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# The Graying of Household Debt in the U.S.

America is aging, and older Americans are now borrowing more than they used to. This has consequences for both fiscal and monetary policymaking.

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*The views expressed in this article are not necessarily those of the Federal Reserve.*

Since the late 1980s, older American households have accounted for an increasing share of household debt, particularly residential mortgages. This trend can be partly explained by an aging American population: As the youngest Baby Boomers approach retirement age, there are more older households available to take out loans.<sup>1</sup> But there is another, related explanation: persistently low and continuously falling real interest rates. Although all households have increased their borrowing in the presence of these low interest rates, older households, because they have benefited more from asset appreciation, have also extracted home equity. Doing so has allowed them to smooth their consumption—that is, maintain their previous level of consumption even after retirement—but it has also left them with a larger share of household debt.

The aging of American household debt has important policy implications. Older households are less likely to default on their loans, but when they do default, it is harder for them to recover financially because they have fewer years left in which to recover and fewer opportunities for increasing their income.

The redistribution of household debt also affects consumers' collective response to fiscal and monetary policies. As these policies alter households' wealth, older households are more likely to change their consumption than are middle-aged households (but less likely than are young households).<sup>2</sup>

## An Aging Population Is Only Part of the Story

Economists have begun to document and

analyze the aging of American debt. For example, Ohio State University economist Meta Brown and her coauthors used credit bureau and survey data to examine demographic changes among borrowers from 2003 to 2015. They found that older consumers experienced the steepest growth in real per capita home-secured debts.

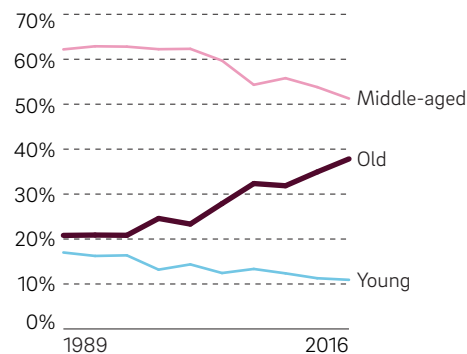
But older borrowers have also increased their obligations in other major debt categories. In 2018, George Washington University economist Annamaria Lusardi and her coauthors analyzed data from the Health and Retirement Study and documented substantial increases in other household debt, such as credit card debt and medical debt, over time among 56- to 61-year-olds who are close to retirement.

In this article, I use the Survey of Consumer Finances (SCF), the same survey used by Brown and her coauthors, to demonstrate the changing distribution of household debt over the last 30 years. The SCF is a triennial statistical survey of the balance sheets, pensions, incomes, and other characteristics of American families. I define total debt as the sum of housing debt (mortgages, home equity loans, and home equity lines of credit), installment loans (such as student debt and auto loans), and credit card balances after last payment. Young households are those whose heads are between 25 and 34; middle-aged households between 35 and 54; and old households between 55 and 85. I chose 55 as the lower bound for old households so I can group all Baby Boomers in the same category.<sup>3</sup>

FIGURE 1

### Old Households Account for an Increasing Share of Total Household Debt

Share of total debt holdings by households of different age groups, 1989–2016



Source: Survey of Consumer Finances.

Note: Household's age group is determined by the age of the household head.

From 1989 to 2016, old households accounted for an increasing share of total household debt, from 20 percent in 1989 to 38 percent in 2016, while the shares of total debt held by the other two groups fell (Figure 1).

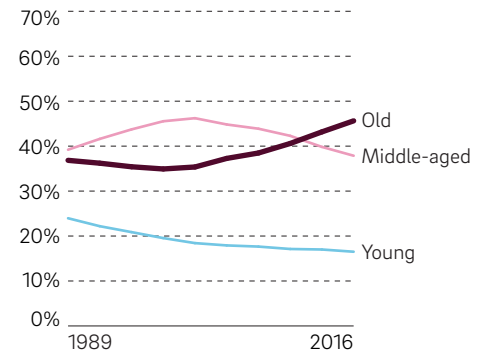
Among household debt, housing debt experienced the most aging during this period. Specifically, the share of total mortgages held by old households doubled from 1989 to 2016. The increase is particularly prominent after 2000 (Figure 2, panel a).

Auto loans, student loans, and credit card debt also aged. The share of auto loans held by old households is still

FIGURE 3

### The Graying of Household Debt Has Coincided with the Aging of the American Population

Share of households by age of head, 1989–2016



Sources: Survey of Consumer Finances and U.S. Census Bureau.

relatively small, but the increase has been significant (Figure 2, panel b). Student loans showed moderate signs of graying. The share of student loans held by old households increased mostly after 2000 (Figure 2, panel c). The share of credit card debt held by old households also grew, rising from 20 percent in 1989 to about 40 percent in 2016 (Figure 2, panel d).

The graying of household debt has coincided with the aging of the American population. The youngest Boomers, born in 1964, are now approaching retirement age. The share of households headed by older people went from 37 percent in 1989 to 46 percent in 2016 (Figure 3).

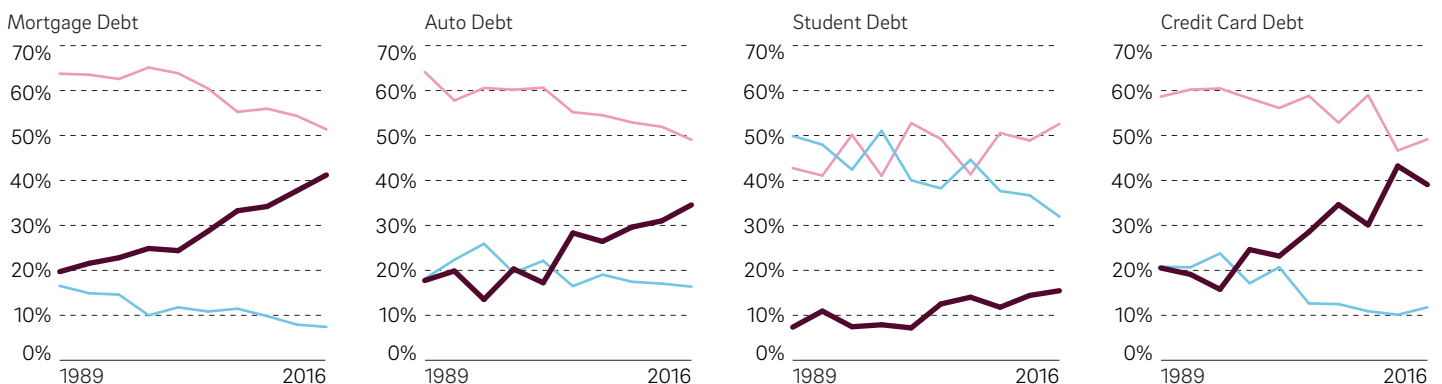
FIGURE 2

### Housing Debt Experienced the Most Aging

The share of total mortgages held by old households doubled.

Share of different types of household debt held by households of different ages, 1989–2016

Old Middle-aged Young



Source: Survey of Consumer Finances.

Note: Household's age group is determined by the age of the household head.



However, if we hold households' borrowing constant at its 1989 level (and thus isolate the share based on changing demographics alone), we explain about 5 percentage points (30 percent) of the rise in the share of debt held by old households (Figure 4). An important part of the aging of American debt must be due to behavioral changes.

## More Old Households Borrowed, and They Borrowed More

The graying of total debt has occurred as more old households owe debt, and old households that owe debt have borrowed more on average than before. The shares of young and middle-aged households that owe some form of debt did not change much between 1989 and 2016 (Figure 5, panel a). The share of old households owing debt, on the other hand, went from 52 percent in 1989 to over 70 percent in 2016.

Prior to 2007, the average amount of debt held by indebted households rose slightly faster for old households than for young and middle-aged households (Figure 5, panel b). After 2007, all households held less debt. The deleveraging, however, was less severe for old households, leaving them with a greater share of their pre-2007 debt.

Mortgages remain the largest household debt for most households, despite the recent surge in student loans. Homeownership rates rose for all three groups prior to the Great Recession. After that, homeownership rates dropped for all households (Figure 6, panel a). Old households saw the largest increase in the share of homeowners with a mortgage (Figure 6, panel b). However, conditional on borrowing, the average amount of a mortgage is larger for young and middle-aged households (Figure 6, panel c) and the average home equities are larger for old homeowners (Figure 6, panel d).

Old and middle-aged households are more likely than young households to refinance their mortgages, and they are more likely to take out cash while refinancing their mortgages. Additionally, old and middle-aged households are more likely to take out home equity loans (Figure 7).

FIGURE 4

## Household Debt Has Aged Faster Than the Population

Behavioral changes have played an important role in the aging of American debt. Share of total debt held by old households, 1989–2016

Due to: ■ Population aging ■ Behavioral changes

Source: Survey of Consumer Finances.

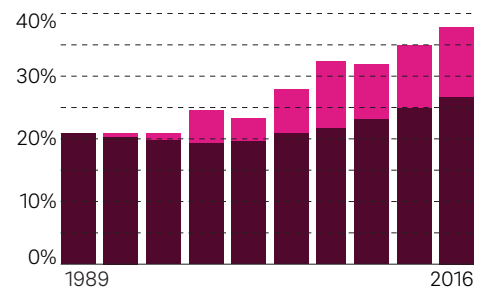


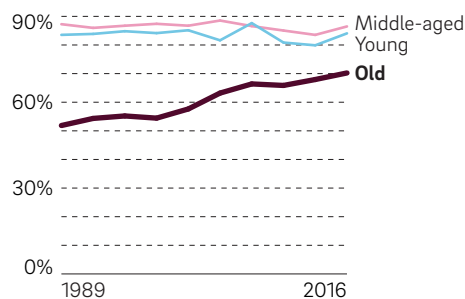
FIGURE 5

## All Borrowers Borrowed More, and More Old Households Owed Debt

The deleveraging after 2007 was less severe for old households, leaving them with a greater share of their pre-2007 debt.

Households' debt holdings by age, 1989–2016

Fraction of Households with Debt



Source: Survey of Consumer Finances.

Average Total Debt, '000s

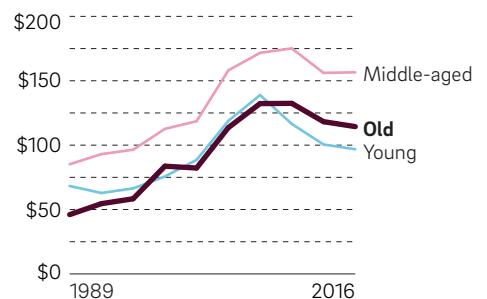


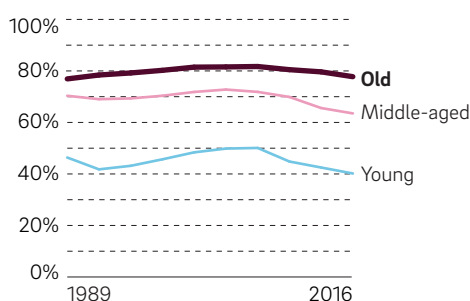
FIGURE 6

## Mortgage Debt Looms Large for Most Households

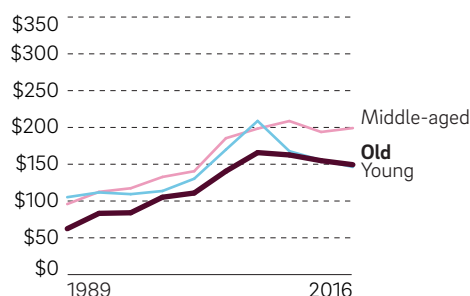
Old households saw the largest increase in the share of homeowners with a mortgage.

Homeownership, mortgages, and home equities by household age, 1989–2016

Homeownership Rate

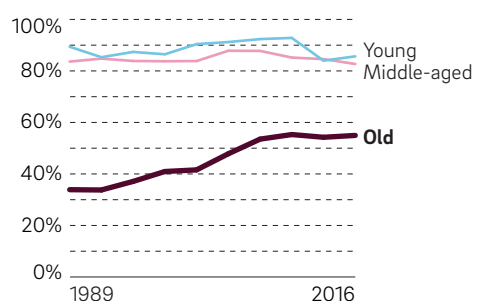


Average Mortgage, '000s

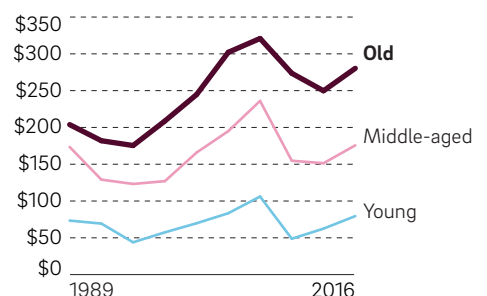


Source: Survey of Consumer Finances.

Share of Homeowners with Mortgages



Average Home Equities, '000s



To differentiate between existing loans and new originations, Brown and her coauthors used credit bureau data to examine household borrowing by age before and after the Great Recession. They uncovered evidence that old households carried more debt through the Great Recession and had more loan originations after the Great Recession.

## Falling Real Interest Rates

Persistently falling interest rates over the last 30 years made borrowing cheap (Figure 8), which in turn led to increased demand for houses and subsequently significant appreciation of house prices (Figure 9). All households borrowed more relative to house value and total household income over time. Not surprisingly, the increase is much more evident relative to income than to house value.

See *Why Interest Rates Have Declined.*

For most households, housing remains the single largest asset. As housing is indivisible and it is costly to change houses, one way for households to access housing wealth as they age is to borrow against the value of their home. This is particularly true when house price appreciation is unanticipated.<sup>4</sup> Indeed, old households extracted more cash from their houses than did middle-aged and young households, and they held the highest level of home equity loans.

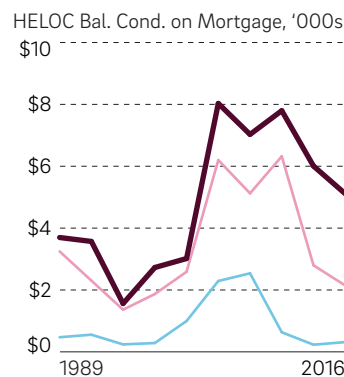
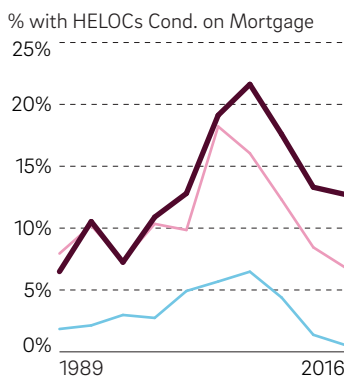
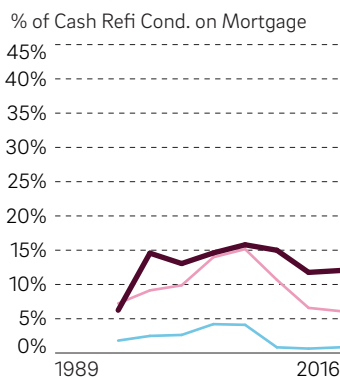
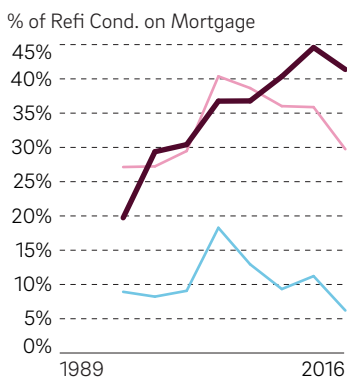
In recent years, an acceleration of mortgage lending—leading to the Great Recession and the subsequent slowdown—has also contributed to more mortgage debt held by older households.<sup>5</sup> This is because old households defaulted less and carried more debt after the recession. Additionally, old households on average are more creditworthy and, hence, were less affected by the tightening of lending standards after the Great Recession.

FIGURE 7

### Old and Middle-Aged Households Are More Likely to Refinance, Take Out Cash While Refinancing, and Take Out Home Equity Loans

Mortgage refinancing and home equity lines of credit (HELOCs), 1989–2016

Old Middle-aged Young

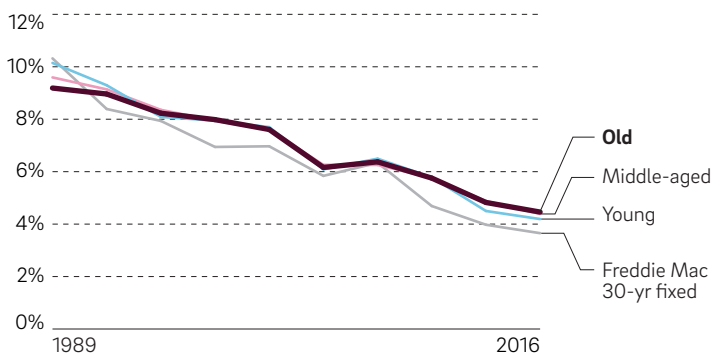


Source: Survey of Consumer Finances.

FIGURE 8

### Persistently Falling Interest Rates Over the Last 30 Years Made Borrowing Cheap

Nominal reported mortgage interest rate by household age, compared to Freddie Mac rate, 1989–2016

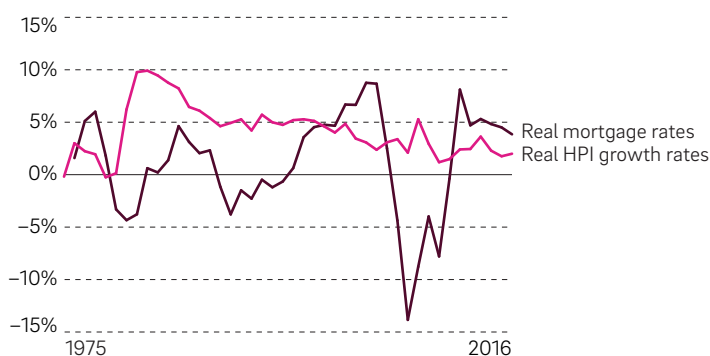


Sources: Survey of Consumer Finances and Freddie Mac.

FIGURE 9

### Falling Interest Rates Have Led to Increased Demand for Houses and Subsequently Significant Appreciation of House Prices

Real mortgage rates and growth rates of real house price index (HPI), adjusted for inflation, 1989–2016



Source: Freddie Mac.

## Policy Implications of Aging Household Debt

Both debt-to-income and debt-to-asset ratios have increased for households of all age groups, but the debt-to-income ratio has increased faster (Figure 10).<sup>6</sup> As a result, changes that deflate asset values threaten the financial solvency of all households, and they endanger old households more than young and middle-aged households. Although old households, because of their steady (albeit perhaps smaller) income and the wealth they have built up, are less likely to default, they will have to default if house prices drop significantly, all else being equal.<sup>7</sup> Should that happen, old households will have a much harder time recovering financially, due to their shorter remaining life span and limited income potential. Thus, the large increase in home-secured debt carried by middle-aged households into retirement constitutes a new source of financial risk in retirement.<sup>8</sup>

We may already be seeing the effect of this change. As documented by University of California, San Diego, professor Michelle White and me, the increases in the percentages of bankruptcy filings and foreclosures by old households since 2000 were much larger than the increase in their population.<sup>9</sup>

Another policy implication of the graying of American debt pertains to the collective household response to monetary and fiscal policies.

See *The Macroeconomic Perspective*. →

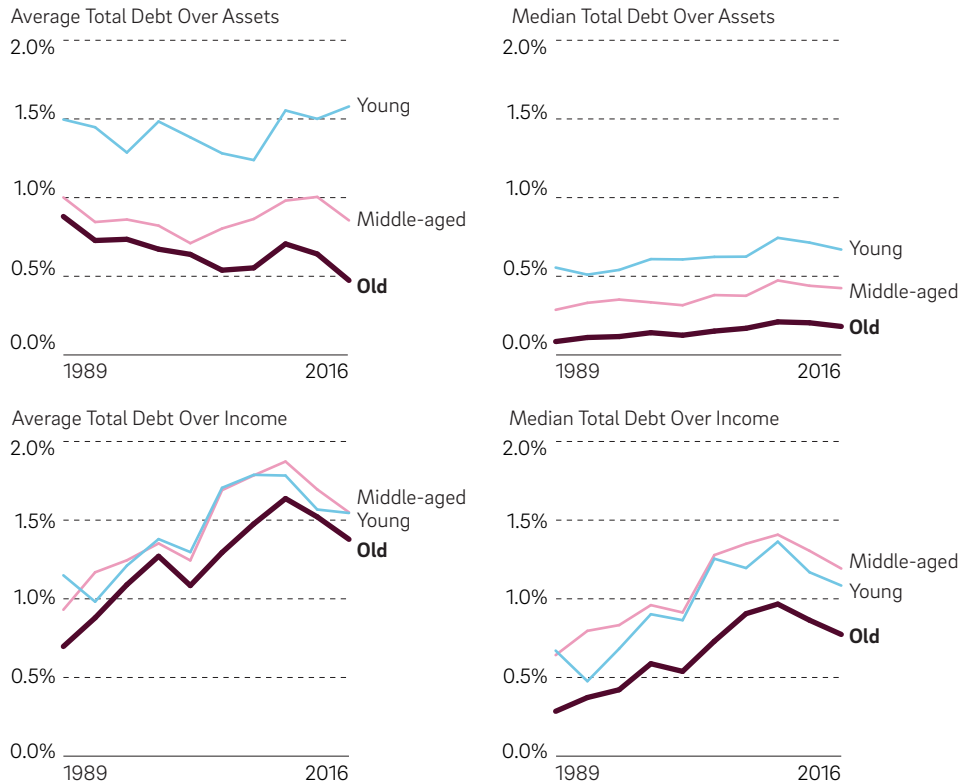
To summarize, household debt in the U.S. has grayed significantly over the last several decades, caused by the nation's aging demographics and by the behavioral responses of households to persistently low real interest rates. This graying of debt creates financial risks for relatively old households. It also has important implications for policymakers as demographics plays a role in households' varying consumption responses to changes in wealth and income. ■

FIGURE 10

### Debt as a Share of Income Has Usually Increased Faster than Debt as a Share of Assets

And because they are typically retired, old households are more vulnerable to changes that deflate asset values.

Total debt holdings relative to assets and income by age group, 1989–2016



Source: Survey of Consumer Finances.

### Why Interest Rates Have Declined

Since the 1980s, real interest rates in the U.S. have steadily declined. There are two explanations for this decline: the global savings glut and secular stagnation.

In 2005, Fed Chair Ben Bernanke suggested that a global savings glut, caused by increased capital flows from crisis-prone economies to the relatively safe haven of the U.S., were responsible for the very low longer-term interest rates in the U.S.

In 2014, former U.S. Secretary of the Treasury Larry Summers identified another cause of persistently low interest rates: secular stagnation, which he defined as a persistently low or negative natural rate of interest—the equilibrium real interest

rate consistent with output at potential—leading to a chronically binding zero lower bound. In other words, the economy has a long-term lack of demand.<sup>10</sup>

Both explanations almost certainly played a role in the decline in real interest rates, and so did an aging population. An aging population means a smaller working-age population, which in turn leads to a reduction in the economy's productive capacity. Hence, a lower real interest rate is needed to support the economy. Furthermore, as life expectancy increases, individuals save more, which increases the supply of loanable funds that banks can lend out and decreases interest rates.<sup>11</sup>

## Notes

**1** Baby Boomers are the demographic cohort born from 1946 to 1964, during the post-World War II spike in the national birth rate.

**2** See, among others, Campbell and Cocco (2007) and Li and Yao (2007) for detailed analyses and discussions of the differential life-cycle marginal propensities to consume out of wealth.

**3** The empirical observations presented later in the article are largely robust if we define old households as those aged between 65 and 85 instead of 55 and 85. Not surprisingly, the graying of household debt using this latter definition would be less severe.

**4** See Bartscher et al. (2018).

**5** See Brown et al. (forthcoming).

**6** Throughout this article, I follow the scf definition of household assets: the sum of financial assets, such as stocks and bonds, and non-financial assets whose main component is the value of the primary residence.

**7** Brown et al. address recent and ongoing trends in borrowing, repayment, and bankruptcy among U.S. households, emphasizing the relative financial stability of older households and their repayment reliability.

**8** See Lusardi et al. (2018).

**9** See Li and White (forthcoming). A higher likelihood of financial solvency doesn't necessarily imply lower welfare ex ante or before the realization of house price shocks. It may simply indicate that households are more effectively using all financial options, including default, to smooth their consumption in different economic situations.

**10** This argument was later quantified by Eggertsson et al. (2019b). Demographic aging in developed economies is one of the reasons behind the secular stagnation (Eggertsson 2019a).

**11** For more detailed discussion see the article by Carvalho et al. (2017) and papers cited in the article.

**12** See research cited in footnote 2.

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## The Macroeconomic Perspective

Old households are more likely to consume out of both wealth and income than are middle-aged households but less likely than are young households.<sup>12</sup> This heterogeneity in consumption responses across age groups implies that monetary and fiscal policies will have different outcomes as the U.S. population grows older.

For the ease of exposition, let's compare two hypothetical economies populated entirely by homeowners where 30 percent of households are middle-aged. In one economy, 60 percent of households are young and 10 percent are old. In the other, 10 percent are young but 60 percent are old. Using a marginal propensity to consume (MPC) of 10 percent for the young, 3 percent

for the middle-aged, and 6 percent for the old, and assuming that an expansionary monetary policy leads to a 100 percent appreciation of house prices, total consumption would increase by 7.5 percent for the first economy but only 5.5 percent for the second. Since some states in the U.S. age faster than others due to migration, this heterogeneity across age groups in policy transmission will translate into heterogeneity in policy response across geographical regions.