined by the Places Rated Retirement Guide. The 107 places that the authors of this guide chose are counties or groups of counties that have attracted large numbers of retired interstate migrants since 1970. Thirty-four of them are large enough to be called Metropolitan Statistical Areas⁴⁴ while the remaining 73 (more than two-thirds of the places) are mainly rural counties.

In order to link the places with their Census B-Sample residents, each area was matched to its appropriate Census county group. In several cases, areas had to be combined in order to match them to a unique group of counties. This process brought the total

⁴⁴According to the United States Office of Management and Budget, a metropolitan statistical area is an area having a central city of at least 50,000 population, or an urbanized area of at least 50,000 population located in a county or counties with a total population of 100,000 or more (15, p. viii).

number of areas down to 85. These 85 Census groups constitute this study's grid.^{45 46}

In cases where areas had been combined, population-weighted averages were utilized for all data except weather variables. In order to match the 85 areas up with their climatic characteristics, each was paired with the geographically closest weather station reported on in Weather of U.S. Cities. In cases where areas had been combined, data from the station with the least total distance from the combined areas was used.

After the final grid was established, each potential migrant within a grid area was linked using the SAS Statistical Query Procedure with the area's associated place data. In this way, Graves and Knapp's recommendation of a merging of personal and place data was accomplished.

Table 3 below lists each of the grid areas along with its associated county(ies) and weather station. Figure 1, which is a map showing the locations of these areas, is also presented below. Within the map, each area is identified by the number assigned to it in Table 3.

⁴⁵Because only migration within the continental U.S. was considered, Maui, Hawaii, was eliminated from the grid.

⁴⁶Data from the 1977 and 1983 editions of the County and City Data Book show that 1.46% of the national population lived within the grid in 1975 while 1.51% resided there in 1980.

Table 3
Study Grid^a

No., Name and State	County(ies)	Weather Station ^b
1.* Bar Harbor- Frenchman Bay, ME Camden-Penobscot, ME	Hancock Knox	Portland
2.* North Conway-White Mountains, NH Laconia-Lake Winnepesaukee, NH	Carroll Belknap	Mt. Washington
3. Keene, NH	Cheshire	Concord
4.* Brattleboro, VT Bennington, VT	Windham Bennington	Albany, NY
5. Cape Cod, MA	Barnstable	Boston
6. Monticello- Liberty, NY	Sullivan	Binghamton
7. Toms River- Barnegat Bay, NJ	Ocean	Atlantic City
8. Atlantic City- Cape May, NJ	Atlantic Cape May	Atlantic City
9. State College, PA	Centre	Harrisburg
10. Lancaster, PA	Lancaster	Harrisburg
11. Rehoboth Bay-Indian River Bay, DE	Sussex	Wilmington

^aAreas marked with an asterisk are those from the Places Rated grid that had to be combined in order to be linked to a unique Census area.

^bThe state in which a weather station is located is only indicated if it is other than the one identified in the first column of this table.

Table 3, cont.
Study Grid

No., Name and State	County(ies)	Weather Station
12.* Easton-Chesapeake Bay, MD	Talbot	Washington, D.C.
Ocean City-Assateague Island, MD	Worcester	
13.* Winchester, VA	Frederick	Baltimore, MD
Front Royal, VA	Winchester City Warren	
14. Rappahannock, VA	Rappahannock	Washington, D.C.
15. Charlottesville, VA	Charlottes- ville City Albemarle Fluvanna Greene	Lynchburg
16. Asheville, NC	Buncombe	Asheville
17.* Hendersonville, NC	Henderson	Asheville
Brevard, NC	Transylvania	
18. Myrtle Beach, SC	Horry	Wilmington, NC
19. Beaufort-Hilton Head, SC	Beaufort	Savannah, GA
20.* Clarkesville-Mount Airy, GA	Habersham	Athens
Gainesville-Lake Sidney Lanier, GA	Hall	
21. Brunswick-Golden Isles, GA	Glynn	Jacksonville, FL
22. Ocala, FL	Marion	Orlando
23. Daytona Beach, FL	Volusia	Daytona Beach
24. Melbourne-Titusville-Cocoa, FL	Brevard	Orlando
25. West Palm Beach-Boca Raton, FL	Palm Beach	West Palm Beach

Table 3, cont.
Study Grid

No., Name and State	County(ies)	Weather Station
26. Fort Lauderdale-Hollywood, FL	Broward	Miami
27. Miami, FL	Dade	Miami
28. Fort Myers-Cape Coral, FL	Lee	Fort Myers
29. Sarasota-Bradenton, FL	Manatee Sarasota	Tampa
30. Lakeland-Winter Haven, FL	Polk	Tampa
31. Orlando, FL	Orange Osceola Seminole	Orlando
32. Fairhope-Gulf Shores, AL	Baldwin	Mobile
33. Biloxi-Gulfport, MS	Hancock Harrison Stone	Mobile, AL
34.* Paris, TN Big Sandy, TN	Henry Benton	Paducah, KY
35. Cookeville, TN	Putnam	Nashville
36. Crossville, TN	Cumberland	Oak Ridge
37. Benton-Kentucky Lake, KY	Marshall	Paducah
38. Lexington-Fayette, KY	Bourbon Clark Fayette Jessamine Scott Woodford	Lexington

Table 3, cont.
Study Grid

No., Name and State	County(ies)	Weather Station
39.* Traverse City-Grand Traverse, MI	Grand Traverse	Houghton Lake
Petoskey-Straits of Mackinac, MI	Emmet	
40.* Oscoda-Huron Shore, MI	Iosco	Houghton Lake
Houghton Lake, MI	Roscommon	
41.* Eagle River, WI	Vilas	Green Bay
Rhineland, WI	Oneida	
42.* Cassville-Roaring River, MO	Barry	Springfield
Table Rock Lake, MO	Stone	
Branson-Lake Taneycomo, MO	Taney	
43. Springfield, MO	Christian Greene	Springfield
44.* Harrison, AR	Boone	Springfield, MO
Bull Shoals, AR	Marion	
Mountain Home- Norfolk Lake, AR	Baxter	
45. Hot Springs-Lake Ouachita, AR	Garland	Little Rock
46.* Lake O' The Cherokees, OK	Delaware	Tulsa
Tahlequah-Lake Tenkiller, OK	Cherokee	
47. Canton-Lake Tawakoni, TX	Van Zandt	Dallas
48. Athens-Cedar Creek	Henderson Lake, TX	Dallas
49. Austin, TX	Hays Travis Williamson	Austin

Table 3, cont.
Study Grid

No., Name and State	County(ies)	Weather Station
50.* Fredericksburg, TX Kerrville, TX	Gillespie Kerr	San Antonio
51. San Antonio, TX	Bexar Comal Guadalupe	San Antonio
52. Rockport-Aransas Pass, TX	Aransas	Corpus Christi
53. McAllen-Pharr Edinburgh, TX	Hidalgo	Brownsville
54. Santa Fe, NM	Santa Fe	Albuquerque
55. Albuquerque, NM	Bernalillo	Albuquerque
56. Roswell, NM	Chaves	Roswell
57. Deming, NM	Luna	El Paso, TX
58. Las Cruces, NM	Dona Ana	El Paso, TX
59. Fort Collins, CO	Larimer	Cheyenne, WY
60. Grand Junction, CO	Mesa	Grand Junction
61. Delta, CO	Delta	Grand Junction
62. Colorado Springs, CO	El Paso	Colorado Springs
63. St. George-Zion, UT	Washington	Milford
64.* Lake Havasu City- Kingman, AZ Yuma, AZ	Mohave Yuma	Yuma
65. Prescott, AZ	Yavapai	Flagstaff
66. Phoenix, AZ	Maricopa	Phoenix
67. Tucson, AZ	Pima	Tucson
68. Las Vegas, NV	Clark	Las Vegas

Table 3, cont.
Study Grid

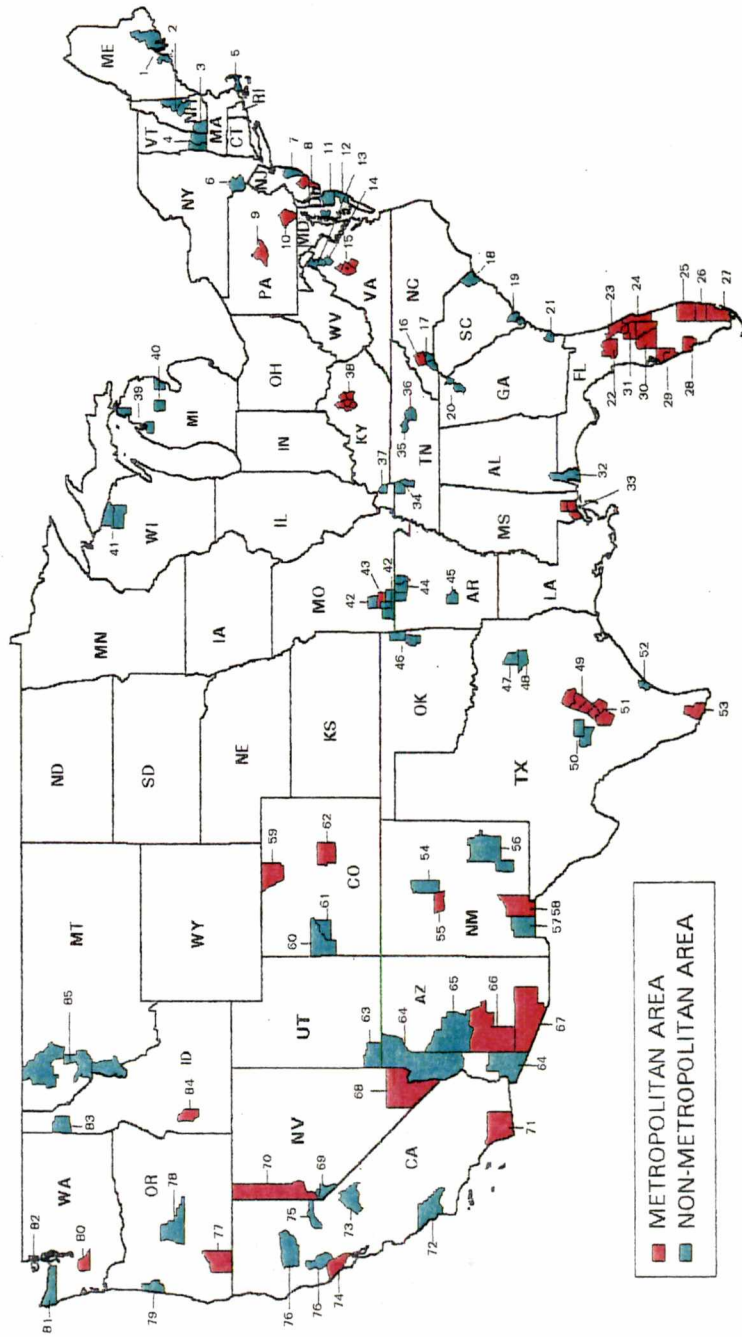
No., Name and State	County(ies)	Weather Station
69. Carson City, NV	Carson City city Douglas	Reno
70. Reno, NV	Washoe	Reno
71. San Diego, CA	San Diego	San Diego
72. San Luis Obispo, CA	San Luis Obispo	Santa Maria
73. Twain Harte- Yosemite, CA	Tuolumne	Stockton
74. Santa Rosa, CA	Sonoma	Sacramento
75. Nevada City- Donner, CA	Nevada	Sacramento
76.* Clear Lake, CA Red Bluff-Sacramento Valley	Lake Tehama	Red Bluff
77. Medford, OR	Jackson	Medford
78. Bend, OR	Deschutes	Eugene
79. Lincoln-Newport, OR	Lincoln	Salem
80. Olympia, WA	Thurston	Olympia
81. Port Angeles- Strait of Juan de Fuca, WA	Clallam	Seattle
82. Oak Harbor, WA	Island	Seattle
83. Coeur d'Alene, ID	Kootenai	Spokane, WA
84. Boise City, ID	Ada	Boise

Table 3, cont.
Study Grid

No., Name and State	County(ies)	Weather Station
85.* Kalispell, MT	Flathead	Missoula
Missoula, MT	Missoula	
Hamilton-Bitterroot Valley, MT	Ravalli	

Source: This table was constructed using information from the Places Rated Retirement Guide; the Census of Population and Housing: 1980 Public-Use Microdata Samples Technical Documentation; and Weather of U.S. Cities.

THE STUDY GRID'S 85 RETIREMENT AREAS



Definitions

For the purposes of this study, "retired" refers to those who were between 55 and 75 years old and working in 1975 yet not in the labor force in 1980. "Migrant" refers to any person enumerated in the 1980 Census who moved into one of the grid areas discussed below between 1975 and 1980. Those who meet the eligibility criteria discussed in the "Study and Control Groups" section below and who were living in one of the grid areas in 1980 will be referred to as the "1980 At-Risk Sample" or the "1980 At-Risk to Migrate Sample". To be "at-risk" in 1980 implies that an individual resided in one of the grid areas in 1980 and thus had the potential to have moved into the area between 1975 and 1980. "Retired migrant" and "elderly migrant" will be used interchangeably although it is obvious that the words are not synonyms: it is clearly possible to be retired and quite young (e.g., some military personnel retire in their early forties) or to be elderly and still at work. "Old" or "elderly" will refer to members of the study group while "labor force", "young", and "younger" will be associated with members of the control group. Finally, "retirement area" and "grid area" will both be used to denote any of the 85 areas of the study grid.

Study and Control Groups

In this study, the population group of interest is the subset of Census "B"-Sample respondents at risk to retirement immigration between 1975 and 1980. To isolate this group, several restrictions were placed on the data. Individuals were required to be a) between

the ages of 60 and 80 in 1980 (i.e., between 55 and 75 in 1975); b) heads of household; c) Caucasian; d) working full-time in 1975 and not working at all in 1980; e) not attending college in 1975 or 1980; f) not in the armed services in 1975 or 1980; and g) resident in one of the 85 grid areas in 1980. The lower age limit was chosen because a 60-year old person in 1980 would have been at the earliest age in 1975 to receive most forms of retirement benefits. The upper age limit was selected to separate the "old" elderly from the "young" elderly since these groups have been shown to migrate for very different reasons.⁴⁷

College attendants, military personnel, and 1980 labor force members were excluded to preclude measurement of moves made for non-retirement reasons.

A control group was also utilized. This group shared all of the study group's characteristics except that they were between 24 and 59 years old in 1980 and were working in both 1975 and 1980. Due to their lack of attachment to the labor force, the mobility patterns of the study group were postulated to be influenced by significantly different factors than those affecting members of the workforce.⁴⁸

⁴⁷As McLeod, et al., note, "Whereas retirement is the most important factor dictating migration behavior of the 'younger old', health-related considerations are more important among the older elderly" (91, p. 373). Since this project focuses upon retirement migration, it was deemed prudent to exclude the "older" elderly.

⁴⁸Previous studies have shown migrants among the younger portion of this group to have similar personal characteristics (e.g., income and educational levels, marital status, etc.) and mobility rates to migrants in the study group, although attractive place characteristics, especially with regard to economic matters, often diverge markedly between them. Mobility rates vary significantly

Variables

Variables were chosen to represent personal and place characteristics thought to be important in elderly migration decisions. The personal characteristic variables, which generally reflect a potential migrant's socioeconomic status, are listed in Table 4 below along with their definitions and sources.

The place variables fall into one of six general categories. These include climate and weather variables; cost of living variables; health care variables; crime variables; amenities variables; and miscellaneous area trait variables. Table 5, which follows, lists these variables along with their definitions and sources.

In most cases, the variables were assumed to remain constant over the study period. This seems reasonable in that only a five-year period is considered. For several variables, 1982 or 1983 data was utilized. In these cases, earlier data of comparable quality was not available. Use of such post-study period data was not expected to cause this project's results to vary significantly from those that would have been obtained with earlier data.

between the less mobile, older portion of the control group and the more mobile retirees.

Table 4
Study Variable Names and Definitions:
Personal Variables

VARIABLE NAME	DEFINITION	SOURCE ^a
Age	Age of Individual	1
Extra Persons In Home	Number of Persons in Household Other Than House- holder and Spouse	2
Female	Sex 1=Female 0=Male	1
Home Owner	Home Ownership Status 1=Owns Place of Residence 0=Does Not Own Place of Residence	2
Income:		
Nonwage	Sum of Interest, Dividend, and Net Rental Income; Social Security Income; and Other Nonwage, Nonwelfare Income in 1979	2
Other	Income in 1979 from Wages, Salaries, and/or Nonfarm Self-Employment	2
Married	Marital Status 1=Married, Except Separated 0=Widowed, Divorced, Single, or Separated	2

^a1=1980 U.S. Census, B-Sample

2=Derived from U.S. Census, B-Sample

Table 4, cont.
Study Variable Names and Definitions:
Personal Variables

VARIABLE NAME	DEFINITION	SOURCE ^a
Occupation: ^b		
Professional--	Managerial or Specialty Occupation; Farm Operation and Management; Captainship or Officership of a Fishing Vessel	2
	1=Preretirement Professional Occupation 0=Other Occupation	
Other White Collar	Lower-Level White Collar Occupation	2
	1=Preretirement Lower-Level White-Collar Occupation 0=Other Occupation	
Prior Migrant	Residence in 1975 in State other than State of Birth	2
	1=Birth State Not Same As State of Residence in 1975 0=Birth State Same As State of Residence in 1975	
Public Transportation Disability	Public Transportation Disability Status	2
	1=Disability 0=No Disability	

^a1=1980 U.S. Census, B-Sample
2=Derived from U.S. Census, B-Sample

^bThe variable representing a blue collar preretirement occupation was excluded from consideration in order to provide a point of reference for the included occupation variables.

Table 4, cont.
Study Variable Names and Definitions:
Personal Variables

VARIABLE NAME	DEFINITIONS	SOURCE ^a
Years of Education	Number of Years of School Attended, First Grade and Beyond	2

Source: This table was compiled by the author from information contained in the 1980 U.S. Census, B-Sample.

^a₁=1980 U.S. Census, B-Sample
₂=Derived from U.S. Census, B-Sample

Table 5
Study Variable Names, Definitions and Sources:
Place Characteristics

VARIABLE NAME	DEFINITION	SOURCE ^a
Average Income	Estimated Average Income for a Two-Person Household, 1983	1
Cold Days	Number of Degrees Daily Average Temperature is Below 65 Degrees Fahrenheit	1
Doctors	Number of Physicians per 100,000 Residents, 1978-1983	1
Freezing Days	Average Number of Days when the Minimum Temperature Dropped to a Minimum of 32 Degrees Fahrenheit or Below, 1951-1980	2
Hospital Beds	Number of Hospital Beds per 100,000 Residents, 1978-1983	1
Hot Days	Average Number of Days in Year When Temperatures Reached 90 Degrees Fahrenheit or Above, 1951-1980	2
Housing Price	Average Price of All Owner-Occupied Housing Units (Houses, Condos, and Mobile Homes) from <u>1980 Census of Population</u> , Adjusted for Inflation	1
Humidity	Average Relative Humidity at Various Hours of the Day, 1951-1980	2
Median Age	Median Age of Population, April 1, 1980	3
Median Rent	Monthly Median Rent from <u>1980 Census of Population</u> , Adjusted for Inflation	1

^a1=Places Rated Retirement Guide
2=Weather of U.S. Cities
3=County and City Data Book, 1983
4=County and City Data Book, 1977
5=Derived from Places Rated Data

Table 5, cont.
Study Variable Names, Definitions and Sources:
Place Characteristics

VARIABLE NAME	DEFINITION	SOURCE ^a
Musical Amenities	Score Indicating the Presence of "Musical" Amenities such as Symphony Orchestras and Operas, 1983	5
1980 Population	Total Number of Persons in Area, April 1, 1980	3
1975 Population	Total Number of Persons in Area, July 1, 1975	4
Park Amenities	The Sum of the Acres of National Forests, Parks, and Wildlife Refuges and the Number of State Parks in an Area, 1983	5
Percent Urban	Percent of Population that Resides in Urban Areas, April 1, 1980	3
Population Change, 1960-1970	Percent Change in Population Size, 1960-1970	4
Population Change, 1975-1980	Percent Change in Population Size, 1975-1980	3
Property Crime	Sum of the FBI Rates for Burglary, Larceny-Theft, and Motor Vehicle Theft Divided by 10, 1982	1
Property Taxes	Statewide Average Residential Property Tax Rates, 1983	1
Rain	Average Annual Precipitation in Inches of Water Equivalent, 1951-1980	2

^a1=Places Rated Retirement Guide

2=Weather of U.S. Cities

3=County and City Data Book, 1983

4=County and City Data Book, 1977

5=Derived from Places Rated Data

Table 5, cont.
Study Variable Names, Definitions and Sources:
Place Characteristics

VARIABLE NAME	DEFINITION	SOURCE ^a
Snow	Average Annual Inches of Snow, 1951-1980	2
Taxes	Estimated Average Annual State and Local Income and Sales Tax Outlay by a Two-Person Household, Given Area's Estimated Average Income for a Two-Person Household, 1983	1
Urban Amenities	Score Indicating the Presence of Urban Amenities such as Movie Theaters, Museums, Public Golf Courses, Bowling Lanes, and Public Libraries, 1983	5
Utilities	Annual Dollar Cost of Utilities, Adjusted for Inflation, 1983	1
Violent Crime	Sum of the Rates for All Violent Crimes (Murder, Forcible Rape, Robbery, and Aggravated Assault) as Reported by the FBI, 1982	1
Water Amenities	Sum of the Miles of General Coastline (i.e., Coast on Either an Ocean or One of the Great Lakes) and the Square Miles of Inland Water in an Area ^b	5

Source: This table was constructed from information supplied by the
Places Rated Retirement Guide, Weather of U.S. Cities, and
the 1977 and 1983 editions of the County and City Data Book.

^a1=Places Rated Retirement Guide
2=Weather of U.S. Cities
3=County and City Data Book, 1983
4=County and City Data Book, 1977
5=Derived from Places Rated Data

^bAccording to Boyer and Savageau, "Inland water area includes ponds
and lakes of surface area greater than 40 acres; streams, canals, and
rivers if width is one-eighth mile or greater; water area along
irregular Great Lakes and ocean coastlines if bays, inlets, and
estuaries are between one and ten miles wide" (15, p. 137).

IV. Mean Characteristics of the 1980 Samples and Study Grid

In the section below, the mean characteristics of the study's grid and 1980 study and control group samples will be presented.

Mean Personal Characteristics of the 1980 Samples

In Table 6, selected personal characteristic means for the 1980 study (old) and control (young) groups are presented. The first of these groups contained 1,897 potential migrants in 1980 while 15,245 people were included in the latter group.

As the table shows, the average member of the older group was an almost 67 year old, healthy (as measured by the lack of a public transportation disability) married male who had made an interstate move at some previous time in his life and who lived either alone or only with his spouse.

Comparisons of the old and young potential migrants via student-t means tests showed that the two groups differed significantly in every way save their prior migration patterns. Notably fewer "extra" persons resided in the study group's homes than in those of the control group. Members of the former group were less likely to be married and, not surprisingly, to have higher nonwage income levels than their younger counterparts. Members of the latter group, however, were slightly more educated, healthier, and richer in terms of overall income.

Table 6
Selected Personal Characteristic Means
for Old and Young Potential Migrants:
1980 At-Risk Samples

	OLD	YOUNG
Age	66.62***	40.88
Extra Persons in Home	0.25***	1.40
Female	0.21***	0.14
Home Owner	0.85***	0.76
Income:		
Nonwage	\$9,039.94***	\$1,144.14
Other	\$2,678.34***	\$17,688.44
Married	0.71***	0.75
Occupation:		
Professional	0.25***	0.31
Other White Collar	0.23***	0.26
Prior Migrant	0.56	0.52
Public Transportation Disability	0.07***	0.00 ^a
Years of Education	11.57***	12.96
n	1,897	15,245

***Means test results between old and young samples significant at the 0.01 level

Source: Values in this table were computed by the author using 1980 Census B-Sample data and its accompanying documentation.

^a To three decimal places, this mean is equal to 0.004.

In Table 7, these old and young groups are subdivided into those who actually did migrate into one of the study areas between 1975 and 1980 and those who lived in one of the areas in 1980 but did not move there during the study period. Of the 1,897 people in the older group, 696, or 36.7%, were migrants while 1,201 were nonmigrants. The comparable numbers for the 15,245 younger potential migrants were 3,606, or 23.7%, and 11,639, respectively.

As the table shows, older migrants were significantly more likely to live alone or with only a spouse than were their nonmigrant counterparts. Because fewer people were involved in the decision to move or not move in the migrant group (assuming household sizes were approximately the same in 1980 as in 1975), psychic and other costs should have been lower, ceteris paribus, for them, making a positive move decision more feasible: fewer people had to leave friends and family, jobs, etc.

In contrast to the results described in the literature on elderly migration,⁴⁹ the older migrants in this study group were less likely to have moved before than were the nonmigrants. There are several possible explanations for this. One concerns the fact that the nonmigrants were, as the table shows, older on average than the migrants. Being older, some of them may have retired earlier than those in the migrant group and may have moved into the grid areas prior to 1975. In this way, they would be counted as prior migrants here but not as current migrants while the reverse would be true,

⁴⁹These results are discussed in Chapter 3 of this dissertation.

Table 7
Selected Personal Characteristic Means
for Old and Young Migrants and Nonmigrants:
1980 At-Risk Samples

	OLD		YOUNG	
	Migrant	Nonmigrant	Migrant	Nonmigrant
Age	65.93***	67.02	37.84***	41.82
Extra Persons in Home	0.19***	0.29	1.30***	1.43
Female	0.15***	0.25	0.15	0.14
Home Owner	0.83*	0.86	0.60***	0.80
Income:				
Nonwage ^a	\$10,188***	\$8,374	\$1,191	\$1,130
Other ^b	\$ 3,113*	\$2,426	\$17,503	\$17,746
Married	0.79***	0.66	0.72***	0.76
Occupation:				
Professional	0.28***	0.24	0.35***	0.30
Other White Collar	0.29***	0.19	0.27	0.25
Prior Migrant	0.51	0.58	0.56	0.51
Public Transpor- tation Disability	0.05*	0.08	0.00* ^c	0.00 ^d
Years of Education	12.20***	11.20	13.51***	12.78
n	696	1,201	3,606	11,639

*Means test results between migrants and nonmigrants significant at the 0.10 level

**Means test results between migrants and nonmigrants significant at the 0.05 level

***Means test results between migrants and nonmigrants significant at the 0.01 level

Source: Values in this table were computed by the author using 1980 U.S. Census, B-Sample data and its accompanying documentation.

^aRounded to nearest dollar

^bRounded to nearest dollar

^cTo three decimal places, this mean is equal to 0.003.

^dTo three decimal places, this mean is equal to 0.005.

ceteris paribus, for the migrant group. Another possibility is that some people approaching retirement may have prepositioned themselves in the areas to which they wished to retire by requesting a transfer to the area or simply changing employers. Since many of them would no longer have children at home, even a transfer associated with a lower pay scale may have been feasible. A third plausible explanation is that the group of older persons considered in this study are atypical of the general elderly population and that the migrants of the group actually were less likely to have moved before than were the group's nonmigrants.

Unlike the prior migrant variable, the results for the education, health, and income variables all correspond to those found in the literature: older migrants tend to be significantly better educated, healthier, and richer than nonmigrants. They were also more likely to have worked in a white collar profession prior to retirement than were nonmovers. All of these factors should have made interstate migration easier by reducing the psychic costs of movement and/or by increasing the ability to finance or carry out a move.

As was discussed in Chapter 3, research findings have been mixed on the relationship between sex, marital ties, and elderly interstate migration. For the older group in this study, however, the results are clear: older migrants were significantly more likely to be married males than were nonmigrants.

As Table 7 shows, the migrant versus nonmigrant characteristics discussed above apply to the younger group as well except that young

migrants to the study grid areas were slightly, though not significantly, more likely to be female; more likely to be married; and likely to have lower total income and higher prior migration levels than were nonmigrants. Because control group members were too young to have begun prepositioning themselves for retirement, this prior migration result squares better with results reported by other researchers than do those associated with the study group.

For each variable except "Prior Migrant", student-t test results indicated significant differences in the elderly migrant versus nonmigrant means. For the younger groups, however, there were a few more exceptions: t-test results indicated that no significant differences existed between migrant and nonmigrant sex and income levels or between movers and nonmovers who were employed in a nonprofessional white-collar occupation during the study period.

Mean Characteristics of the Grid Areas

In Table 8 below, selected place characteristic means for the 85 retirement areas considered in this study are presented. Although directly comparable national data is not available or is basically nonsensical for many of these statistics (e.g., the average temperature of the entire United States), several grid area-national comparisons are presented in Table 9 below.

As the data above indicate, the retirement areas overall seem to have been less expensive to live in during the study period than the national average. Although property taxes were slightly higher, housing and rental prices were lower and the heating season was much

Table 8
Mean Levels of Selected Place Characteristics:
85 Retirement Areas

CHARACTERISTIC	MEAN LEVEL
ECONOMICS	
Average Income (\$)	18,874.39
Housing Prices (\$)	63,353.79
Median Rent (\$)	292.84
Property Taxes (\$)	773.31
Taxes (\$)	632.02
Utilities (\$)	1,100.21
WEATHER	
Cold Days	3,903.48
Hot Days	52.34
Humidity	51.63
Rain	34.00
Snow	5.92
HEALTH	
Doctors	143.06
Hospital Beds	603.52
AMENITIES	
Musical Amenities	0.56
Park Amenities	197,668.69
Urban Amenities	16.25
Water Amenities	70.71
OTHER	
Median Age	32.29
1975 Population	142,886.71
1980 Population	184,387.46
Percent Urban	54.01
Population Change, 1960-1970 (%)	30.13
Population Change, 1975-1980 (%)	29.04
Property Crime	4,968.10
Violent Crime	409.35

Source: Values in this table were calculated by the author using data provided in the Places Rated Retirement Guide, Weather of U.S. Cities, and the 1977 and 1983 editions of the County and City Data Book.

Table 9
Mean Levels of Selected Place Characteristics:
85 Retirement Areas and Nation

	RETIREMENT AREAS	NATION
Average Income (\$) *	18,874.4	22,072.0
Cold Days*	3,903.5	4,671.0
Doctors*	143.1	165.0
Hospital Beds	603.5	500.0
Housing Prices (\$) *	63,353.8	85,500.0
Median Age*	32.3	30.0
Median Rent (\$)	292.8	300.5
Percent Urban*	54.0	73.7
Population Change, 1960-1970 (%) *	30.1	13.3
Population Change, 1975-1980 (%) *	22.9	6.3
Property Crime	4,968.1	5,223.0
Property Taxes (\$)	773.3	757.0
Violent Crime*	409.4	577.0

*Means significantly different at the 0.01 level.

Source: Retirement area values in this table were calculated using data from the Places Rated Retirement Guide, Weather of U.S. Cities, and the 1977 and 1983 editions of the County and City Data Book. All national data is from the Places Rated Retirement Guide with the exception of the unemployment rate and median rent, which came from the Statistical Abstract of the United States, 1987, and the national median age, percentage of residents who lived in urban areas, and population change from 1960-1970 and 1975-1980 which were gathered from the County and City Data Book (1977 and 1983 editions).

shorter, which probably means that utility bills in the grid areas were lower than average. While more hospital beds were available per 100,000 residents in the retirement areas, there were fewer local doctors and hospitals. This may have been because the grid areas, on average, were significantly less urban than the nation as a whole. This factor may also explain the lower violent and property crime

levels in the retirement areas. The most striking difference in these areas and the nation was in their growth between 1975 and 1980: while the nation's population only expanded 6.3% over that period, population levels in the grid areas boomed, growing almost 30%.⁵⁰

V. Summary

In this chapter, the study model and hypotheses have been presented. In addition, the sample and study grid have been introduced and defined in terms of the means of selected personal and place characteristics associated with them. The average migrant from the study group was shown to be significantly younger, richer, healthier, and better educated than his nonmigrant counterpart. This migrant was also more likely to be married and male and to live either alone or only with his spouse. His likelihood of being a home owner was slightly lower than that of the nonmigrant.

Most of these migrant/nonmigrant traits were also shown to hold for the control group, except that the younger migrants were more likely than the nonmigrants to be unmarried females with slightly lower income levels.

Relative to the United States overall, the grid areas were found to be more rural, safer, and less expensive to live in. On

⁵⁰This may indicate that the grid areas attracted all types of migrants over the decade, however, rather than just retirees.

average, they had warmer climates, were growing faster, and had higher median age levels than the total country.

These generalizations, however, do not explain the nature or strength of the links between the various personal and place characteristics and elderly migration decisions. In the next chapter, these links will be examined via the use of econometric analysis.

CHAPTER 5

RESULTS AND COMPARISONS RELATED TO THE 1980 AT-RISK SAMPLES

In Chapter 4, the model used in this study was introduced and defined. In this chapter, the results obtained via the use of that model will be presented.

I. The Model

After extensive pretesting, the following variable combination was deemed to provide the best model of elderly immigration decisions:

$P(\text{Move}_{ij}) = f(\text{Place Characteristics:}$

Cold Days,
Hospital Beds,
Median Rent,
1975 Population,
Park Amenities,
Percent Urban,
Population Change, 1960-1970,
Property Taxes,
Violent Crime,
Water Amenities |

Personal Characteristics:

Age,
Extra Persons in Home,
Female,
Home Owner,
Income--Nonwage,
Income--Other
Married,
Occupation--Other White Collar,
Occupation--Professional,
Prior Migrant,

Public Transportation Disability,
Years of Education).

Although other place characteristics were found to be highly correlated with elderly migration, they could not all be included in the model due to problems of multicollinearity among the variables.⁵¹ This was a particular problem with the median age variable: high correlations between it and several other variables caused many of those variables to drop out of the model when the median age variable was included. This could, perhaps, have been anticipated. Because of sequential elderly migration, areas characterized by certain variables associated with the past immigration of many older people are likely to have relatively high median age levels. By using median age as an independent variable in an elderly immigration model, circular reasoning comes into play which is equivalent to the following: "Why are the Smoky Mountains a popular vacation spot?" "Because lots of people go there." ("Why do areas that attract old people have high median age levels?" "Because lots of old people have moved there".) The median age variable, was therefore left out of the model.

This model was also utilized with control group data to ascertain which characteristics are uniquely attractive to potential elderly immigrants.

⁵¹Multicollinearity is almost always a problem among variables representing various characteristics of a place since area traits tend to be interrelated (e.g., utility bills and weather; utility bills and heavy industry).

II. Results and Comparisons Between Study and Control Groups

The logit estimates for the study and control groups are provided in Table 10 below.

Personal Characteristic Results

As Table 10 shows, all of the personal characteristic variables except those related to income, sex, and health significantly impacted elderly move/don't move decisions. Only "Income--Other" and "Prior Migrant" failed to have the signs hypothesized for them. "Income--Other", which could only represent self-employment income for this group due to their required detachment from the labor force, was negatively correlated with the immigration of retirees, rather than promoting their inmovement as had been expected. Upon reflection, however, this relationship is quite logical. Nonmigrants at destination sites are likely to have more contacts within and knowledge about an area than migrants, enabling them to earn more through sideline, self-employment activities. The sign associated with "Prior Migrant" was foreshadowed by the means results discussed in the previous chapter.

Except for "Married", each of the variables for which no clear relationship was hypothesized -- "Age", "Female", "Home Owner", and "Public Transportation Disability" -- was found to be negatively correlated with immigration. Being married, in contrast, was found to promote inmovement by the elderly.

Table 10
Logit Estimates for Model Variables
Old and Young Potential Migrants:
1980 At-Risk Samples

	Old	Young
Intercept	2.351200**	-1.408900***
Place Characteristics:		
Cold Days	-0.000125***	-6.348E-6
Hospital Bed	0.000060	-0.000025
Median Rent	0.005750**	0.006160***
1975 Population	-2.315E-7	-6.37E-07***
Park Amenities	3.28E-07**	6.69E-08
Percent Urban	-0.008750**	-0.003210***
Population Change, 1960-1970	0.012000***	0.004620***
Property Taxes	-0.000412*	-0.000612***
Violent Crime	-0.000159	0.000040
Water Amenities	0.001510***	-0.000258
Personal Characteristics:		
Age	-0.065400***	-0.036200
Extra Persons in Home	-0.167700*	-0.057300***
Female	-0.276000	-0.108200
Home Owner	-0.695900***	-1.007600***
Income:		
Nonwage	9E-00006	0.000020***
Other	-3.809E-7	5.01E-06***
Married	0.540200***	0.206900***
Occupation:		
Professional	0.342300**	0.233800***
Other White Collar	0.736200***	0.180900***
Prior Migrant	-0.628600***	0.107300**
Public Transportation		
Disability	-0.271700	-0.432100
Years of Education	0.053700***	0.066700***

*Significant at 0.10 level

**Significant at 0.05 level

***Significant at 0.01 level

The personal characteristic hypotheses for the younger group were all borne out, although neither "Female" nor "Public Transportation Disability" was found to significantly impact labor force immigration.

Place Characteristic Results

Ten place characteristics were included in the final model, seven of which proved to significantly impact elderly immigration decisions. The ten were : "Cold Days", "Hospital Beds", "Median Rent", "1975 Population", "Park Amenities", "Percent Urban", "Population Change, 1960-1970", "Property Taxes", "Violent Crime", and "Water Amenities".

As was hypothesized, increased levels of "Cold Days", "1975 Population", "Percent Urban", "Property Taxes", and "Violent Crime" were found to be associated with lower rates of elderly immigration during the study period, though the impacts of "1975 Population" and "Violent Crime" were insignificant. Surprisingly, these negative relationships were found to hold for the younger sample as well with the sole exception of "Violent Crime". Rather than promoting immigration, as had been hypothesized, highly populated, urban areas with high tax levels were found to be inversely related to labor force inmovement. Particularly surprising was the indication that the less-footloose labor force migrants took stronger exception, as indicated by significance levels, to highly populated and urbanized areas than did their elderly counterparts. The movement of industry

from central cities to more suburban areas over the past few decades may explain these results in part.

Another surprise was that higher levels of violent crime were found to be positively, though insignificantly, correlated with the immigration of control group members. This is probably because potential in-movers are not likely to be highly aware of crime levels in a place other than their past and current locations unless the potential destination site is a highly publicized area such as New York City. Even if one had friends and family at a potential site, crime awareness would probably be quite low unless the area was plagued by an unusually high incidence of criminal activity. This lack of awareness may also explain the insignificance of this variable to elderly immigration.

The number of hospital beds per 100,000 residents, for which no clear relationship to elderly immigration was hypothesized, was found to be positively associated with elderly in-movement. The lack of significance of this variable, however, may be a testimony to the generally good health of the average elderly interstate migrant.

Contrary to expectations, this positive relationship did not hold for labor force immigration, although the relationship was insignificant.

According to the model results, immigration of retirees is directly related to the water and natural park amenities associated with an area. Although the younger sample also demonstrated a preference for natural parks, their immigration was inexplicably found to be inversely related to the amount of water amenities

available locally. Perhaps industry tends to be located inland and away from large bodies of water, forcing job-tied labor force members to avoid movement to areas with high levels of "Water Amenities".

Unexpectedly, relatively high median rent levels were found to be associated with the immigration of both retirees and labor force members. The relationship between this variable and the latter group was expected to be direct since high cost of living areas also tend to be high wage locations. For the footloose retirees, however, an inverse relationship was anticipated a la the Graves and Knapp model. As noted, a direct relationship was discovered instead. One possible explanation for this result could lie in the much greater than average population growth that occurred in the grid areas between 1960 and 1970 as well as between 1975 and 1980. Because new dwellings probably had to be constructed to house the areas' expanding populations, it is likely that the housing stock in the grid areas was newer and of better quality than the national average and thus more valuable. Because the faster growing and more attractive of the grid areas were likely to have had ended up with the newest and most expensive housing stock, the median rent results may not be so strange. Another possible explanation is that some of the elderly immigrants may have moved into high-priced multi-unit retirement dwellings with special service offerings (e.g., on-call nurses, meal service, high-tech security devices). The desire for the services associated with these dwellings may be what the regression result is indicating rather than a perverse desire for high rental prices.

Not surprisingly, the rate of population growth between 1960 and 1970 was found to be positively associated with the immigration of both study and control group members. This variable serves as a proxy for the presence of friends and/or family in a potential destination area who may have migrated in during an earlier period.

Overall, the model results for the elderly conform to the hypotheses enunciated in Chapter 4. They show that potential elderly migrants between 1975 and 1980 were more likely to be attracted to less densely populated, warmer areas with relatively low tax rates, lots of natural resource amenities, and where friends and/or family members resided. Surprisingly, higher median rent levels appear to have had little negative impact on elderly immigration to an area.

An unexpected result of the model was the similarity in response to the various place characteristics by the labor force sample. This group had been hypothesized to respond positively to factors associated with highly urbanized areas, in contrast to their elderly counterparts, due to the link between urbanized areas and job opportunities. Instead, they behaved like the retirees in response to every significant area trait except "Water Amenities".

III. Beta Coefficients

A third goal of this study was to create an ordinal ranking of the regression's independent variables to help planners know which factors they should concentrate on in trying to attract elderly immigrants. This was done via the use of beta, or standardized,

coefficients. These beta coefficients permit a ranking of model variables in order of importance by standardizing them all to one unit of measure which is dimensionless.⁵²

In Table 11 below, the beta coefficient associated with each significant place characteristic is presented in order of importance to the older group.

Table 11
Beta Coefficients of Place Characteristic Variables
Significant to Elderly Potential Migrants:
1980 At-Risk Sample

<u>Characteristic</u>	<u>Coefficient</u>
Population Change, 1960-1970	0.191845
Cold Days	-0.162414
Median Rent	0.157037
Percent Urban	-0.138552
Water Amenities	0.109586
Park Amenities	0.069223
Property Taxes	-0.068865

The first-place ranking of "Population Change, 1960-1970" is a clear indication of the importance of sequential migration paths which lower the psychic costs of a potential move. The second-place position of "Cold Days" squares well with the empirically evident fact that older (along with most other) people prefer warmer climates to colder ones. Health factors typically associated with advancing age such as arthritis would also contribute to a preference for

⁵²For further information on beta coefficients, please see Pindyck and Rubinfeld, pp. 71-72, and/or Neter, Wasserman, and Kutner, pp. 261-263.

warmer areas. The high ranking of "Median Rent" is perplexing because it has the "wrong" sign associated with it. Logically, one would expect fixed income retirees to avoid high-cost areas, for which median rent could be perceived as a proxy. Again, however, differences in the quality of local housing stocks may be producing this seemingly perverse result. The last place ranking of "Property Taxes" may indicate that the tax level of a given area is more likely to be a positive push factor than a negative pull factor. Given the relatively insignificant portion of the average person's budget taken up by nonpayroll taxes, it may be that the elasticity of demand for this variable, despite its significance in the model regression, is fairly low.

Of the place characteristics found to significantly impact control group immigration, "Median Rent" was the most powerful, as indicated in Table 12 below. In the case of this group, median rent levels may serve as a proxy for job opportunities. Again, the stronger aversion, relative to the retirees, of this group to highly

Table 12
Beta Coefficients of Place Characteristic Variables
Significant to Young Potential Migrants:
1980 At-Risk Sample

<u>Characteristic</u>	<u>Coefficient</u>
Median Rent	0.163378
1975 Population	-0.138203
Property Taxes	-0.101940
Population Change, 1960-1970	0.071481
Percent Urban	-0.050791

populated areas stands out. The low ranking of "Population Change, 1960-1970" may be related to the labor force ties of this group which constrained them to place a higher value on the availability of employment opportunities in an area than on the presence of family and friends locally.

IV. Summary

In this chapter, the study model and the results obtained via its use were presented. In most cases, these results conformed quite closely to the hypotheses presented in the previous chapter.

Two unexpected findings were the control group's relatively stronger aversion to highly urbanized areas vis-a-vis the retirees and the similarity in variable significance between the two groups. Despite this parallel significance, however, rankings established via the use of beta coefficients indicate that acute differences exist in the importance of the model variables to the older and younger groups.

CHAPTER 6

SUMMARY AND IMPLICATIONS

In this chapter, the results of this study will be summarized and then considered in light of their empirical usage.

I. Summary

The target of this study was to accomplish the following three goals: a) to identify which place characteristics significantly affected the migratory propensity of retirees between 1975 and 1980; b) to establish an ordinal ranking of those characteristics; and c) to determine how the place characteristics identified and the ranking established compare to those associated with potential labor force migrants. In turn, the rationale behind the pursuit of these goals was to provide data for planners seeking to attract potential elderly immigrants to their areas.

Using logit analysis, seven place characteristics were identified as being significant factors in potential elderly migration decisions. In order of importance, these characteristics were a locality's 1) rate of population change between 1960 and 1970 (proxy for friends and family in the area); 2) number of cold days annually; 3) monthly median rent; 4) percent of population resident in urban areas; 5) miles of coastline and square miles of inland water; 6) acres of national parks and number of state parks; and 7) residential property tax rate. Except for the weather, urban

residence, and property tax variables, all of these factors positively impacted retirement immigration decisions.

For potential migrants still in the labor force, four of these factors, along with the 1975 population level, were also shown to significantly affect migration decisions. In order of importance, these factors were an area's 1) monthly median rent; 2) 1975 population; 3) residential property tax rate; 4) rate of population change between 1960 and 1970; and 5) percent of population resident in urban areas. Of these, only monthly median rent and the rate of population change between 1960 and 1970 were positively correlated with the immigration of labor force members between 1975 and 1980.

II. Implications

The community planner who has made it to this point in this volume may find himself a bit frustrated by the study results. After all, what can he do to change the climate of his area or to affect the number of people who moved there between 1960 and 1970? National and state parks are a bit hard to come by and water resources, especially miles of coastline, are somewhat hard to develop. Property tax rates are actually something he has some input into, but harvesting increased revenues from land taxes was one of the reasons he wanted the old people to move in in the first place. Was this study of no practical significance after all? Despite the planner's initial doubt as to the plausibility of a positive answer to this

question, further reflection shows that such a reply is indeed the correct one.

If one reflects upon the list of significant variables as a group, and particularly upon their rank ordering, their overall message soon becomes obvious: potential retired immigrants are seeking areas characterized by the potential for a high standard of living in terms of quality; economic factors are definitely secondary considerations. An important asset of retirees is the relatively large amount of leisure time that they possess relative to the rest of the adult population. A high priority then is going to be choosing a residence where that time can most pleasurably be used, given one's financial and other constraints. If the contention that the sign associated with the "Median Rent" variable represents a desire for quality housing with special services available rather than a perverse desire to pay more rent, then the results for every variable except "Property Taxes" can be seen to attest to this desire for maximizing pleasure. As was mentioned earlier, the rate of population growth between 1960 and 1970 stands as a proxy for possible friends and family that a potential retired immigrant may have in an area. No longer bound by workforce restrictions, the retiree now has the financial freedom to join his loved ones and to spend time with them. That may have been an infeasible luxury during his working years. Living in a warm area may have been another infeasible luxury. A very cold climate can, however, hamper the pursuit of pleasure, since, as Chevan and Fischer pointed out, differences in climate may represent differences in winter social

life (27). Blessed as retirees are with leisure time, being unable to pursue social and recreational opportunities for significant parts of the year would likely diminish the possibility of maximizing enjoyment. Living in relatively expensive retirement facility housing would minimize this problem to some extent by establishing a community of similar people who would have fairly easy access to each other. In addition, it would contribute further to a retiree's pleasure by freeing up more of his time for enjoyable recreational opportunities rather than spending it on maintenance and other such household chores. By seeking out nonurbanized areas the retiree further enhances his total welfare by freeing himself from the congestion and crime potential of urban life. The rationale behind water and park amenities is obvious: more opportunities for pleasure! The retirees probably are not insisting on ocean front views and mountain vistas but are rather responding to the greater potential for enjoyable activities often associated with such natural resources. The bottom line on attracting retirees, then, may be in convincing them that significant opportunities exist in one's locale for a high quality lifestyle with plenty of social and recreational opportunities.⁵³

How can a community do this? Highly structured retirement villages located in areas of natural beauty -- almost every

⁵³Conversely, it should be very clear that economic incentives are not primary motivators of retirement immigration and that communities should not waste their limited financial assets and/or diminish their potential future revenues through their use. The last place ranking of property taxes in this study attests to that fact.

community possesses such areas -- may be a relatively easy way to start, provided their net financial benefits can be clearly established. Strict zoning laws could be enacted within some range of them to ensure that the development's amenities would be preserved. It would be especially important to prevent expansive growth around such areas since retirees appear to exhibit a dislike for urbanized areas. Recreational facilities such as hiking trails could be developed in particularly lovely portions of the area, assuming the local government could either buy or lease these areas at a cost effective price. If such a development proved successful, it is likely that a visiting routine of friends from other places would originate soon which could lead to the eventual establishment of a strong sequential migration stream to the area. Such a stream would exponentially position retirees in the area who would serve to draw more and more visitors who might eventually decide to retire to the area. Because, as Chapter 3 pointed out, these potential immigrants are likely to be drawn from the highest socioeconomic classes, the local community should benefit tremendously from their inmovement in both financial and cultural ways.

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