## Aging Baby Boomers and Future Home Sales: Foresight of a Generational Housing Bubble

The giant Baby Boom generation born between 1946 and 1964 has been a dominant force in the U.S. housing market and local communities for decades. Always the largest cohorts in the housing market, their passage through the life cycle has created a surge in demand in each age bracket they occupied. Their entry into home buying in the 1970s spurred gentrification in cities and construction of starter homes in suburbs. Their subsequent march into middle age was accompanied by rising earnings and larger expenditures for move-up housing. Looking ahead to the coming decade, the Boomers' entry into retirement will be followed by further housing relocation and eventual withdrawal from the housing market. The magnitude of these effects suggest the prospect for epic change ahead.

After decades of stability, the ratio of seniors to working age residents is expected to abruptly grow by roughly $30 \%$ in each of the next two decades, totaling a $67 \%$ increase (Myers 2007). The essence of the problem addressed in this paper is the disproportionate balance expected to follow from the number of homes likely coming for sale compared to the number of likely purchasers. The exit of the Baby Boomers from homeownership could have as much significance as their entry, but the consequences would be reversed.

Relations between age groups and housing demand are central to studies of demography and housing, because mobility declines sharply with age, and because different age groups typically occupy different types of housing (Masnick, 2002; Gober, 1992; Clark \& Dieleman, 1996). Of greatest relevance to present purposes are the interactions between age groups and homeownership (Chevan, 1989). Progress into homeownership is a cumulative act in housing careers, and the rising rates of homeownership often do not peak until after age 65 (Pitkin 1990).

The well-known debacle of Mankiw \& Weil (1989) has led economists to be very reluctant to address long-term trends in housing, even if these are well-grounded in demographics. The two Harvard economists predicted a $47 \%$ decline in house prices during the 1990s, based largely on their modeling of declining demand among aging Baby Boomers; yet, instead, we have seen Baby Boomer demand grow and prices double. Longitudinal inferences about housing demand can be appropriately made with cross-sectional data if suitable caution is applied (Myers 1999).

Research Question: The primary research question is to determine at what point in their life course the Boomers will begin to offer more homes for sale than they buy, and at what point in history the Boomers' exit from homeownership might begin to substantially undercut total demand.

Method: The standard approach of estimating aggregate demand is to apply a fixed set of age-specific homeownership rates to a projected population age distribution. Growth in demand is then estimated by calculating the net change in occupied units between
two points in time. Anomalous findings often result, such as a very large growth in demand at older ages that is attributable not to new purchases of homes but solely to the aging of previous owners into a new age category. The standard calculation is a "stock" measure, not a "flow" measure of annual market activity. Even were the annual flows to abruptly change, the stock which is so much larger would adjust only gradually, and so the stock approach is not sufficiently sensitive to changes. Conversely, even if the number of homeowners held exactly constant over time, a market area could experience a lively amount of demand due to trading up and trading places among a fixed number of homeowners. Thus, use of homeownership rates is not sufficient for our purposes and that approach could be misleading.

What is needed are rates of annual behavior with regard to either buying or selling homes. For use with population projections, these rates must be estimated on a per capita, not per household, basis. Sales rates in particular have been elusive because the sellers relocate after the event, or even die, and cannot be surveyed. As a result, far more is known about recent buyers, but we need equal information on the rate of buying and selling. For this purpose we employ a new method developed for use with census data available for states and local areas. The method takes account of housing market transition, out-migration and death, when there is no respondent to survey about their housing behavior. To arrive at the desired age schedule of buying and selling a number of different data factors must be combined. The method will be detailed in the final paper, and makes primary use of data from the 2000 census, using the questions on tenure of household, recency of occupancy by homeowners, and state of residence 5 years earlier. Additional data on number of households by tenure in 1990 are employed in combination with 2000 data to estimate overall exits from homeownership late in life. Finally, data on population by age in 1990 is combined with that in 2000 to derive the average cohort size over the decade. Following a number of detailed transformations, per capita rates of home buying, or entry to homeownership, are expressed as ratios of average annual home purchases to population in an age group in order to facilitate their use with the population projections. (Note that the resulting rates are calculated for the latter half of the 1990s, which is likely a more representative period of future demand than the explosive boom during the early 2000s.)

The number of home sellers, or exits from homeownership, is more elusive and requires indirect estimation. The census-based method affords a unique approach to estimating terminations of homeownership, as first described in Myers (2007, chapter 11). Two components are combined. First, home buyers are assumed to also be home sellers, after adjusting for the share that are first-time home buyers. To account for any migration between states, those presumed sales are allocated to the state of residence 5 years earlier, not the current state where homes were purchased. Forming a second component of home "sellers," a second procedure is especially useful at older ages for measuring the shrinkage of the cohort of homeowners between 1990 and 2000, say from age 55-59 to 65-69. Those terminations could be due to migration out of state, departure to rental units or nursing homes, or death. The total number of sales for each cohort over the decade is then annualized and divided by the number of people in the cohort, resulting in an annual per capita rate of home sales specific to each cohort.

Findings: The results of these estimations for the United States as a whole are displayed in Figure 1. The age schedule of rates of buying and selling homes are annualized and expressed per 100 population. The peak buy rate of 3.6 occurs at ages 30 to 34 and gradually declines thereafter. What may be surprising is that the per capita rate of home buying remains as high as it does in elderly years. Even at ages 75 to 79 just over $1 \%$ of people each year are the buyer of a home they will move to and occupy as their principal residence. Nonetheless, the annual likelihood of leaving an owneroccupied home is more than three times higher at this age, and above age 80 the annual rate of leaving escalates to 9.0 sales per 100 people. That reflects, of course, the much higher likelihood of transfer to retirement home living or death. Below age 50, people clearly are buying more homes than they are selling. This is reflected also in the net rise in homeownership rates through this age span. In the late 50 s and early 60 s , where the leading edge of the Baby Boom generation is now situated, there is an even balance between buying and selling. During the 60s, this balance tips toward a preponderance of sellers over buyers, before massive selling commences in the 70s and beyond.

Figure 1
Annual Rates of Buying and Selling Owner-Occupied Homes, by Age, United States, 1995 to 2000


Although the cross-over age when sellers exceed buyers appears to be about 65 in the U.S., this varies markedly by state, as will be reported in the final paper. In general, residents of northern and especially northeastern states appear to sell out of their state's housing market at a younger age than those in the sunbelt. In fact, a few statesArizona, Florida and Nevada-actively gain elderly homeowners. When combined with state-level population projections, the clear implication is that the aging of the baby boom generation will impact some states far more heavily than others. In fact, for some states, substantial erosion of underlying demographic demand for homeownership has likely already commenced (not to be confused with the current downturn due to mortgage interest rates).

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