Sample Steven H. Sandell Grant Proposal

Abstract

Over the past 15 years, mortgages have become much more common among elderly households. Currently 35 percent of U.S. households 60 and older are paying off a mortgage. This puzzling trend contradicts what standard life-cycle models predict of household saving behavior, where households accumulate debt in younger years but pay off debt by retirement. This paper investigates the role of mortgages in retirement. We begin by using administrative data from DataQuick of property records and mortgage deeds as wells as *Survey of Consumer Finances* data to document mortgage and home equity trends among elderly households between 1989 and 2013. We then seek to explain these trends by investigating the relative roles of tax and financial incentives, longevity, and bequest motives in mortgage decisions utilizing both a uniquely constructed panel of households from DataQuick and from the *Health and Retirement Study*.

Context

A 2015 Consumer Financial Protection Bureau publication, "Rising Mortgage Debt Is Threatening the Retirement Security of Millions of Older Americans," documents a trend echoed in the media: older Americans are less and less likely to 'burn the mortgage' and own their home debt-free. If this is the case, older homeowners will be more likely to be making mortgage payments, adding to the monthly expenses of these individuals and potentially making other goods, such as health care, food and prescription drugs, relatively less affordable. A traditional life-cycle savings model predicts that individuals borrow at younger ages, then pay off debt as they begin to decumulate assets in retirement, making them less likely to have a mortgage than younger households. However, the gap between the percent of elderly individuals holding a mortgage compared to younger households has been shrinking. What is more astonishing is that the elderly are originating new mortgages at a higher rate than ever before.

Figure 1 shows mortgage and homeownership rate trends between 1983-2013 using data from the *American Housing Survey* (AHS). Until the housing bust of 2007, younger age cohort display relatively consistent rates of homeownership and rates of homeowners having a mortgage. Homeownership rates steadily increase as households age, peaking around 80 percent once households are in their 50s. Mortgages rates begin at 80 percent among the youngest households under 30, and does not decline until reaching their 50s, consistent with a 30-year fixed-rate mortgage. What has changed the most is that among elderly households in the 1980s, mortgage rates were quite low, but has been steadily increasing. Between 1997 and 2013, the mortgage rate among households 60-69 increased by 40 percent and among households 70 and older it increased by 60 percent. The trend of increasing mortgage rate for elderly households relative to younger households over the past decade is surprisingly consistent across income quartiles and census regions, indicating a more nuanced explanation is required than simply rising house prices or decreasing income or assets.

Figure 1. *American Housing Survey: Homeownership and Mortgage Rates by Age*

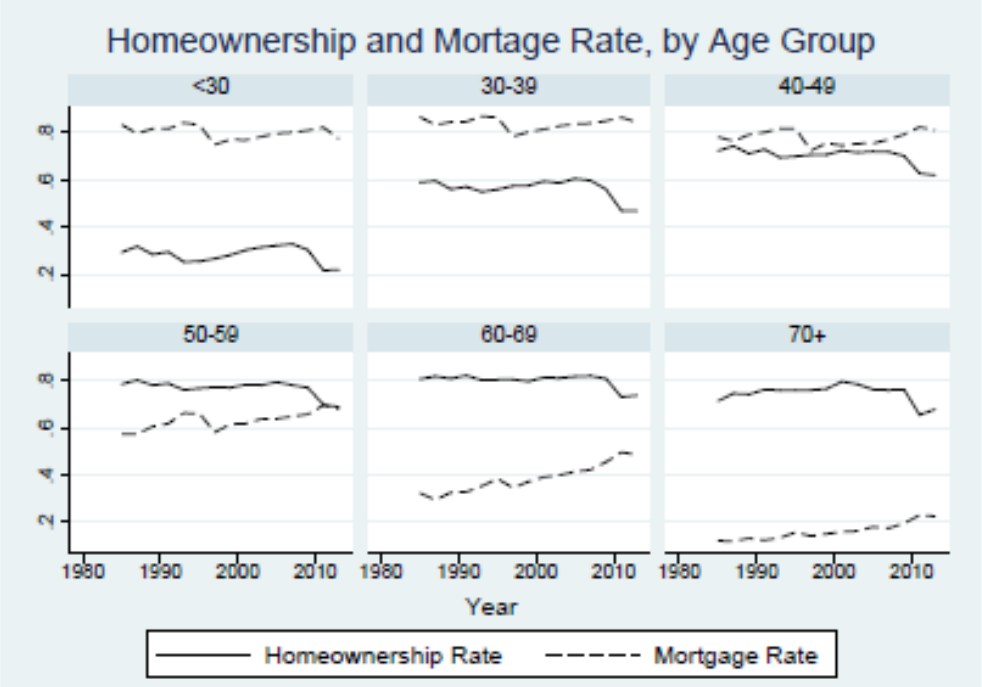
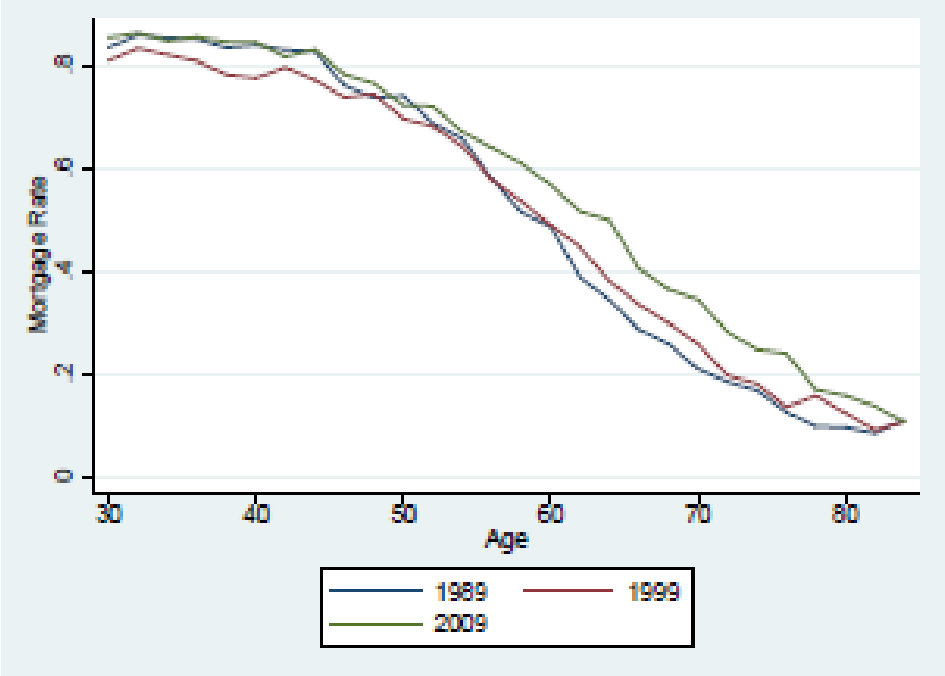


Figure 2 further illustrates this trend in mortgage rates, where on average, individuals are less likely to have a mortgage as they age, and shows that the trend in Figure 1 cannot be explained by demographic shifts within age cohorts. We see that mortgages rates in 2009 is quite similar to 1999 and 1989 for households under 55, however homeowners older than 55 in 2009 become much more likely to have a mortgage than in previous decades.

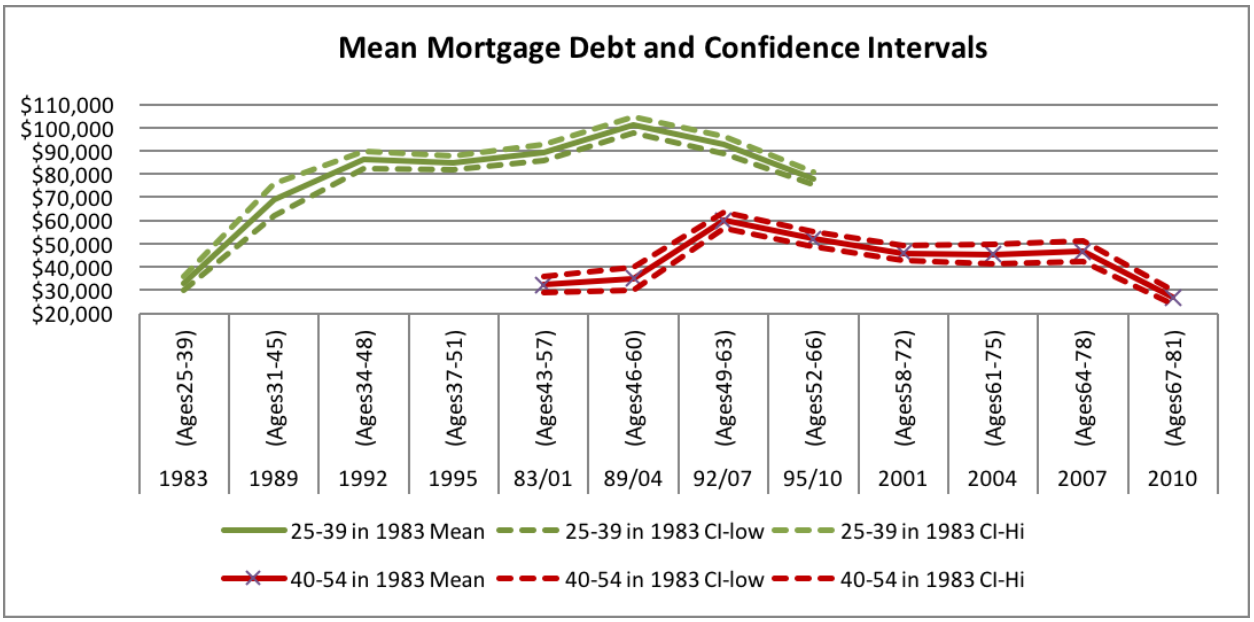
Figure 2. *American Housing Survey: Mortgage Rates by Age and Time*



A large literature exists on the role of housing wealth and consumption among the elderly. Emmons and Noeth (2013) calculated a leverage ratio using the *Survey of Consumer Finances*, defined as the sum of total debt divided by the sum of total assets, showing increasing household leverage over time. Barba and Pivetti (2009) also show rising debt levels over time, and conclude that credit is at least in part being used by households to sustain relative consumption as median wages have lagged in recent decades. Jappelli et al. (2013) provide international comparison of debt holding by households, concluding that the growth in household debt is an international phenomenon, not confined to the U.S. Anguelov and Tamborini (2010) show rising relative debt levels among households near and increasingly into retirement ages, especially related to mortgages. Sinai and Souleles (2007) similarly document changes in net worth relative to home equity among elderly households between 1983 and 2004.

Figure 3 shows this pattern, as documented by Collins et al. (2014) using the *Survey of Consumer Finances.* The overall trajectory of debt accumulation and payoff follows a predictable life-cycle model. However, the older cohort accumulated far less mortgage debt at all ages, and entered retirement with little mortgage debt. The trajectory for the current cohort of near retirees suggests much high levels of mortgages.

Figure 3. *Survey of Consumer Finances: Mortgage Borrowing by Birth Cohort*



Research Question

In order to understand the prevalence of mortgages in retirement, this project has two main questions. First, we ask how the underlying trend in elderly mortgage rates has evolved over time, and if there are any subgroups within the elderly population which experienced a particularly large growth in mortgage rates. Second, we ask how decreasing rates of retired households owning their homes outright can be explained by policy variables and other shifting trends in the population. Specifically, we will investigate changes in the ways elderly populations may be viewing home equity as a financial asset, may have changes in longevity or bequest motives, may be making use of reverse mortgages, and may be responding to changes in marginal tax rates or estate tax limits. The driving force of increasing elderly mortgage rates has significant implications for people concerned about the financial health of retired households. If increased mortgage rates are the result of higher home prices or lower financial assets, then having a mortgage may be an expensive and troubling way to free up some cash. However, if mortgage rates are increased due to longer life expectancy, changing bequest motives, or as a shrewd financial calculation then they are less troublesome.

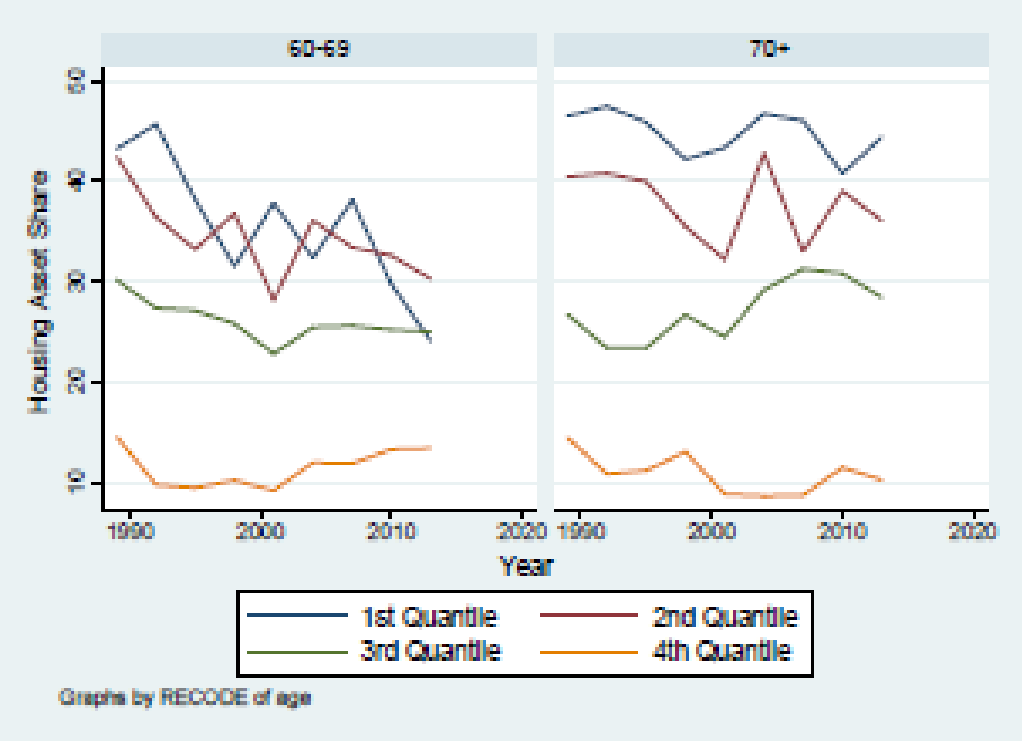
Methodology and Data

We employ three datasets to corroborate our findings. First, we use unique, administrative data on all mortgage originations from DataQuick. These data span 1995-2014 and are comprised of property records and mortgage deeds for six metro areas: Charlotte, Cleveland, Denver, Minneapolis, Phoenix, and Tampa Bay. This diverse set of locations includes areas that span the country, both geographically and economically as well since several of these areas were heavily impacted by the Great Recession while others experienced only small house price reductions. We supplement these property record data from DataQuick by implementing a matching algorithm to both Home Mortgage Disclosure Act (HMDA) and Federal Housing Finance Authority (FHFA) data in order to obtain income, demographics, and age of the homebuyers. Since the dataset contains the universe of property transactions in each area, we can then fully document patterns of homeownership, mortgage rate, down payment amounts, and housing size and characteristics by age and income levels in each area over time. An advantage of the DataQuick data is that the records contain households' names and property address, so we can further track a subset of households as they move within the metro area. In particular, we plan to track housing transitions among the elderly as they buy and sell property, documenting changes in the housing characteristics and how much previous home sales impact down payment and mortgage choices at new residences.

Second, we use the *Survey of Consumer Finances* (SCF) to confirm the trends in the administrative data for the full country, instead of just the six metro areas in DataQuick. These data will allow us to see how individual-level characteristics can influence the rate of homeownership, such as race and marital status. Particularly important, the SCF also provides measures of a variety of assets, giving us a larger picture of the overall portfolio of older individuals. According to the SCF, home equity accounts for a larger share of total assets among the elderly than any other age category. Overall, 30 percent of total assets is from housing equity for households who are 70 years or older, with this share increasing to 45 percent among the poorest income quartile. Figure 4 highlights this trend, where the lowest income quartile has the highest share of housing relative to assets. Among households over 60 years old that have a mortgage, the median household has 7.5 times as many financial assets as the remaining mortgage balance. This suggests that they could easily pay off the mortgage if they wanted to.

To understand why the elderly are less likely to pay off their mortgages, this project will determine how marginal tax rates contribute to the decision to hold a mortgage.

Figure 4. *Survey of Consumer Finance: Housing Asset Share by Age and Income over Time*



Lastly, we will utilize data from the *Health and Retirement Study* (HRS) to confirm transition trends observed DataQuick as well as word to better under the mortgage decisions made by elderly households. The HRS is a panel dataset focusing on elderly households and contains information on housing, mortgages, other financial assets, health, and family structure. This wealth of information makes the HRS particularly well suited to answer our research questions about mortgages in retirement. We build off work by Lusardi and Mitchell (2007), which use the HRS to document the role of financial literacy and housing in changing patterns wealth accumulation among Baby Boomers, and Painter and Lee (2009) which use the *Panel Study of Income Dynamics* to investigate the housing tenure choices of older households. We contribute to this literature by analyzing the decision problem facing elderly households regarding mortgages. In some respects, considering the mortgage decision is a middle ground in the tenure choice between owning and renting housing. While still technically owning the home,

and reaping the associated financial and personal benefits, having a mortgage allows elderly households to utilize more liquid assets for consumption or to diversify financial risk. Whether the interest payments and origination fees would justify the mortgage relative to ownership is not clear. Using the HRS, we examine variation across households in income, interest rates, liquid assets, and time to tease out the relative importance of tax incentives, longevity, bequest motives, and rising housing costs to the mortgage decision.

Table 1. *Timeline*

Task	Date
Literature review	May 2016
Mortgage market data analysis	May-September 2016
SCF analysis	September-November 2016
HRS analysis	October 2016-February 2017
Report draft	March 2017
Report final	April 2017

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