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Snowbirds, Sunbirds, and Stayers: Seasonal Migration of Elderly Adults in Florida

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Objectives. Most migration statistics in the United States focus on changes in place of usual residence, thereby missing temporary moves such as business trips, vacations, and seasonal migration. In this article, we analyze the temporary in- and out-migration of elderly adults in Florida. Our primary objectives are to develop a methodology for estimating the number of temporary migrants and to analyze their demographic characteristics.

Methods. Using survey data, we estimated the number, timing, and duration of temporary moves and the origins, destinations, and characteristics of elderly temporary migrants. We compared the characteristics of temporary in-migrants, out-migrants, and non-migrants, and we used logistic regression analysis in order to evaluate differences in those characteristics.

Results. We estimate that Florida had more than 800,000 elderly temporary in-migrants and more than 300,000 elderly temporary out-migrants at peak times in 2005. Income, education, employment, and health status were among the major determinants of temporary migration.

Discussion. The temporary migration of elderly adults has a major impact on the resident populations of both sending and receiving communities. This article presents a methodology for estimating temporary migration and provides insights into migratory patterns that cannot be achieved by focusing solely on changes in place of usual residence.

THERE have been many studies of the migration of elderly adults over the past several decades, covering issues such as the characteristics of migrants (e.g., Biggar, Longino, & Flynn, 1980), migration models (e.g., Wiseman, 1980), regional migration patterns (e.g., Longino, 1995), return migration (e.g., Stoller & Longino, 2001), and the economic impact of migration (e.g., Serow, 2003). In most studies, migration is defined as a change in one's place of usual residence. There are many moves, however, that do not lead to such changes; for example, short business trips, vacations, and seasonal shifts between warmer and cooler climates. We refer to moves that lead to changes in one's place of usual residence as *permanent migration* and moves that do not lead to such changes as *temporary migration*.

Florida is a major destination for elderly temporary migrants, but temporary migration of elderly adults is far from unique to Florida. Large seasonal inflows have been reported in Arizona (e.g., Happel & Hogan, 2002), Massachusetts (e.g., Cuba, 1989), Texas (e.g., Martin, Hoppe, Larson, & Leon, 1987), Spain (e.g., Gustafson, 2002), and Mexico (e.g., Truly, 2002). Large seasonal outflows have been reported in Arizona (e.g., McHugh, Hogan, & Happel, 1995), Minnesota (e.g., Hogan & Steinnes, 1996), and New York (e.g., Krout, 1983). Many other places undoubtedly have large numbers of elderly temporary migrants as well, but they go undocumented because of a lack of data. The numbers are likely to increase over the next few decades as incomes grow and the baby boom generation ages.

The impact of elderly temporary migrants on areas of origin and destination can be substantial (e.g., Happel & Hogan, 2002; Monahan & Greene, 1982; Rose & Kingma, 1989). Temporary migration affects traffic patterns, housing prices, retail sales, and the use of public transportation, medical services, recreational facilities, and a wide variety of other publicly and privately provided goods and services. Indeed, for many businesses and government agencies, effective budgeting, planning, and analysis cannot be accomplished without an accurate accounting for the number, timing, and duration of temporary moves.

Unfortunately, there are no data sources capable of providing complete, consistent coverage of temporary migration in the United States, for elderly adults or any other demographic group. This severely limits researchers' ability to analyze the determinants and consequences of temporary migration or even to determine the number and timing of temporary moves. Although investigators can cobble together estimates from a variety of administrative records, business statistics, and sample surveys, those data sources are often insufficient to provide complete, reliable estimates (e.g., Smith, 1989).

In this article, we describe several innovations that are designed to help researchers overcome these problems. Using survey data, we developed a methodology for constructing estimates of the number of elderly temporary migrants in Florida. We believe this methodology can be used to construct similar estimates in other places, helping businesses, service providers, and public officials plan for the impact of fluctuations in the size of the elderly population. Furthermore, the survey data we collected provide a basis for comparing the characteristics of elderly temporary in-migrants, out-migrants, and non-migrants and for analyzing determinants of the temporary migration patterns of elderly adults.

Florida has long been the leading destination for elderly permanent migrants in the United States (e.g., Longino, 1995; Longino & Bradley, 2003); there is reason to believe it is the leading destination for elderly temporary migrants as well (e.g., Rose & Kingma, 1989). Yet no previous study has attempted to

estimate the number and timing of both temporary in- and out-migrants in Florida or to analyze the characteristics of those migrants. We believe Florida provides an excellent testing ground for studying the temporary migration patterns of elderly adults and that—combined with findings from other studies—the lessons learned in Florida will enhance researchers' understanding of temporary migration more generally.

Methods

Many types of mobility could potentially be classified as temporary migration, ranging from the daily commute to work to short business trips, weekend getaways, 2-week vacations, and extended stays at a second residence (e.g., Smith, 1989; Zelinsky, 1971). All can be important for specific purposes, but our focus in this study is solely on extended stays. In order to remove the impact of short-term mobility, we restricted our analysis to moves that included a stay of 1 month or more. Although this restriction was somewhat arbitrary, it allowed us to differentiate between shorter and longer stays and was consistent with measures used in other studies (e.g., Happel & Hogan, 2002; Hogan & Steinnes, 1996, 1998). Researchers could explore other measures as well, of course.

Defining elderly adults as persons aged 55 or older, we used survey data to examine the characteristics of elderly non-Floridians who spent part of the year in Florida and elderly Floridians who spent part of the year elsewhere. The Bureau of Economic and Business Research at the University of Florida collected the data through telephone surveys. Most of the data came from a series of monthly household surveys in which the sample was selected using list-assisted random-digit dialing. A database maintained by the Marketing Systems Group/GENESYS (Ft. Washington, PA) identified working telephone banks with at least one residential number (a bank consists of the area code, prefix, and first digit of the suffix). Random numbers were added to the banks and those numbers were called. We limited the sample to households in Florida.

The database excluded banks that had not been assigned or that had been assigned exclusively to commercial or government entities. The database also excluded banks associated with cell phone numbers because cell phones represent individuals rather than households. Excluding cell phone numbers had little impact on the representativeness of the sample, because most households (including those with cell phone users) have a landline telephone. A recent survey found that cell-phone–only households accounted for less than 4% of all households in the United States in 2003; among persons aged 55 or older, less than 1% lived in a cell-phone–only household (Blumberg, Luke, & Cynamon, 2005).

The University of Florida telephone survey reached approximately 500 Florida households each month between September 2000 and December 2003. Interviewers identified the household member aged 18 or older who most recently had a birthday; this person was selected to be the respondent. Interviewers asked each respondent a series of questions regarding his or her demographic characteristics, residency status, and migration behavior. Most questions focused on the characteristics of the respondent (e.g., age, gender, race), but several dealt with the household as a whole (e.g., income, household size, number of visitors). In this study, we restricted our analysis to the 7,041 respondents aged 55 or older. Most of the results had a margin of error of less than 3%.

The surveys followed U.S. Census Bureau guidelines regarding residency status. Interviewers asked respondents if Florida was their usual place of residence (i.e., the place they lived and slept most of the time). Most respondents reported that it was, but 5.2% of the population aged 55 or older reported that Florida was not their usual place of residence. After we excluded visitors who had spent less than 1 month in Florida, the number of temporary residents decreased to 4.7% of survey respondents. Following traditional terminology, we call this group *snowbirds* (e.g., Happel & Hogan, 2002; Longino, 1995; McHugh & Mings, 1991).

Permanent residents of Florida may also be temporary migrants at one time or another. Interviewers asked Florida residents about their travel patterns during the previous year. More than 12% of the population aged 55 or older reported that they had spent more than 30 consecutive days at a location other than their usual place of residence. Following Hogan and Steinnes (1996), we call this group *sunbirds.* Finally, we call permanent residents of Florida who did not spend more than 30 consecutive days away from home *stayers.* This group accounted for 83% of all survey respondents aged 55 or older.

The household survey provided a representative sample of sunbirds and stayers but missed an unknown number of snowbirds staying with permanent residents or living in hotels, motels, and other types of lodging without direct outside telephone lines. We dealt with this problem in two ways. First, we used survey data on out-of-state visitors in order to develop an estimate of the number of snowbirds staying with permanent residents. Second, we conducted an additional survey of hotels and motels and developed an estimate of snowbirds staying in this type of lodging. By adding together the estimates from all three sources, we were able to construct a reasonably complete estimate of the total number of snowbirds in Florida.

We also analyzed the socioeconomic and demographic characteristics of elderly temporary migrants. We compared the characteristics of snowbirds and sunbirds with each other and with the characteristics of stayers, and we used logistic regression analysis in order to test for the statistical significance of differences in the characteristics of these three groups. We used the results of this analysis to draw inferences regarding determinants of temporary migration for elderly adults in Florida.

Results

How Many Snowbirds?

The number of elderly temporary residents included in the household surveys fluctuated considerably over the course of the year, peaking at 10%–12% of elderly survey respondents in January and February and declining to less than 1% during the summer (Table 1). This seasonal pattern was consistent with prior expectations and with findings reported elsewhere (e.g., Hogan & Steinnes, 1996; Krout, 1983; McHugh & Mings, 1991; Truly, 2002). By using these proportions and a 2005 estimate of almost 5.1 million permanent residents aged 55 or older, we estimated that there were approximately 698,000 snowbirds in Florida at the peak of the 2005 snowbird season but only 30,000 during the late summer.

These estimates did not cover all snowbirds, however. Although some elderly temporary residents reported that they were living with a permanent Florida resident, the surveys did not include most temporary residents aged 55 or older staying with permanent residents. In order to remedy this problem, we asked permanent residents (of all ages) if they had any out-of-state visitors during the previous month and, if so, how many and how long they had stayed. We used these data in order to develop an estimate of the number of temporary residents who were staying with permanent residents but were not included in the surveys.

More than 27% of Florida's permanent residents reported that they had out-of-state overnight visitors during the previous month (Smith & House, 2007). More than half stayed for less than 1 week, 38% stayed for 1–2 weeks, and 4% stayed for 2–4 weeks. Slightly more than 5% stayed for 1 month or more. The average number of visitors staying for 1 month or more was 2.4 per household.

There was not a strong seasonal trend in the proportion of permanent residents with visitors staying 1 month or more. The proportions averaged 1.6% for surveys conducted from January to March, 1.7% for surveys conducted from April to June, 1.4% for surveys conducted from July to September, and 1.2% for surveys conducted from October to December. By applying these proportions to the number of Florida households in 2005 and multiplying by the average number of visitors, we estimated that approximately 273,000 temporary residents were staying with permanent residents during the winter; 290,000 during the spring; 239,000 during the summer; and 205,000 during the fall.

Not all of these temporary residents were aged 55 or older, of course. We developed an estimate for that age group by using data collected from temporary residents staying with permanent residents. According to data collected by Smith and House (2007), of all temporary residents reached in the survey who were staying with permanent residents, approximately 30% were aged 55 or older. By applying this proportion to the estimates described in the preceding paragraph, we estimated that there were 82,000 temporary residents aged 55 or older staying with permanent residents during the winter; 87,000 during the spring; 72,000 during the summer; and 61,000 during the fall.

The household survey did not reach temporary residents who were staying in hotels, motels, and other types of lodging without direct outside telephone lines (we should note that many temporary residents staying in mobile home and RV parks had direct outside telephone lines and were captured by the household survey). In order to develop an estimate of temporary residents staying in hotels and motels, we conducted a statewide survey of 267 hotels and motels in Florida. This survey asked hotel and motel managers how many rooms they had, how many rooms were occupied by guests staying for at least 30 consecutive nights, how many guests were staying in those rooms, and how many of those guests were aged 55 or older (Smith & House, 2007).

We conducted the survey in June 2005 and July 2005. The survey collected data on guests who were staying at the hotel or motel in June and July as well as on individuals who were guests during January 2005 and February 2005. Approximately 90% of the managers were able to provide information for June and July, and 77% were able to provide information for January and February.

Table 1. Survey Respondents by Residency Status and Month

	Permanent		Temporary		
Month	*n*	%	*n*	%	Total
Jan	522	87.9	72	12.1	594
Feb	548	90.1	60	9.9	608
Mar	477	92.1	41	7.9	518
Apr	492	92.3	41	7.7	533
May	500	98.4	8	1.6	508
Jun	507	99.2	4	0.8	511
Jul	495	99.2	4	0.8	499
Aug	499	99.4	3	0.6	502
Sep	653	99.5	3	0.5	656
Oct	620	98.4	10	1.6	630
Nov	644	95.4	31	4.6	675
Dec	719	93.5	50	6.5	769
Total	6,676	95.3	327	4.7	7,003

We weighted survey results according to the statewide distribution of hotels and motels by number of rooms. According to the survey, 52% of hotels and motels had guests staying at least 30 consecutive nights in January and February, compared with 36% in June and July. The average number of such guests was 31 per hotel or motel in January and February and 39 in June and July. By applying these results to a count of hotels and motels in Florida, we estimated that there were approximately 75,000 temporary residents staying in hotels and motels in January and February and 66,000 in June and July.

According to the managers, 51% of these guests in January and February were aged 55 or older; in June and July, the comparable figure was 26%. By applying these proportions to the estimates described in the preceding paragraph, we estimated that there were approximately 38,000 snowbirds staying in hotels and motels in January and February and 17,000 in June and July. Although hotels and motels accommodate millions of tourists and business travelers to Florida each year, they clearly do not provide lodging for many snowbirds as defined in this study.

By summing these three estimates, we estimated that there were 818,000 snowbirds in Florida at the peak of the 2005 winter season and 119,000 during the late summer. Few comparable estimates are available, but it is likely that Florida has more (perhaps far more) snowbirds than any other state. Previous studies have reported 300,000 snowbirds in Texas (Martin et al., 1987) and 273,000 in Arizona (Happel & Hogan, 2002) at the peaks of their seasons.

We should note that estimates of snowbirds staying with permanent residents or living in hotels and motels are less reliable than estimates of snowbirds staying in their own accommodations because the former rely more heavily on indirect estimation techniques and are more likely to be affected by respondent error (especially for the hotel/motel survey). However, those two groups accounted for a relatively small proportion of Florida's snowbirds during the peak season, and it is unlikely that errors in those estimates had a large impact on the overall snowbird estimate.

We should also note that the estimates do not include snowbirds staying in campgrounds, bed and breakfasts, and other types of lodging without direct outside telephone lines. Given the relatively small number of snowbirds that were staying in hotels and motels, however, we doubt that many were staying

Table 2. Demographic Characteristics of Snowbirds, Sunbirds, and Stayers

Characteristic	Snowbirds	Sunbirds	Stayers
Mean age, years	69.7 (327)	69.1 (808)	68.1 (5,826)
Aged 65 or older, %	72.2 (327)	69.8 (808)	59.5 (5,826)
Male, %	54.1 (327)	48.4 (808)	44.7 (5,826)
Married, %	75.8 (322)	59.4 (799)	56.2 (5,777)
White, %	94.0 (319)	92.7 (795)	88.8 (5,750)
Black, %	0.9 (319)	1.9 (795)	5.3 (5,750)
Hispanic, %	0.3 (322)	4.3 (800)	7.8 (5,826)
Mean education, years	14.5 (327)	14.7 (808)	14.0 (5,826)
Mean income, $	62,374 (238)	58,998 (647)	45,212 (4,622)
Employed, %	9.4 (320)	16.9 (804)	28.8 (5,806)
Excellent/good health, %	63.2 (321)	55.2 (803)	49.1 (5,783)
Fair/poor health, %	12.2 (321)	16.7 (803)	21.8 (5,783)

Note: Sample size (*n*) in parentheses.

in these other types of lodging. We do not believe this omission had much of an impact on the overall snowbird estimate.

How Many Sunbirds?

More than 12% of Florida's permanent residents aged 55 or older reported that they had spent more than 30 consecutive days somewhere other than their place of usual residence during the previous year. Given the size of Florida's elderly population in 2005, these data imply that approximately 617,000 sunbirds left home for at least 1 month during the year. About 92% left the state, and 8% went to some other location in Florida. As we show later, sunbirds were substantially more likely to be away from home during the summer than during the winter. By applying these proportions to the total number of sunbirds, we estimated that approximately 313,000 individuals left the state in July and 62,000 in January.

How do the out-migration rates of elderly adults in Florida compare with those found elsewhere? Only a few studies have considered temporary migration from the perspective of the sending (rather than receiving) region. For those that have, results were similar to those reported here. Krout (1983) reported that 13% of the population aged 60 or older in a New York county left the state for at least 2 months of the year. Hogan and Steinnes (1998) reported that 10% of Arizona's population aged 60 or older left the state for at least 4 consecutive weeks, and 9% of Minnesota's population aged 60 or older left for at least 5 consecutive weeks. It is noteworthy that all the estimates fall within a range of 9%–13%.

Comparing Snowbirds, Sunbirds, and Stayers

How do the characteristics of snowbirds and sunbirds compare to each other and to the characteristics of stayers? As shown in Table 2, there were substantial differences in age and gender. Snowbirds were older than sunbirds, and both groups were older than stayers; differences were considerably greater for the proportion aged 65 or older than for that of the mean age. Men accounted for 54% of snowbirds, 48% of sunbirds, and 45% of stayers. The proportion male for stayers was similar to the proportion among the U.S. population aged 55 or older (44% in 2000), suggesting that men are positively selected among temporary migrants, especially for snowbirds.

There were substantial differences in the marital status of the three groups. Three fourths of all snowbirds were married, compared with 59% of sunbirds and 56% of stayers. It appears that married couples were strongly positively selected among snowbirds but only weakly positively selected among sunbirds. Other researchers have noted a high proportion married among elderly temporary migrants (e.g., Hogan & Steinnes, 1996, 1998; Krout, 1983; Martin et al., 1987; McHugh & Mings, 1991).

Snowbirds were overwhelmingly White (94%) and non-Hispanic (more than 99%). Sunbirds had almost as high a proportion White (93%), but 4% were Hispanic. Only 89% of stayers were White, and almost 8% were Hispanic. Again, other researchers have noted the positive selection of Whites among elderly temporary migrants (e.g., McHugh, 1990; McHugh & Mings, 1991).

Snowbirds had a mean education of 14.5 years and a mean annual income of $62,374; only 9% were employed. Sunbirds had a slightly higher educational level (14.7 years) and a considerably higher proportion employed (17%) but a lower mean income ($58,998). Stayers were somewhat less educated (14.0 years) than the other two groups and had a substantially lower mean income ($45,212) in spite of having a higher proportion employed (29%). Numerous studies have reported higher incomes and educational levels and lower employment rates for elderly temporary migrants than for elderly nonmigrants (e.g., Hogan & Steinnes, 1996, 1998; Krout, 1983; McHugh & Mings, 1991; Monahan & Greene, 1982; Sullivan, 1985).

Snowbirds enjoyed better health than sunbirds, and both groups were healthier than stayers. More than 63% of snowbirds rated their health as very good or excellent, compared with 55% of sunbirds and 49% of stayers. Conversely, only 12% of snowbirds rated their health as fair or poor, compared with 17% of sunbirds and 22% of stayers. Several previous studies have found elderly temporary migrants to be healthier than the elderly population as a whole (e.g., Monahan & Greene, 1982; Sullivan, 1985).

As Table 2 shows, snowbirds and sunbirds tended to be more similar to each other than to stayers. Focusing solely on these two types of temporary migrants, we found that snowbirds tended to be away from home for longer periods of time than sunbirds. More than 72% of snowbirds spent more than 3 months at their secondary place of residence, compared with only 30% of sunbirds (data not shown here).

Not surprisingly, snowbirds flocked to Florida during the winter months (Table 3). More than 80% of all snowbirds reported being in Florida during January, February, and March, compared with less than 6% during June, July, August, and September. Conversely, sunbirds generally traveled during the summer. More than half of sunbirds visited their secondary residences in June and July, compared with only 10%–13% from November through April. Clearly, both migration flows are highly seasonal in nature and both groups can be classified as seasonal migrants as well as temporary migrants.

The places of origin for snowbirds were similar—but not identical—to the places of destination for sunbirds (Table 4). Almost 78% of snowbirds came from the Northeast or Midwest, but only 55% of sunbirds had secondary residences in those regions. Slightly more than 9% of snowbirds came from other southern states, but 18% of sunbirds traveled to those states, and another 8% remained in Florida.

Table 3. Number of Snowbirds and Sunbirds Residing at Secondary Residence, by Month

	Snowbirds		Sunbirds	
Month	*n*	%	*n*	%
Jan	253	81.9	41	10.9
Feb	259	83.8	45	12.0
Mar	252	81.6	41	10.9
Apr	194	62.8	49	13.0
May	68	22.0	94	25.0
Jun	17	5.5	164	43.6
Jul	17	5.5	207	55.1
Aug	17	5.5	203	54.0
Sep	18	5.8	139	37.0
Oct	68	22.0	79	21.0
Nov	148	47.9	49	13.0
Dec	174	56.3	50	13.3
Total	309	—	376	—

Approximately 10% of both snowbirds and sunbirds had origins or destinations in foreign countries. More than four of five international snowbirds came from Canada, but only one of five international sunbirds went to Canada. The most likely explanation for this difference is that Canadian citizens lose their national health insurance benefits if they do not meet minimum residency requirements (Health Canada, 2006); consequently, they tend to be temporary rather than permanent migrants to Florida.

Almost 83% of snowbirds came to Florida because of its warm winters; all other reasons were of minor importance (Table 5). This is a common finding in studies of seasonal migration to sunbelt states (e.g., Hogan, 1987; Krout, 1983; Martin et al., 1987). In contrast, less than 10% of sunbirds left their homes primarily for weather-related reasons. More than half traveled to visit family and friends, and 16% traveled for recreational purposes. Escaping the state's hot summers may have played a secondary role in the travel patterns of elderly Floridians, but it did not play the primary role.

Snowbirds had a longer history of traveling to a secondary residence than did sunbirds (Table 6). Only 12% of snowbirds had been coming to Florida for fewer than 5 years, and 33% had been coming for 15 years or more. In contrast, 41% of sunbirds had been going to their secondary residences for fewer than 5 years and only 23% for 15 years or more. This was most likely due to the fact that many sunbirds were recent migrants to the state.

Almost 92% of snowbirds and 94% of sunbirds owned homes at their usual place of residence, compared with 87% of stayers (Table 7). However, whereas 82% of snowbirds owned homes at their secondary places of residence in Florida, only 63% of sunbirds owned homes at their secondary places of residence. The lower rate of secondary home ownership for sunbirds is consistent with their shorter length of stay at their secondary residences.

Table 4. Region of Primary Residence for Snowbirds and Secondary Residence for Sunbirds

	Snowbirds		Sunbirds	
Region	*n*	%	*n*	%
Northeast	124	38.8	268	35.4
Midwest	124	38.8	151	19.9
South (not Florida)	30	9.4	135	17.8
Florida	—	—	58	7.7
West	10	3.1	66	8.7
Canada	27	8.4	17	2.2
Other foreign	5	1.6	63	8.3
Total	320	100.0	758	100.0

Table 5. Primary Reason for Visiting Secondary Residence

	Snowbirds		Sunbirds	
Reason	*n*	%	*n*	%
Weather/climate	271	82.9	38	9.5
Health	11	3.4	15	3.7
Job/business	6	1.8	24	6.0
Visit family or friends	10	3.1	207	51.6
Recreation/vacation	16	4.9	64	16.0
College/military	0	0.0	1	0.2
Other	13	4.0	52	12.9
Total	327	100.0	401	100.0

Spending winters in Florida appears to be a precursor to a permanent move for many snowbirds. Of all persons aged 55 or older who moved permanently to Florida between 2000 and 2003, 23% reported that they had lived part of the year in the state prior to moving permanently. Furthermore, 30% of snowbirds reported that it was likely or very likely that they would move to the state permanently at some time in the future.

Spending summers elsewhere is not as likely to be a precursor to a permanent move for sunbirds; only one in six reported that it was likely that they would move permanently to their secondary place of residence. However, we should note that many sunbirds had already made such a move: 56% reported that their secondary residence had once been their usual place of residence. Sunbird migration thus reflects the well-known pattern of return migration (e.g., DaVanzo & Morrison, 1981; Serow & Charity, 1988; Stoller & Longino, 2001) but is carried out seasonally rather than through a change in permanent residence.

We based the characteristics of snowbirds described above solely on persons who responded to the household surveys. Although some of those respondents were staying with permanent residents, we did not have information on the characteristics of all snowbirds staying with permanent residents or living in hotels or motels. However, we did have information on the snowbirds staying with permanent residents that were reached by the monthly surveys. We compared the characteristics of that group with the characteristics of snowbirds staying in their own accommodations and drew inferences

Table 6. Number of Consecutive Years Traveling to Place of Secondary Residence

	Snowbirds		Sunbirds	
Number of Years	*n*	%	*n*	%
<5	34	11.8	149	40.6
5–9	73	25.4	66	18.0
10–14	86	30.0	66	18.0
15–19	43	15.0	29	7.9
20–24	22	7.7	24	6.5
25+	29	10.1	33	9.0
Total	287	100.0	367	100.0

Table 7. Ownership of Primary and Secondary Residence

	Snowbirds		Sunbirds		Stayers	
Ownership	*n*	%	*n*	%	*n*	%
Primary residence						
Yes	299	91.7	754	93.9	5,015	86.7
No	27	8.3	49	6.1	770	13.3
Total	326	100.0	803	100.0	5,785	100.0
Secondary residence						
Yes	267	81.7	253	63.1	—	—
No	60	18.3	148	36.9	—	—
Total	327	100.0	401	100.0	—	—

based on that comparison. Table 8 shows the characteristics of these two groups.

The two groups differed on some characteristics but not on others. Snowbirds who stayed with permanent residents were older than those who stayed in their own accommodations and had a lower proportion male, a lower proportion White, and a higher proportion employed. Their income was considerably lower, but their educational level, proportion married, and health status were about the same. Although the sample size was small, we believe the characteristics shown in the second column of Table 8 provide a reasonable proxy for the characteristics of all snowbirds who stayed with permanent residents. Given the relatively small proportion of snowbirds who stayed with permanent residents and the generally similar characteristics of these two types of snowbirds, we believe the characteristics of snowbirds in our sample provide a reasonable proxy for the characteristics of all snowbirds in Florida.

Determinants of Temporary Migration

Why do some elderly adults become temporary migrants but others do not? In order to answer this question, we developed a set of hypotheses based on theoretical considerations and the results of other studies, and tested them using logistic regression analysis. Specifically, we hypothesized that the following variables would influence temporary migration:

1) Income, measured using the midpoints of 10 income categories. We expected income to have a positive effect because higher incomes provide the financial resources needed to travel and to maintain a residence in more than one location.
2) Education, measured as years of school completed. We expected education to have a positive effect because higher educational levels raise one's knowledge of alternative locations and perhaps one's preferences for travel. Education may also pick up differences in wealth missed by the income variable.
3) Marital status, coded 1 if married and 0 otherwise. We expected marriage to have a positive effect because social activities associated with temporary migration are often oriented toward married couples (Hogan & Steinnes, 1998).
4) Health status, measured on a Likert scale with 1 being excellent and 5 being very poor. We expected health to have a negative effect because poor health impedes the physical ability to travel and may reduce wealth through high medical expenditures.
5) Employment, coded 1 if employed and 0 otherwise. We expected employment to have a negative effect because temporary migration and employment are often competing uses of time.

Table 8. Selected Characteristics of Snowbirds Staying/ Not Staying With Permanent Residents

Characteristic	Staying With Permanent Residents	Not Staying With Permanent Residents
Mean age, years	73.6 (21)	69.5 (304)
Mean education, years	14.5 (21)	14.5 (304)
Mean income, $	52,941 (17)	63,100 (221)
Male, %	47.6 (21)	54.6 (304)
Married, %	76.2 (21)	76.0 (300)
White, %	90.5 (21)	93.0 (300)
Black, %	0.0 (21)	1.0 (300)
Hispanic, %	0.0 (21)	0.3 (300)
Employed, %	14.3 (21)	8.7 (300)
Excellent/good health, %	61.9 (21)	63.0 (300)

Note: Sample size (*n*) in parentheses.

We expected these five variables to affect both temporary in-migration (snowbirds) and temporary out-migration (sunbirds). For temporary out-migration only, we included two other explanatory variables:

6) Nativity, coded 1 if born in Florida and 0 otherwise. We expected nativity to have a negative effect because Florida natives are less likely to have personal ties to people and places outside the state than is true for people born elsewhere.
7) Duration of residence, measured as the number of years since last moving to Florida (measured as age for persons who had always lived in Florida). We expected duration of residence to have a negative effect because a longer time lived in Florida weakens personal ties to people and places outside the state.

We also investigated the effects of age (measured in years), gender (1 for men, 0 otherwise), race (1 for White, 0 otherwise), and Hispanic origin (1 for Hispanic, 0 otherwise). Although temporary migration rates may differ substantially within these demographic groups, we believe those differences are caused primarily by differences in income, education, marital status, health status, and employment rather than by differences in the demographic variables themselves. Consequently, we expected age, gender, race, and Hispanic origin to have no significant effects in a multivariate analysis.

We tested these hypotheses by using three logistic regression models (see DeMaris, 2004, for a discussion of binary dependent variables and the use of logistic regression models). For Model 1, the data set consisted of all permanent residents aged 55 or older; we coded the dependent variable 1 for sunbirds and 0 for stayers. Because we classified all permanent residents aged 55 or older as either sunbirds or stayers, the regression coefficients for Model 1 show the impact of the explanatory variables on the probability that an elderly Floridian would become a temporary out-migrant.

For Model 2, the data set consisted of snowbirds and stayers; we coded the dependent variable 1 for snowbirds and 0 for stayers. Because we did not draw snowbirds and stayers from the same population (i.e., permanent residents of Florida), this was not a probability model. Rather, it showed how the characteristics of snowbirds differ from those of stayers. Because we included stayers in both Models 1 and 2, a comparison of the

regression coefficients from these two models allows us to draw inferences regarding differences and similarities in the characteristics of snowbirds and sunbirds. Given the similarities shown in previous tables, we believed most of the results for Model 2 would be similar to those for Model 1.

We also tested a model directly comparing snowbirds and sunbirds. In Model 3, the data set consisted of all temporary migrants; we coded the dependent variable 1 for snowbirds and 0 for sunbirds. This model included one additional explanatory variable: months spent at place of temporary residence. Again, this was not a probability model. It was simply a statistical procedure for comparing the characteristics of snowbirds and sunbirds; the regression coefficients would be statistically significant only for characteristics on which the two groups differed significantly.

Table 9 shows the results. For Model 1, we found that income and education had significant positive effects on the probability of being a temporary out-migrant, whereas employment, health status, and duration of residence had significant negative effects. All of these results were consistent with our expectations. Nativity had the expected sign but marital status did not; neither of these effects was significant. None of the other effects were statistically significant, supporting our hypothesis that differences in age, gender, race, and Hispanic origin have little impact on the probability of being a temporary out-migrant, once the effects of the other explanatory variables have been accounted for.

The results for Model 2 were similar, but not identical, to those for Model 1. Income, employment, health status, and education had the expected effects, but only the first three were significant. We again found the effects of age, gender, and race to be insignificant. The major differences between the two models were for marital status and Hispanic origin, which had significant effects for snowbirds (Model 2) but not for sunbirds (Model 1).

Most of the regression coefficients in Model 3 were statistically insignificant, reflecting the similarities between snowbirds and sunbirds. However, we did find that snowbirds were significantly more likely than sunbirds to be married and to spend more time at their temporary residence, whereas sunbirds were significantly more likely than snowbirds to be employed and to be Hispanic. These results were consistent with those reported earlier in the article.

Table 9. Results From Logistic Regression Models

Variable	Model 1	Model 2	Model 3
Intercept	−3.605***	−3.635***	−0.092
Income	0.053***	0.065***	0.005
Education	0.085***	0.017	−0.004
Married	−0.074	0.514***	0.577**
Employed	−0.824***	−1.476***	−0.633*
Health	−0.092*	−0.220***	−0.153
Florida native	−0.466	—	—
Duration	−0.011***	—	—
Months	—	—	0.256***
Age	0.010	0.006	0.003
Gender	0.047	0.220	0.211
Race	0.229	0.273	0.158
Hispanic	−0.203	−2.771**	−2.619**
Model chi square	173.501***	176.923***	84.095***
N	5,224	4,848	583

Note: Model 1 = sunbird (1) vs stayer (0); Model 2 = snowbird (1) vs stayer (0); Model 3 = sunbird (1) vs snowbird (0).

*$p < .05$; **$p < .01$; ***$p < .001$.

Discussion

We estimate that some 818,000 snowbirds were in Florida at the peak of the 2005 winter season, and 119,000 were there during the summer. Approximately 62,000 sunbirds left the state during the winter, and 313,000 left during the summer. Given Florida's estimated permanent population of 5.1 million persons aged 55 or older in 2005, these numbers imply that more than 5.8 million elderly adults resided in the state during the winter and fewer than 4.9 million did so during the late summer, a swing of almost 20% from the low season to the high. The swing is substantially greater for many local areas because the geographic distribution of elderly temporary migrants is very uneven throughout the state. These swings have a tremendous impact on traffic congestion, water consumption, occupancy rates, retail sales, and many other aspects of life in the affected communities. Clearly, there are many circumstances in which effective planning and analysis require some accounting for seasonal migration of elderly adults.

Both snowbirds and sunbirds tended to be non-Hispanic Whites with relatively high incomes and educational levels. They enjoyed better health, had higher proportions married, and were less likely to be employed than stayers. Their moves were highly seasonal (especially for snowbirds), as they typically spent winters in Florida and summers elsewhere. These characteristics are consistent with those found in most studies of temporary migration patterns of elderly adults (e.g., Hogan & Steinnes, 1996, 1998; Krout, 1983; McHugh, 1990; Monahan & Greene, 1982; Sullivan, 1985). In fact, except for seasonality, they are consistent with most studies of elderly permanent migration as well (e.g., Biggar et al., 1980; Longino, 1995; Speare & Meyer, 1988).

We believe that snowbirds and sunbirds are reflections of the same basic phenomenon; namely, the tendency for a significant number of elderly adults to spend part of the year in one location and part in another. We found that many sunbirds were former snowbirds who had spent part of the year in Florida before moving to the state permanently. Many snowbirds will eventually become sunbirds, moving to the state permanently but spending several months each year at their previous place of residence. These two groups share the same seasonal migratory patterns and many of the same demographic characteristics. As noted by Hogan and Steinnes (1996), snowbirds and sunbirds can be viewed as two species of the same genus.

They are not identical, however. Although the differences were not always large or statistically significant, snowbirds generally had higher incomes, higher proportions married, lower proportions employed, better health, and longer stays at their temporary residences than sunbirds. Further research is needed before analysts can fully understand the similarities and differences between snowbirds and sunbirds and why some elderly adults become temporary migrants whereas others become permanent migrants or do not migrate at all.

There has been considerable discussion as to whether temporary migration is a precursor to, or a substitute for, permanent migration (e.g., Hogan & Steinnes, 1996; McHugh, 1990; Sullivan, 1985). Some people spend substantial amounts

of time in an area before moving there permanently, whereas others visit frequently over a period of years but never make a permanent move. We found that almost one in four elderly adults who moved to Florida between 2000 and 2003 had previously lived in the state on a temporary basis; for them, temporary migration was a precursor to a permanent move. However, two thirds of the snowbirds in the sample reported that it was unlikely they would ever move to the state permanently; for them, temporary migration was a substitute for permanent migration. Although it can play either role, temporary migration in Florida appears to be a substitute for permanent migration more frequently than a precursor.

More than half of the sunbirds leaving Florida were returning to a place they had lived previously. Numerous studies of permanent migration have noted such counter flows (e.g., Longino, 1995), but studies of temporary migration have generally overlooked these patterns. Clearly, ties with family and friends are not completely severed when people change their place of permanent residence. An attractive feature of temporary migration is that it allows people to enjoy many of the benefits of a new location without giving up all of the benefits of a previous location.

Migration status at the beginning of the 21st century is too complex to be measured using a simple dichotomy (i.e., moved or did not move). One can observe many types of migration behavior, including one-time-only changes in permanent residence, multiple changes in permanent residence, semi-annual seasonal moves with no change in permanent residence, and frequent temporary moves without the establishment of a permanent residence (e.g., Bell & Ward, 2000; Jobes, 1984; Zelinsky, 1971). Simply classifying people as migrants or nonmigrants does not capture these differences or reflect the diversity found within the broad migration experience.

In this article, we described a methodology for developing estimates of the number, timing, and characteristics of elderly temporary in- and out-migrants in Florida. Although it produces reasonable estimates and can be used anywhere, this methodology is expensive and time-consuming and cannot provide data for small areas unless it is carried out on a massive scale. Given the importance of information on temporary migration for many types of decision making, we believe the lack of relevant data is a major shortcoming of the U.S. statistical system.

We hope the coming years will see efforts directed toward the development of a richer classification system and the collection of more comprehensive migration data. The American Community Survey or some other large-scale survey would seem to be a good place to start. Without some consideration of temporary migration, researchers will never achieve a full understanding of the migratory patterns of elderly adults (or any other group). The large number of temporary migrants and their impact on both sending and receiving communities underscore the importance of such an undertaking.

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References

Bell, M., & Ward, G. (2000). Comparing temporary mobility with permanent migration. *Tourism Geographies, 2*, 87–107.

Biggar, J. C., Longino, C. F., & Flynn, B. C. (1980). Elderly interstate migration: The impact on sending and receiving states, 1965–1970. *Research on Aging, 2*, 217–232.

Blumberg, S., Luke, J., & Cynamon, M. (2005, February). *NHIS estimates of wireless-only population size and characteristics*. Presentation conducted at the Cell Phone Sampling Summit II, New York.

Cuba, L. (1989). Retiring to vacationland. *Generations, Spring*, 63–67.

DaVanzo, J. S., & Morrison, P. A. (1981). Return and other sequences of migration in the United States. *Demography, 18*, 85–101.

DeMaris, A. (2004). *Regression with social data: Modeling continuous and limited response variables*. Hoboken, NJ: Wiley.

Gustafson, P. (2002). Tourism and seasonal retirement migration. *Annals of Tourism Research, 29*, 899–918.

Happel, S. K., & Hogan, T. D. (2002). Counting snowbirds: The importance of and the problems with estimating seasonal populations. *Population Research and Policy Review, 21*, 227–240.

Health Canada. (2006). *Canada Health Act: Frequently asked questions*. Retrieved January 14, 2006, from http://www.hc-sc.gc.ca/hcs-sss/medi-assur/res/faq_e.html

Hogan, T. D. (1987). Determinants of the seasonal migration of the elderly to sunbelt states. *Research on Aging, 9*, 115–133.

Hogan, T. D., & Steinnes, D. N. (1996). Arizona sunbirds and Minnesota snowbirds: Two species of the elderly seasonal migrant genus. *Journal of Economic and Social Measurement, 22*, 129–139.

Hogan, T. D., & Steinnes, D. N. (1998). A logistic model of the seasonal migration decision for elderly households in Arizona and Minnesota. *The Gerontologist, 38*, 152–158.

Jobes, P. C. (1984). Old timers and new mobile lifestyles. *Annals of Tourism Research, 11*, 181–198.

Krout, J. A. (1983). Seasonal migration of the elderly. *The Gerontologist, 23*, 295–299.

Longino, C. F. (1995). *Retirement migration in America*. Houston, TX: Vacation Publications.

Longino, C. F., & Bradley, D. E. (2003). A first look at retirement migration trends in 2000. *The Gerontologist, 43*, 904–907.

Martin, H. W., Hoppe, S. K., Larson, C. L., & Leon, R. L. (1987). Texas snowbirds. *Research on Aging, 9*, 134–147.

McHugh, K. E. (1990). Seasonal migration as a substitute for or precursor to permanent migration. *Research on Aging, 12*, 229–245.

McHugh, K. E., & Mings, R. C. (1991). On the road again: Seasonal migration to a sunbelt metropolis. *Urban Geography, 12*, 1–18.

McHugh, K. E., Hogan, T. D., & Happel, S. K. (1995). Multiple residence and cyclical migration: A life course perspective. *Professional Geographer, 47*, 251–267.

Monahan, D. J., & Greene, V. L. (1982). The impact of seasonal population fluctuations on service delivery. *The Gerontologist, 22*, 160–163.

Rose, L. S., & Kingma, H. L. (1989). Seasonal migration of retired persons: Estimating its extent and its implications for the state of Florida. *Journal of Economic and Social Measurement, 15*, 91–104.

Serow, W. J. (2003). Economic consequences of retiree concentrations: A review of North American studies. *The Gerontologist, 43*, 897–903.

Serow, W. J., & Charity, D. A. (1988). Return migration of the elderly in the United States. *Research on Aging, 10*, 155–168.

Smith, S. K. (1989). Toward a methodology for estimating temporary residents. *Journal of the American Statistical Association, 84*, 430–436.

Smith, S. K., & House, M. (2007). Temporary migration: A case study of Florida. *Population Research and Policy Review*, forthcoming.

Speare, A., & Meyer, J. W. (1988). Types of elderly residential mobility and their determinants. *Journal of Gerontology: Social Sciences, 43*, S74–S81.

Stoller, E. P., & Longino, C. F. (2001). Going home or leaving home? The impact of person and place ties on anticipated counterstream migration. *The Gerontologist, 41*, 96–102.

Sullivan, D. A. (1985). The ties that bind. *Research on Aging, 7*, 235–250.

Truly, D. (2002). International retirement migration and tourism along the Lake Chapala Riviera: Developing a matrix of retirement migration behavior. *Tourism Geographies, 4*, 261–281.

Wiseman, R. F. (1980). Why older people move. *Research on Aging, 2*, 141–154.

Zelinsky, W. (1971). The hypothesis of the mobility transition. *Geographical Review, 61*, 219–249.

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