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How Did the Housing Boom Change the Wealth Accumulation Patterns of Cohorts?

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Abstract

This paper examines the wealth accumulation patterns of cohorts of American households who are typically first-time home buyers at the onset of the housing boom earlier in this decade. Using the Survey of Consumer Finances, I estimate the mean and median of various portfolio statistics of the households who were between age 25 and 30 in 2001 and follow them through 2007. I then compare their patterns of wealth accumulation to those of older cohorts at the same points in life cycle. The comparison group is the cohorts who were between age 25 and 30 in 1989. They are followed through 1995 when the housing markets were relatively stagnant.

There are similarities and differences between the two cohorts in their early 30's twelve years apart. While the levels of net worth are quite comparable, the composition of wealth and the accumulation patterns are strikingly different. Between 1989 and 1995, the older cohort accumulated financial wealth as they age while keeping the total debt level stable. As a result, these cohorts accumulated wealth steadily and the ratio of financial asset to non-financial asset (current ratio) increased consistently as they go through their prime working age. On the other hand, the younger cohorts accumulated debts at a much faster pace, at the same time reducing their non-housing wealth, indicating they shifted their wealth holding from financial assets to housing assets between 2001 and 2007. The younger cohorts were able to keep the level of net worth comparable to their older counterpart because of the housing boom. The younger cohorts held more than four times as much in housing equity as the older cohorts at the same point in the life cycle, while borrowing heavily in mortgages. Between 2001 and 2007, their median financial asset holdings and current ratio decreased, contrary to the patterns exhibited by the older cohorts.

The findings suggest that the housing boom of the early 2000's would have long-lasting consequences of the financial health of the younger cohorts. The younger cohorts are entering the middle age with illiquid and highly leveraged portfolios. With the decline in the housing price after the financial crisis in 2008, this cohort would approach retirement with the much lower level of assets than the older cohorts, unless they change their saving patterns drastically.

JEL Classification Codes: D31, D91, E21, G11

Keywords: wealth of cohorts, housing wealth, leverage, portfolio composition

The housing market boom in many metropolitan areas of the United States altered behaviors of many involved in it. Young families rushed into buying a home before it gets too late for fear of being priced out of the dream of homeownership. Real estate became an instrument for speculation to “get rich quick.” The popular press reported many stories of condo flipping in California and Florida. Using the equity they suddenly discovered in their homes, many households in Arizona and Nevada bought second and third homes as investment and became landlords. If you lived in one of these “sand” states during this period, casual acquaintances must have told you how well they were doing in the real estate market and investing in real estate was the best thing on earth. There was euphoria in the air.

It’s now all familiar that the housing boom earlier last decade was a bubble. The housing markets in many parts of the country collapsed, taking down with them many financial institutions and the entire economy. Speculative investment turned sour and hundreds of thousands of properties are foreclosed every year. As the house price plummeted, many homeowners witnessed their home equity evaporate and ended up owing more in mortgages than their houses are worth. As a result of the “underwater” mortgages, many homeowners are not able to refinance although the mortgage rate has been historical low. Furthermore, many homeowners who would not sell their homes at the ongoing market price are locked in to their homes and thus in their locality and are unable to move to new opportunities even when they see better prospects in other states.

More importantly, while the housing boom of early in the decade was local, the housing downturn after 2007 is national in nature. Between the second quarter of 2001 and the first quarter of 2007, 20 MSAs recorded an annualized increase of house price index by more than 15 percent, all of which are in California or Florida. On the other hand, many metropolitan areas of

the Midwest, particularly in Indiana, Ohio, and Michigan, experienced very modest nominal increase of house price at less than 3 percent, barely keeping up with the inflation. In the two years following the financial crisis in the third quarter of 2008, however, many metropolitan areas that did not experience a bubble in house price during the boom also suffered from a decline or zero nominal growth in house price. The housing boom and bust affected most households in the United States.

This paper examines how the housing boom in the 2000s has altered the wealth accumulation patterns of American households. I first demonstrate that the housing boom most affected Americans who were in their late 20s in the early 2000s. Identifying the cohorts who were between 25 and 30 years old in 2001 as the most affected, I follow these cohorts through 2007 when they turn 31 to 36 and document their wealth accumulation patterns. I then compare their patterns with those of older cohorts, who were between 25 and 30 in 1989, and track them until 1995, the same point in lifecycle of the younger cohorts at the end of the data period. As older cohorts are now in their late 40s, I use information of their current wealth to predict how much net worth the younger cohorts (age 31 to 36 in 2007) would have in 15 years when they turn in their late 40s.

Documenting how wealth accumulation patterns during this period differ from earlier periods is important as such differences may indicate a possible trajectory of saving and consumption of the most affected cohorts in the next few years. Many rely on their home equity as their main saving vehicle. As home equity is decimated by declining house prices, American households may have inadequate level of saving well into their middle age unless they increase the saving rate dramatically. Indeed, deleveraging at the household level is taking place, as the personal saving rate has more than tripled from the low of 1.4 percent in 2005 to 5.8 percent in

2010. The most affected cohort would have to adjust their consumption substantially if they want to build their wealth.

I. Who were the most affected cohorts?

The data from the Census illustrate that the most affected by the housing boom were the young cohorts who were under 30 years old in the middle of the decade. Figure 1 panel (a) illustrates ownership rates of housing-related assets and liabilities calculated from the 1990 and 2000 U.S. Decennial Census of Housing and Population and the 2003, 2006, 2009 American Community Surveys. The age profile of homeownership rate has not changed appreciably between 1990 and 2000, indicating the stability of the relationship between age and homeownership. However, the shape of the profile has become flatter in 2003 and 2006, as the homeownership rate of those under 30 years old increased. Panel (b) of figure 1 presents the difference of the homeownership rates between 2000 and 2006 by age. The homeownership of 25-27 year olds increased by more than four percentage points, while the increase among the older age group is rather modest. For those 31 and older, there is no significant difference in homeownership between 2000 and 2006.

Because a home purchase often involves taking out a mortgage, those under 30 years old increased their indebtedness during the same period. In panel (c), the difference in mortgage ownership rates between 2000 and 2006 is presented. As is the case in homeownership, the mortgage ownership rate increased most for those between 25 and 27. The increase tapers off beyond 28 years old, and for those older than 31, there is no discernible pattern in the difference in mortgage ownership rate between the two years.

The above analysis demonstrates that those who were turning 25 to 30 in the early 2000s were affected most by the housing boom. This view is confirmed in the cohort plot of the homeownership rate. In figure 2, I plot the evolution of homeownership and mortgage ownership rates following cohorts from 2001 to 2009. The younger cohorts, particularly 1976 birth cohort (25 years old in 2001) and 1974 birth cohort (27 years old in 2001) have higher homeownership and mortgage ownership rates than earlier cohorts. On the other hand, older cohorts do not show clearly higher ownership rates than the cohorts earlier. More strikingly, the younger cohorts suffer more in recent years, as their homeownership rate is much lower than the rate of the earlier cohorts at the same age. Thus those in the late 20s (25 to 30 years old) seem to have been most affected by the housing boom and are now suffering from its consequences.

II. Detailed Look at the Wealth Accumulation Patterns and Portfolios

I examine the wealth holdings of the most affected cohorts using the data from 2001 to 2007 waves of the Survey of Consumer Finance (SCF). The SCF is conducted every three years by the Federal Reserve Board of Governors and is considered a superior data set for analyzing wealth positions of American households. While many studies of household wealth have used the Panel Study of Income Dynamics (PSID) or the Survey of Income and Program Participation (SIPP) (see a survey by John Karl Scholz and Kara Levine 2004), their wealth data cover aggregates of only a handful of broad categories of household assets and liabilities and are not as comprehensive as the SCF. In addition, to capture holdings of some assets that are concentrated in wealthy households, the SCF oversamples wealthy households, which makes it ideal for studying assets held by mostly wealthy households such as stocks and stakes in small businesses. The main disadvantage of the SCF is that it is a survey of cross-section of households and hence

does not provide longitudinal information of household asset accumulation, or detailed information of intergenerational transfers that is available in the PSID or SIPP.

I construct household balance sheets using the program provided by the Board of Governors in its SCF web page (Reserve Board Federal, 2008). As I am interested in wealth patterns of the cohorts most affected by the housing boom, I limit my sample to three cohorts who were between age of 25 and 33 in 2001: age 25 to 27 (born between 1974 and 1976), age 28 to 30 (born between 1971 and 1973), and age 31 to 33 (born between 1968 to 1970). The first two cohorts are expected to show the most effect of the housing boom while the last cohort, the majority of which were homeowners by the beginning of the boom, is included as a reference. In calculating sample statistics from the household balance sheets, I use all five imputations and take arithmetic means of the five replicates. I then use the main replicate weight to arrive at estimates of sample statistics such as means and medians. To compare their wealth accumulation to that of earlier cohorts, I also estimate the wealth holdings of cohorts born between 1956-58, 59-61, and 62-64 and examine their wealth from 1989 to 1995, when the older cohorts were between 25 to 33 years old, the same age as the young cohorts in 2001-2007.

Figure 3 plot the total amount of net worth, assets, and liabilities. Both older and younger cohorts exhibit the similar levels of net worth, accumulated steadily over the 6-year period. The exception is the 1968-70 cohort, the majority of who were homeowners in 2001 and benefited from the increase in house prices after 2004. While the levels of net worth are similar across the cohorts, the compositions are different. Panels (b) and (c) illustrates the assets and liabilities.

Figure 4: levels of financial assets and non-housing assets. Also housing related wealth. Dramatic decline of non-housing wealth of the younger cohorts between 2001 and 2007.

Figure 5: financial ratios. Different patterns of the old and young cohorts. Declining liquid assets/financial assets ratio, increasing current ratio (financial/non-financial assets) of the older cohorts, vs the opposite movement of the younger cohorts.

Figure 6: Leverage ratios. Younger cohorts increased the leverage quite substantially.

Figure 7 Housing-related ratios for Homeowners only. Younger homeowners have far greater housing-related ratios compared to the older cohorts.

Because the young cohorts are heavily indebted while investing in housing, the recent decline of house price nationally would have had a greater impact on their wealth than would have on the older cohorts. How do they fair compared to the older cohorts? To answer this question, I construct a counterfactual wealth level by reducing the value of housing in portfolio by 12%, the approximate decline of the OFHEO national house prices index from 2007I to 2010II. In figure 8, I plot kernel-density estimates of net wealth of 31-36 years old in 1995 and 2007 in panel (a) and plot the density of net wealth with the lower value of housing. With the lower value of housing, the mass of the distribution slightly shifts to the left. The most striking change is a large bump to the left of the distribution. With the decline of house prices, a considerable fraction of households would have substantial negative net worth.

III. Relationship between the Portfolio Composition when Young and Wealth when Old

Given the high leverage and the low level of financial assets that the young cohort sustained during the housing boom, how would their trajectories of financial wealth accumulation look like in the coming years? If the relationship between the portfolio composition when young and wealth level when old is stable, we could predict the future wealth

holdings of the young cohorts from the wealth accumulation patterns of the older cohorts. As the SCF collects data from different samples in each survey year, it is not suitable to estimate the relationship.

PLAN: I will use NLSY79 in this section. NLSY79 has longitudinal information on assets and liabilities of the 1959-64 cohorts to 2008. I will first estimate the relationship between the net worth level in 2006 or 2008 and the financial variables (net worth, financial ratios and leverage ratios) in 1994 plus demographics. Then I use the coefficient estimates from this cohorts and predict the net worth level of the 1971-76 cohorts

IV. Implications for the Future

V. Conclusions

References

Federal Reserve Board. "SAS Program Used to Create Summary Variables: Detailed Definitions," Washington, DC, 2008.

Figure 1 Housing-Related Assets and Liabilities Ownership Rates, 1990-2009

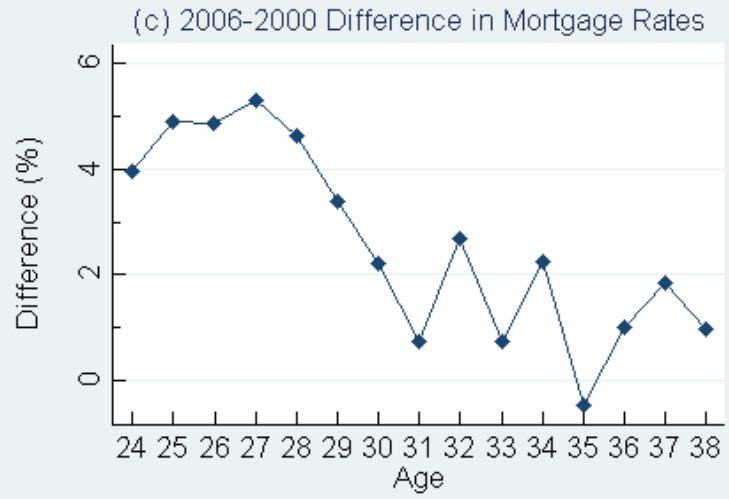
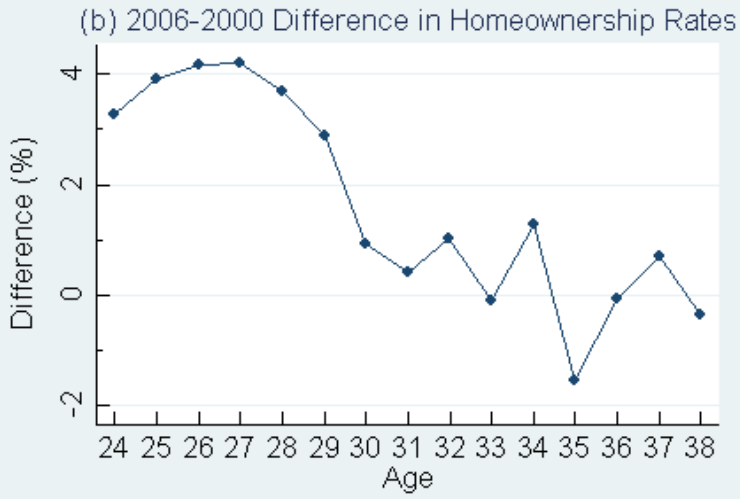
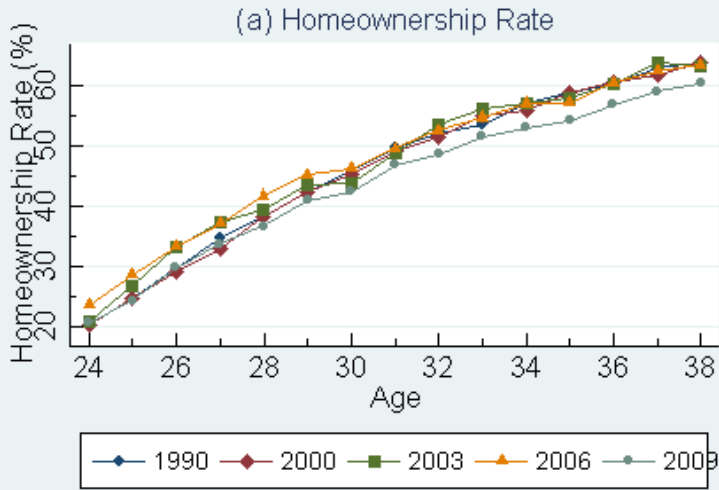


Figure 2 Accumulation Patterns of Assets, Liabilities, and Net Worth, by Cohort

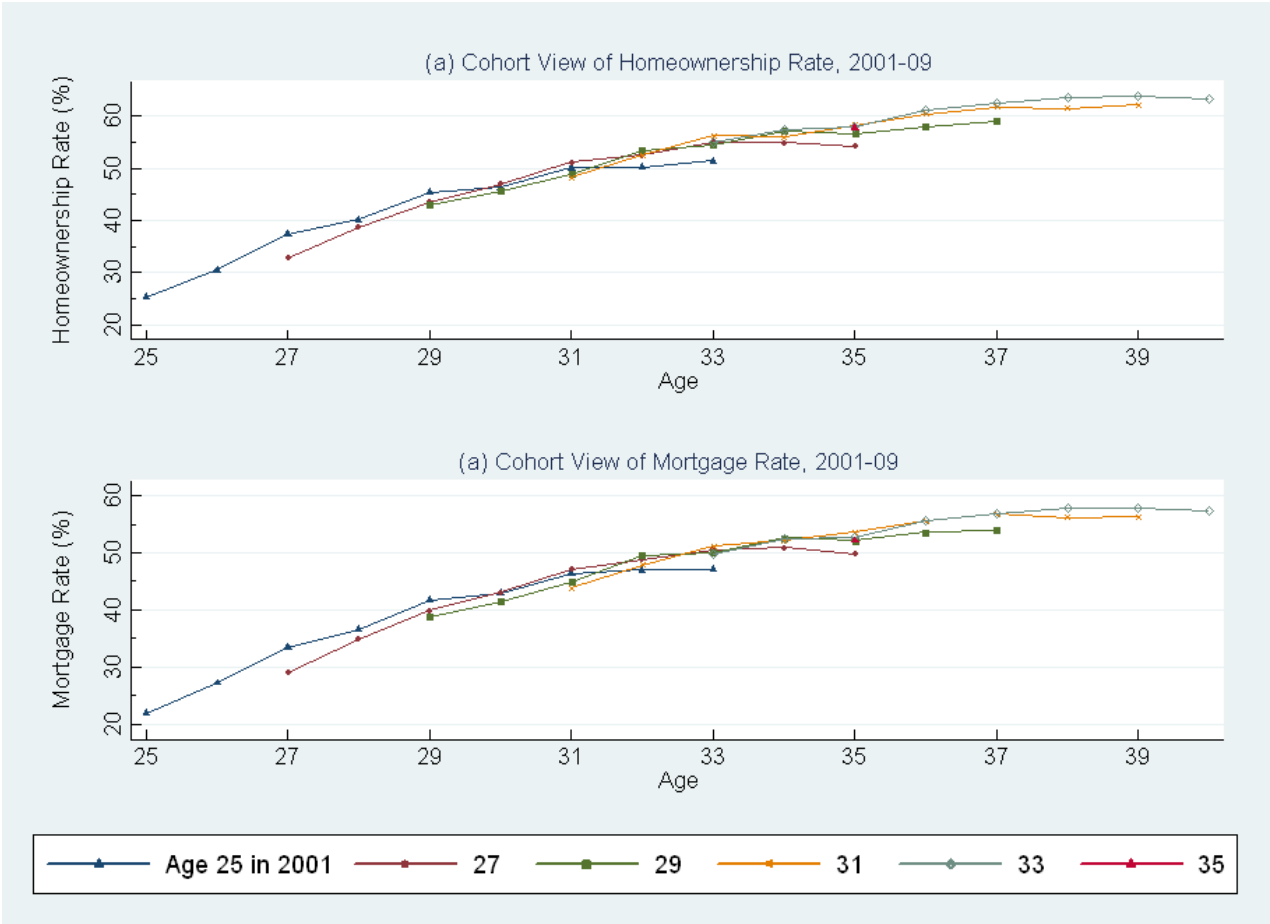


Figure 3 Accumulation Patterns of Housing-Related Assets & Liabilities, by Cohort

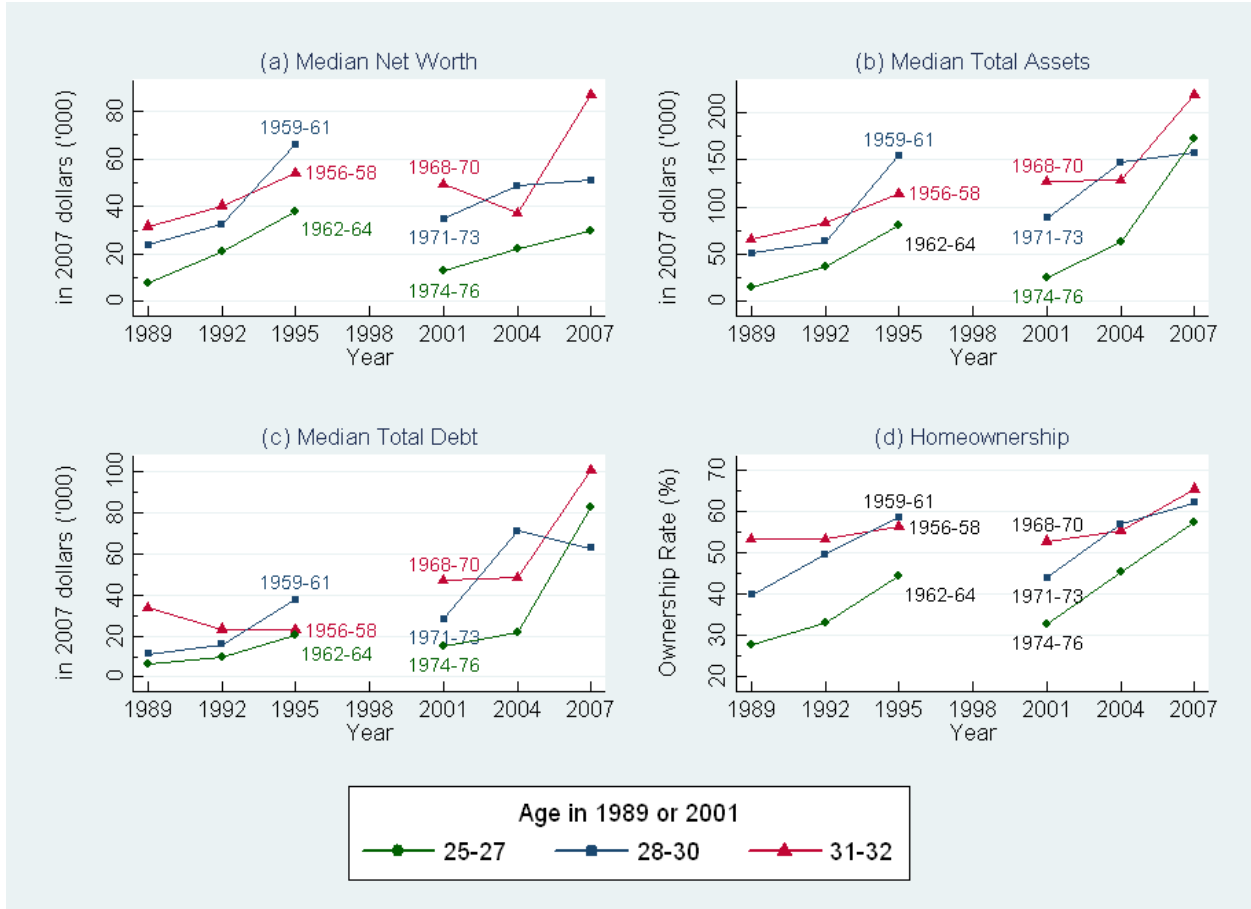


Figure 4 Accumulation Patterns of Financial Assets, by Cohort

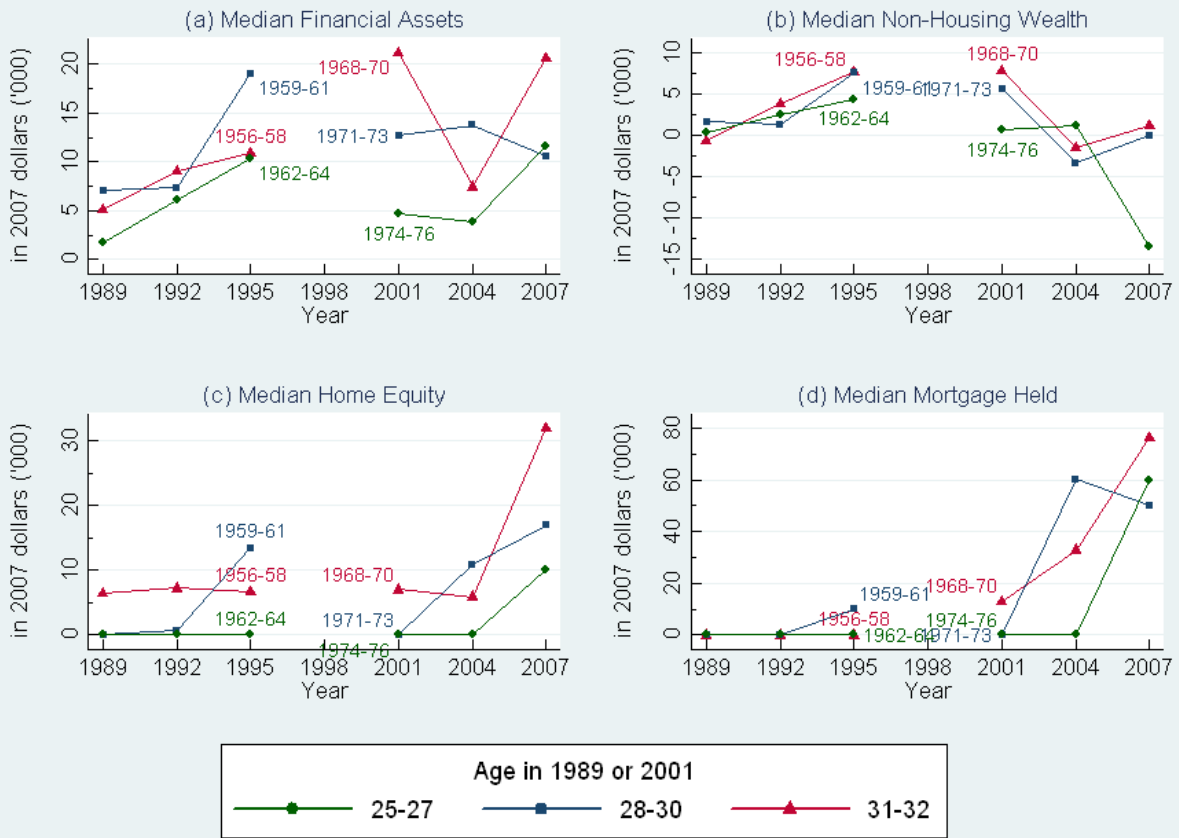


Figure 5 Change of Financial Ratios, by Cohort

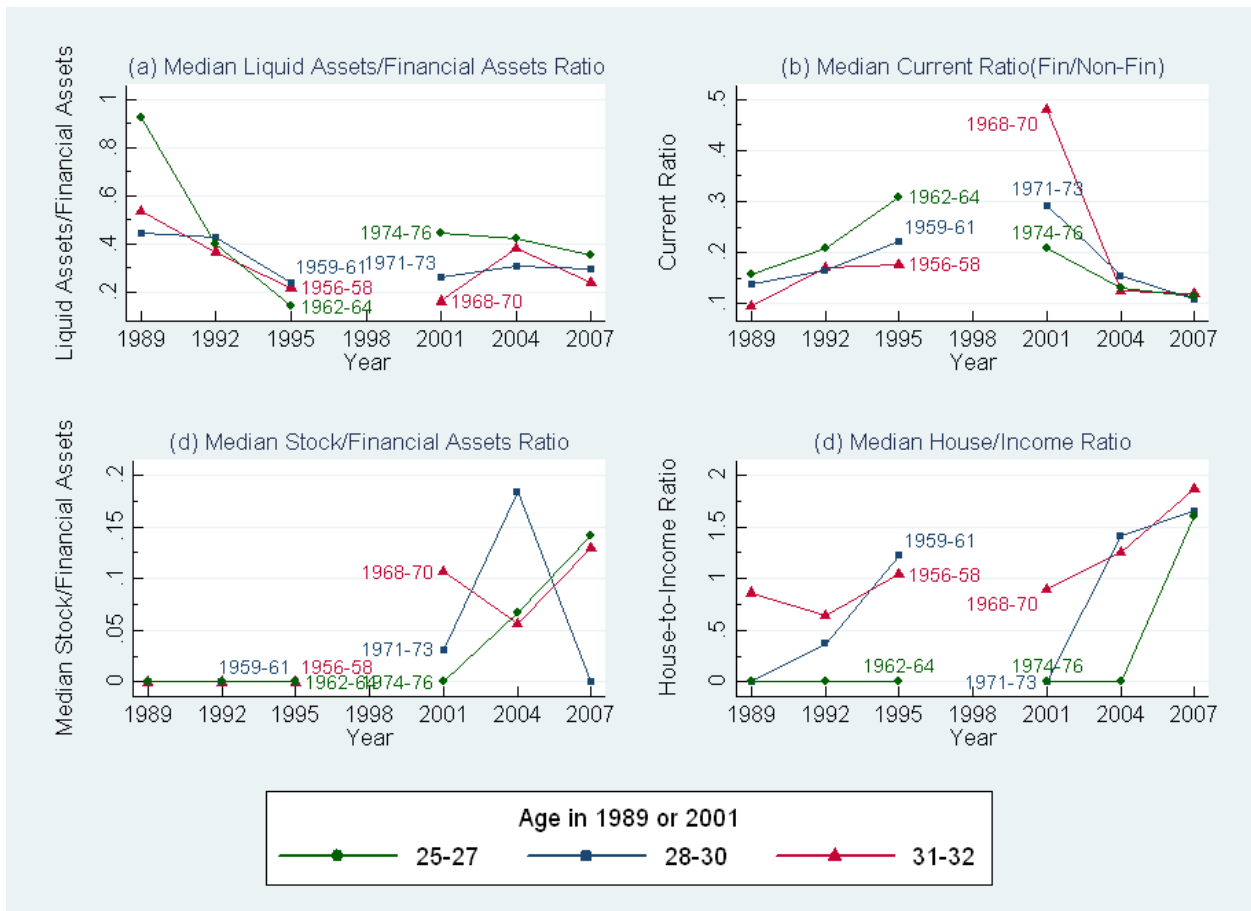


Figure 6 Change of Indebtedness, by Cohort

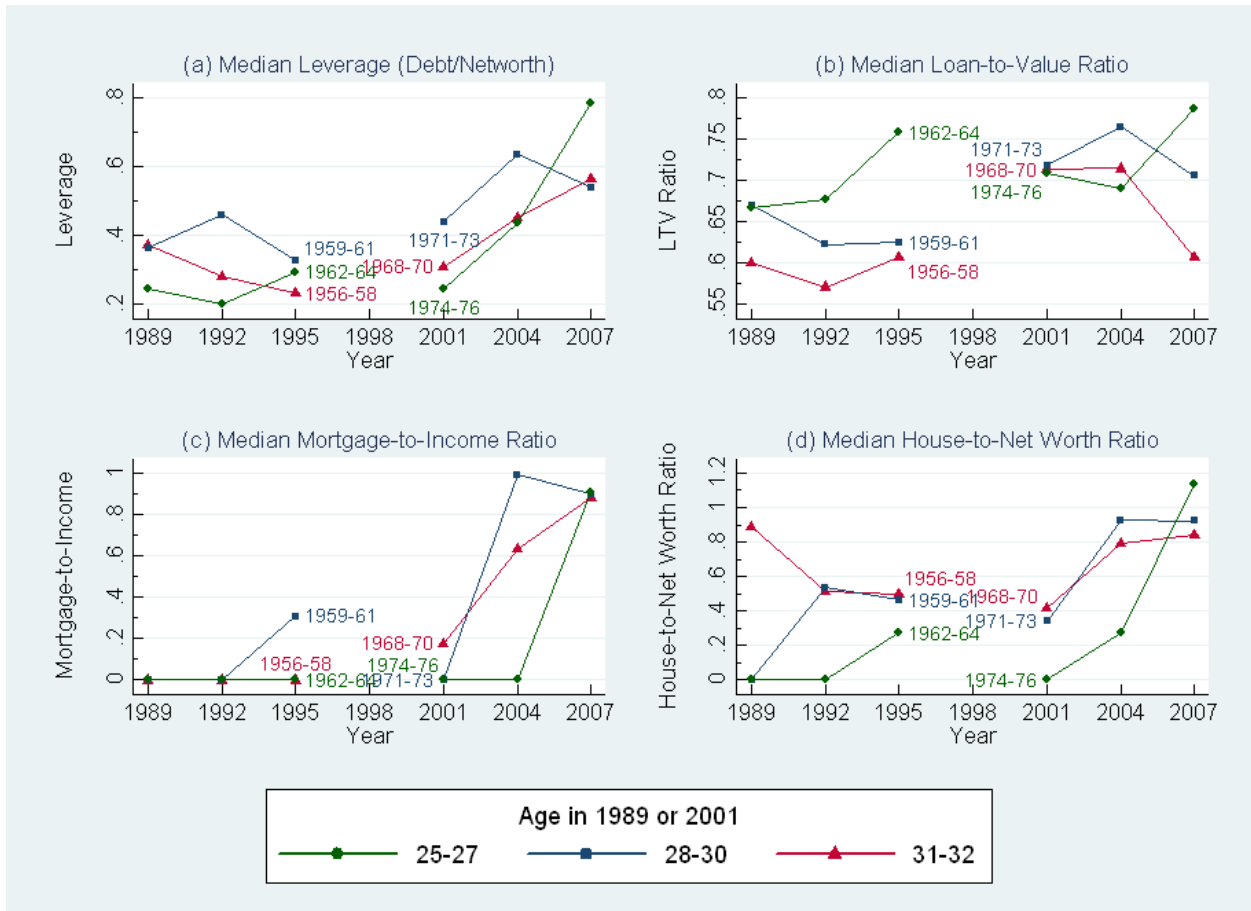


Figure 7 Change of Homeowner's Financial Ratios, by Cohort

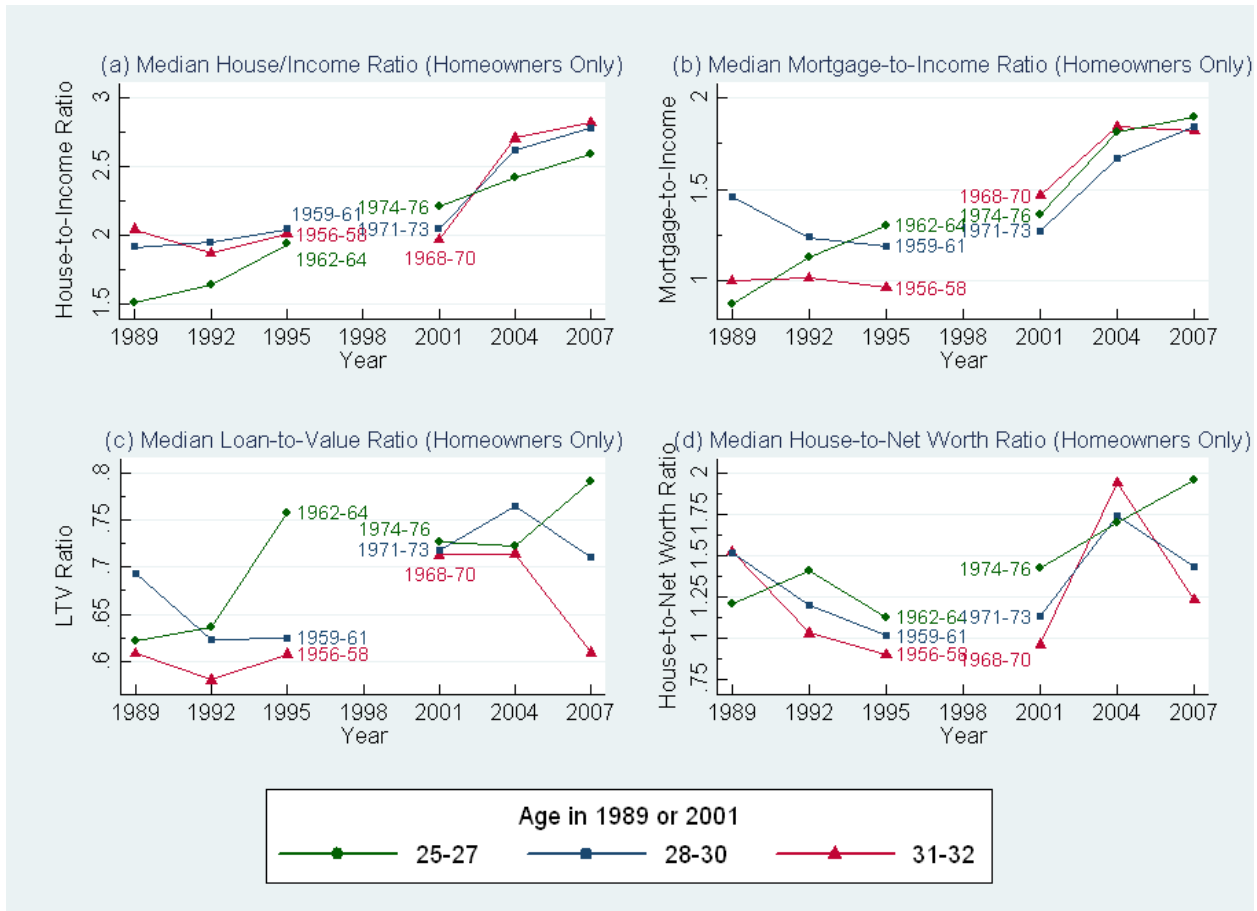


Figure 8 Kernel-Density Estimates of Net Wealth Distribution

