

Changing Retirement Behavior in the Wake of the Financial Crisis

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Abstract

The financial crisis and ensuing Great Recession left huge scars on household balance sheets, with households approaching retirement seeing the largest decline in wealth. This chapter examines how these households have adjusted to these developments. To date, most evidence on this question has come from surveys of household intentions. Using data on actual household behavior, we find that households nearing retirement are making up for financial losses by increasing saving and deferring retirement. They also appear to have reduced financial risk exposure by taking on less leverage and moving their portfolios in a more conservative direction.

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The financial crisis and ensuing Great Recession have left huge scars on household balance sheets. Stock prices remain below their peak of the fall of 2007. Home prices fell more than a quarter from their 2006 peak and continue to fall. Households have shed some of their debt (in large part through defaults), but the decline has not been nearly as large as the decline in the value of their assets, leaving the ratio of debt to assets well above its pre-crisis range. Looking across age groups, households approaching retirement have seen the largest decline in wealth. These households were in their peak lifecycle wealth accumulation years when the crisis hit, and they were holding much of this wealth in equities or homes. With fewer years of earnings ahead than their younger counterparts, they have fewer options to make up for this loss in wealth and must make a number of significant economic decisions as a result.

This chapter examines how households approaching retirement have adjusted to these balance sheet developments. To date, much of the evidence on this question has come from surveys that ask households how they are adjusting or plan to adjust (c.f. Sass, Monk, and Haverstick, 2010; Hurd and Rohwedder, 2011). Such evidence is useful but remains limited, in that intentions do not always correspond to actions. This chapter complements the survey evidence with a careful look at the available data on what households approaching retirement are actually doing—how households are adjusting their consumption, labor supply, and asset allocation.

We begin with a review of macroeconomic and financial developments over the past few years and then explore exactly how these developments have affected the financial conditions of households in different age groups. Next we turn to the different margins on which households

may be adjusting. We look at patterns of consumption and labor supply across age groups, using past recessions as a benchmark; we also examine financial decisions including willingness to borrow and asset allocation.

Whereas the survey evidence is mixed on whether households are adjusting to their wealth losses by trimming their spending, households do seem to have adjusted on this margin. In particular, households on the cusp of retirement have seen a sharp and broad-based decline in their spending, in contrast to a fairly muted reduction for households in the age categories on either side of this group. Patterns of labor force participation by age are consistent with survey data, indicating a strong inclination toward deferring retirement to make up for the losses. Finally, the financial crisis appears to have left an imprint on financial behavior, with a significant reduction in willingness to take on debt and considerable wealth having been moved out of higher-risk equity funds and into lower-risk bond funds.

Boom and bust in the early 2000s

To set the stage for our analysis, it is useful to briefly review the events of the last decade and their implications for household finances. Following a brief and mild recession in 2001, the United States saw considerable run-ups in stock prices and home prices paired with solid economic growth and low rates of unemployment. Aggregate household net worth relative to disposable income rose sharply to a high of 6.4 in mid-2007, noticeably above the peak reached during the stock market bubble of the late 1990s (Figure 1). Ultimately, the good times proved transitory, however. Home prices began to decline in 2006, and stock prices turned down in late 2007 (Figure 2).

Figures 1 and 2 here

Housing played a special role in the recent economic cycle. In retrospect, home values clearly rose above levels that could be justified by economic fundamentals. Housing has historically been the most widely held asset among US households, and it became even more broadly based as homeownership rates rose from the 63-66 percent range observed between 1965 and 1998, to around 69 percent between 2004 and 2007 (Figure 3). The expansion in home ownership was fueled, in part, by a slackening of mortgage underwriting standards, including a sharp rise in the prevalence of so-called ‘affordable’ mortgages. However, many of these mortgages proved to be unsustainable in the absence of continued home price appreciation. As home prices began to fall, losses mounted at financial institutions and many collapsed or threatened to do so. In turn, credit conditions began to tighten, leading to yet more defaults and credit losses, until the US found itself in the most severe financial crisis and economic downturn since the Great Depression.

Figure 3 here

Stock ownership has also expanded in recent decades. The Survey of Consumer Finances (SCF) conducted by the Federal Reserve Board shows an increase in stock ownership (both directly and indirectly held) from 37 percent of households in 1992 to 51 percent in 2007 (Aizcorbe, Kennickell, and Moore, 2003; Bucks et al., 2009). Homeowners tended to have greater exposure to stock than renters, with 63 percent holding equity in 2007 (about 2½ times the corresponding share of renters). Amid the boom in equity and home values, consumers took on unprecedented amounts of debt. The ratio of household debt to disposable income (Figure 4) rose steadily in the 1980s and 1990s as the liberalization of financial markets and improvements in technology for assessing risk increased access to credit and lowered the cost of borrowing. The trend sharply accelerated in 2002, with household debt surging above 100 percent of

disposable income and reaching a peak of 130 percent in the third quarter of 2007. Rising debt levels left household vulnerable to shocks that left them with elevated debt obligations relative to their available resources (Dynan, 2009).

Figure 4 here

By early 2009, aggregate stock market wealth was 50 percent below its peak in October 2007, while the value of aggregate household real estate holdings were down a quarter from their peak two years prior. The ratio of household wealth to disposable income bottomed out at 4.5 in early 2009, its lowest level since the mid-1980s. The combination of elevated debt burdens and depleted balance sheets left households under enormous strain. The ratio of debt to asset values, which had shown fairly subdued growth between 2002 and 2007 because of rising asset values, exploded upward with the collapse in asset values.

The recession also had a profound effect on employment conditions. Nearly nine million jobs were lost to the downturn. When employment conditions reached their trough in late 2009, the unemployment rate was over 10 percent and the ‘underemployment rate’ (which includes part-time workers that would like to be fully employed and workers not actively seeking a job because they are discouraged) was 17.2 percent. Since that time, the economy has remained weak and improved only modestly in terms of broader conditions and household financial conditions. More than one in 12 workers is still without a job. Long-term unemployment trends have been particularly troubling, with the fraction of workers unemployed for 27 weeks or more, at 4 percent, still well above the range seen for decades prior to this recession. The ratio of household wealth to income has recovered a bit, but it remains no higher than it was in the early 1990s.

Impact of the Great Recession on the finances of different age groups

We use the SCF to explore the effect of the rise and fall of asset prices on the financial position of households in different age group: it contains comprehensive and high-quality information about the balance sheets of US households, as well as data on household income, demographics, and attitudes. Conducted by the Federal Reserve Board on a triennial basis since 1983, the last full wave that is publicly available contains information collected during the second half of 2007; nevertheless, the Federal Reserve has recently released data on median net worth for selected demographic groups from a follow-up survey of the 2007 respondents conducted in the latter half of 2009.¹ In principle, we could use the SCF micro data to group households by the age ranges most pertinent to this analysis, but we are limited to ‘standard’ SCF age groupings because the key 2009 data are presented that way based on the age of household head: younger than age 35, 35-44, 45-54, 55-64, 65-74, and 75+. Households approaching retirement—the main target of our analysis—are likely to be concentrated in the 55-64 age group.

Lifecycle economic theory predicts that household wealth will peak at retirement and, indeed, in the SCF, households with heads age 55-64 tend to have higher wealth than their counterparts in other age groups. The first column of Table 1 shows that median net worth rose with the age of the head for households in their working years, peaking at \$265,000 in the 2007 SCF (measured in 2010 dollars) for households 55-64. Median net worth fell off for older age groups, though the decline is not as pronounced as the increase during the working years.

Table 1 here

Households approaching retirement also tend to have more exposure to equity price fluctuations. As can be seen in the first panel of Table 2, the share of households owning stock

(both directly and indirectly through mutual funds, defined contribution retirement plans, and the like) in the 55-64 age group was a shade lower than that for the 45-54 age group in 2007 (59 versus 61 percent). Yet conditional on owning stocks, median stock holdings and the share of assets represented by stocks were considerably higher for the 55-64 age group than for any other age group. The second panel of Table 2 shows that households with heads between ages 55 and 64 also had relatively sizable holdings of residential real estate. The ownership rate was 83 percent for this group—a bit lower than that for the next age group but higher than that of other age groups. The median amount of real estate owned (conditional on owning) was \$235,000, also at the top end of the range for the various age groups.

Table 2 here

Although older working households appear to have more risk in terms of assets than households in other age groups in 2007, the liabilities side of their balance sheet was not as risky. As can be seen in Table 3, at 82 percent, the share of households in the 55-64 age group with debt (including mortgage obligations as well as any consumer loans) in 2007 was a bit lower than the shares for households in the 35-44 and 45-54 age groups. Moreover, conditional on having debt, the median amount of debt and the ratio of debt to income, at about \$60,000 and one, were considerably lower for the 55-64 age group than for the next two younger groups.

Table 3 here

Table 4 pulls this information together, showing the share of aggregate assets of different types and debt owned by households in different age groups in 2007. Households with heads between 55 and 64 years old owned 31 percent of equities, 23 percent of residential real estate, and 29 percent of other financial assets, despite accounting for just 17 percent of the population (final column). Their share of debt was roughly on par with their population share, considerably

higher than for older households but a good bit lower than for households with heads between ages 35 and 54.

Table 4 here

Figure 5 shows trends in inflation-adjusted median net worth of different age groups over time. As can be seen, median net worth in 2009 was lower than its value pre-crisis for all age groups, with the large declines in the 45-54, 55-64, and 65-74 age groups. At \$222,000, median net worth for those 55-64 in the 2009 SCF was down \$60,000 from the peak seen for that age group in the 2004 SCF and roughly the same as in 2001 SCF. All told, the patterns suggest a considerable hit to the resources of households approaching retirement relative to what they likely expected prior to the financial crisis.

Figure 5 here

While the collapse in asset values had an outsized impact on people nearing retirement, it does not appear that this age group was disproportionately hurt by the rapid deterioration in labor market conditions. As shown in Table 5, all age groups experienced a much larger increase in unemployment relative to prior cycles. However, in percentage terms, workers aged 55 and older saw a smaller increase in their unemployment rate than those in other age groups except for those under the age of 24, just as in prior recessions. Workers aged 55 and over generally have an unemployment rate below the national average owing to their greater experience and more senior positions, and they currently enjoy the lowest unemployment rate of any age group. That said, workers nearing retirement certainly experienced far more joblessness and job insecurity than was typical in the past, and while we can't break down the long-term unemployed by age, this group has no doubt been part of this trend at a time in their life where their remaining work

horizon is much shorter than for younger cohorts. Thus while they were hit proportionately, the longer-run damage to their living standard may well be more severe.²

Table 5 here

Three margins of adjustment to the crisis

Because of their considerable holdings of financial and real estate assets, older workers were hurt hardest by the dual decline in equity values and home prices at a time in their lives when many were likely planning an exit from the labor force before long. Economic theory tells us that there are a number of changes in behavior that such a sizable shock to wealth and income security might elicit. First, older workers might choose to save more, reducing current consumption in order to reduce the damage to their planned spending in retirement. Second, this group might choose to stay in the labor force longer than planned. An additional year of work has a powerful impact on retirement resources, although such a response will only be available to those for whom work is available. Finally, given that the losses experienced in the values of stock portfolios and home values were quite likely well beyond anything most households had thought was likely or possible, households might re-evaluate their risk tolerance or how to express their risk preferences through changes in their portfolio allocation. Each of these responses has implications for household retirement security, as well as for the macroeconomy. We examine each of these three margins of behavior by looking at both evidence on what households say they are doing (or planning to do) as well as micro and macro data that shed light on what they are doing in practice.

Changes in saving behavior. Reducing spending and raising saving is one way in which households are able to rebuild or conserve their lifecycle saving. One would expect such effects

to be most pronounced for households nearing retirement and in retirement given the considerable size of their losses (and, for the retired group, the greater difficulty of re-entering the labor force so as to increase labor income). Note, though, that households who mainly suffered losses via lower home values might not have to trim non-housing spending if they were planning to live in their homes for the foreseeable future because the present discounted value of expected housing consumption fell commensurately. One would not expect a large wealth effect on the spending of younger households since they suffered much smaller losses and they have many years to restore their retirement saving. However, younger (and older) households might reduce spending because of a loss of income regardless of their rate of saving. They also might increase saving for precautionary reasons if they have raised their assessment of the underlying riskiness of the economic environment they face. Finally, the tight supply of credit over the past few years might also have damped consumption, although one would expect this to be a bigger issue for less credit-worthy younger households and for this effect to fade as credit conditions ease.

Survey evidence on households' inclination to change their saving behavior in the wake of the crisis is mixed. For example, the Center for Retirement Research at Boston College surveyed roughly 1300 workers between the ages of 45 and 59 in mid-2009 about how they were responding to the financial downturn and found fairly modest reported effects on saving (Sass, Monk, and Haverstick, 2010). Two-thirds of surveyed households reported no change in how much they save for retirement through 401(k) accounts, IRAs, and other accounts. On the other hand, about 60 percent of respondents to the 2009 Survey of Consumer Finances between the ages of 50 and 61 reported they would spend less if their wealth decreased; many of these households also indicated a material increase in their desired precautionary saving (Duke, 2011).

The aggregate evidence suggests that households have significantly ramped up their saving; the personal saving rate, which bottomed out between 1 and 2 percent in the years just prior to the financial crisis, jumped to close to 6 percent during the crisis, and it has remained elevated even as the recovery has progressed. The current level is similar to that seen prior to the stock market run-up of the 1990s. It may be that, when asked by a survey, households think about saving as an active decision to invest money in a retirement account rather than including paying down debt, spending less, and keeping larger cash balances on hand. Indeed, while household debt has been shrinking in large part due to defaults and charge-offs, a recent analysis by the New York Fed showed that households actively paid down consumer debt in 2009 and while net borrowing turned positive in 2010, it has remained well below prior norms (Brown et al., 2011).

To explore more concretely how the events of the past several years may have changed the spending and saving behavior of households (particularly those nearing retirement) we look at patterns of spending using data from the *Consumer Expenditure Survey* (CEX) conducted by the Bureau of Labor Statistics (BLS). The BLS collects detailed data on expenditures from roughly 7,000 households per quarter, with each household providing this information for up to four successive quarters before being rotated out of the sample. Limited information about the income, demographic characteristics, assets and liabilities of the respondents is also gathered.

Annual averages of CEX variables by demographic group are published on the US Department of Labor Bureau of Labor Statistics website.³ Our analysis focuses on a measure of consumption spending that roughly matches the Personal Consumption Expenditures concept in the National Income and Product Accounts excluding direct spending on housing (rent and owners' imputed rent). We exclude rent and owners' imputed rent because changes in these

categories have a strong relationship to house price movements, and so may represent households' investment decisions in addition to their consumption decisions. However, the results are would not be materially different if we were to focus on total consumption. To construct our consumption measure, we start with total CEX expenditures and then subtract mortgage payments, property tax and insurance expenditures, home maintenance expenditures, rent payments, and pension and life insurance expenditures.

As a check on the data, Figure 6 shows trends in the levels of after-tax income, non-housing consumption, and home values. Past studies have shown that CEX aggregates do not track national accounts data very tightly over time, for a variety of purported reasons, including conceptual differences in the measures, limited coverage of high-income households, and trends in the degree of under-reporting.⁴ Still, one would expect the patterns to make some sense in the context of macroeconomic developments, and they do. Average consumption and income both decline after the onset of the recession in late 2007, with consumption declining by more than income, consistent with a rise in the saving rate. The average value of owned homes peaks in 2006 and falls thereafter, returning by 2009 to its lowest value since 2004.

Figure 6 here

By age group (not shown), average household income and consumption are highest for households with heads between age 45-54 and lowest for households with heads age 65+. Households with heads age 45-64 have the highest average home value, with households with heads younger than 35 having the lowest. This pattern likely reflects in part the younger households having a lower homeownership rate (recall that these are not conditional averages)—the percent of these households owning a home over the past decade averaged 48 percent, compared with 75-80 percent for the middle-aged groups. Households in the oldest group also

had a homeownership rate of around 80 percent, though a slightly lower average home value. The percent decline in house prices from their peak level was largest for households in the 25-34 age group (26 percent), with these households experiencing the largest drop in homeownership (four percentage points). For other age groups, the decline in average home value was in the neighborhood of 15 percent.

The heart of our analysis of the CEX data focuses on changes in spending between the business cycle peak and two years later. Thus, for the latest recession, we consider changes between 2007 and 2009. We compare results across several dimensions. We look across age groups, with a focus on households with heads between 55 and 64, as that group is the most likely to be on the cusp of retirement.⁵ We also look across business cycles, comparing changes from the current episode with those experienced during the recession in the early 2000s. For this earlier cycle, we calculate changes between 2000 and 2002, as high frequency data put the start of the recession in early 2001, implying that the peak based on annual averages was 2000. In order to abstract from the influence of differential price trends over the two periods, we divide all variables by the deflator for Personal Consumption Expenditures from the National Income Accounts. Finally, we compared results across selected categories of spending since relative movements in the more discretionary or credit-sensitive categories may also be telling about how the financial crisis and recession affected households' behavior.

Table 5 shows our results. Looking at changes for the 2007-2009 period (column 3) households with heads in the 55-64 age group shows a much larger drop in non-housing consumption than their counterparts in the next youngest category. The larger drop likely in part reflects the larger drop in after-tax income they experienced (bottom panel of table), but the difference in the income change is much smaller than that of the consumption change.⁶ Younger

households (those with heads age 25-44) also experienced fairly large drops in non-housing consumption between 2007 and 2009. These households experienced smaller income declines than age 55-64, and they also experienced smaller declines in wealth (in dollar terms). However, as discussed later, younger households tend to be more reliant on credit and thus may have been more constrained by the tightness in credit conditions. The decline in non-housing consumption for those age 55-64 stands out when the 2007-2009 changes are compared to those observed in the previous business cycle (column 4). All age groups showed noticeably weaker consumption in the recent episode, but the biggest difference by far was for those approaching retirement.

Table 5 here

Spending patterns for the oldest age group (households with heads 65 and above) are somewhat puzzling. One might have expected spending to weaken most noticeably in this group given the greater difficulty it presumably had adjusting its labor supply. However, the response of this group for the 2007-09 period was among the most muted, both in absolute terms and relative to the last recession. One possibility is that these households viewed their future retirement income streams as safe, relative to those of households exposed to risk from job loss. This oldest cohort has relatively high levels of defined benefit pension coverage, and though these plans have become severely underfunded as a result of the crisis, those receiving benefits have been unaffected. In addition, those older households still owning their homes may have been planning to stay in these homes so that the drop in home values translated into lower implicit future rent. That said, given the SCF evidence that this group saw a very large decline in its net worth, the issue warrants more investigation.

Comparing responses across categories of spending, food consumption showed much smaller declines for all age groups than broader consumption (and, in some cases, it increased).

This pattern is consistent with food being more of a necessity than other types of goods and services. By contrast, spending in the more discretionary categories, such as apparel and, in particular, motor vehicles, fell much more noticeably. For households with heads age 55-64, apparel spending fell close to 20 percent between 2007 and 2009, in sharp contrast to the modest rise seen between 2000 and 2002. Spending by this group on vehicles fell similarly. Of note, households in the two youngest age groups saw an even larger decline in spending on vehicles between 2007 and 2009, though not in spending on apparel. This pattern could reflect the sharply reduced availability of auto loans given that younger households tend to hold fewer liquid assets and thus presumably are more reliant on credit to finance large purchases.⁷

To recap, both data limitations and the complicated nature of the underlying economic environment preclude us from drawing very precise conclusions. Roughly speaking, though, the patterns suggest that tight credit conditions limited the spending of households with heads younger than age 45. Equally striking are the patterns for older households, presumably less likely to be constrained by credit availability. The spending of households with heads between age 45-54 and 65+ showed a fairly slight weakening after the recession began. However, the group bracketed by these two age categories—where households approaching retirement are concentrated—declined in a sharp and broad-based way. This pattern is consistent with the view that these households, at least in part, are attempting to make up for their financial losses (and perhaps lower expected future returns) by cutting consumption and raising saving.

Changes in labor supply. A particularly powerful way for those nearing retirement to make up for financial losses is to defer retirement, as a year of additional earnings can make a considerably larger difference than raising one's saving rate by a few percentage points even for several years. The likely labor supply effect would probably be smaller for younger households

given their smaller financial losses and for retired households who presumably find it harder and less desirable to re-enter the labor force.

There is some evidence that many households have extended their planned retirement ages. Roughly 40 percent of respondents reported delaying their retirement dates, with most intending to work longer by four or more years (Sass, Monk, and Haverstick, 2010). Two-thirds of pre-retirement SCF respondents reported that they expected to delay retirement by a year or more relative to their expectations in 2007 (Duke, 2011). Likewise the Employee Benefit Research Institute (2011) shows between 20 and 25 percent of workers reporting delaying their retirement each year after 2009, up from a range of 10-15 percent before the crisis. The vast majority cited changes in employment prospects or finances as reasons for the delay. Similarly the percentage of respondents saying they expect to retire at age 70 or later shot up from 16 percent in 2006 to 25 percent in 2011. Clearly, for older workers who are still employed, delaying retirement is a strong margin of preference to shore up resources.

The labor force participation response also shows up in the macroeconomic data when we look at changes in men's labor force participation by age group across this and prior business cycles.⁸ The behavior of men age 55+ stands in stark contrast to other age groups (Table 6). Labor force participation generally declines a bit during recessions, with the youngest and oldest households seeing the largest changes. During the Great Recession, all of the younger age groups saw pronounced declines in participation and the aggregate labor force participation rate dropped 1.4 percentage points. However, workers age 55+ actually increased their rate of participation by one percentage point over the period (and have seen further increases, on net, since then). This continues a long-term trend that probably reflects declining pension coverage and increasing life expectancies among other factors, but its resilience during a recession, when all other age groups

are leaving the labor force, is a striking indication that an important way to recoup lost resources is through continued work. The exception is for older workers who lost their jobs through the downturn and have had a hard time finding work; this group will have to rely on increased saving or simply accept reduced consumption in retirement.

Table 6 here

Changes in portfolio allocation. A final margin on which one might expect to see some adjustment is the way in which households allocate their portfolios. Although it is possible that some households might move into higher-return riskier investments to make up for their losses, a more plausible story is that they have shifted to a more cautious position, having lived through a painful illustration of the downsides of taking on risk.

The Bricker et al. (2011) analysis of the 2007 and 2009 waves of the Survey of Consumer Finances concluded that balance sheet changes over this period primarily reflected changes in asset values rather than changes in the composition of household portfolios. However, the attitudinal question in the survey pointed to a material decline in households' willingness to take risk. Among households with heads age 50-61, the share of households unwilling to take any financial risk increased by 5-10 percentage points (Duke, 2011). Another survey found that 30 percent of respondents reported changing the allocation of their retirement accounts, with most in this category shifting away from stocks (Sass, Monk, and Haverstick, 2011).

There is also evidence in aggregate data for what is either a change in risk preferences, or a recalibration of how to express risk tolerance, in light of the magnitude of recent shocks. The reduction in active consumer borrowing noted earlier may in part reflect a reduced taste for debt. This would be consistent with the fact that the repayment rate on credit cards is at the high end of its historical range (Figure 7). Some of this is probably related to supply—those consumers who

still have access to credit are more creditworthy and inclined to pay down debt. Supply factors also probably are one influence on another trend; that toward ‘cash-in’ mortgage refinancings. The share of ‘cash-out’ mortgage refinancings (those that involved an increase of more than five percent of the balance) reached 88 percent at the peak of the housing boom, but has since plunged to less than 30 percent. Meanwhile, the share of recent refinancing transactions involving the pay down of principal (‘cash-in’ refinancing) has been quite elevated by historical standards (Figure 8). Declining home values and home equity, and tightening credit standards probably mean that to access current low rates homeowners are required by lenders to pay down principal in many cases. But the fact that they are willing to do so, even in light of declining home values, is impressive. Perhaps the traditional retirement behavior of paying off the mortgage evidenced by the very low debt holdings of households age 65+ is reasserting itself.

Figures 7 and 8 here

In addition to a reduced taste for leverage, households also appear to be channeling their financial assets into less risky investments. As shown in Figure 9, mutual fund flows into fixed income bond funds were massive following the crisis, outstripping the magnitude of stock market inflows seen in the late 1990s. Meanwhile equity mutual funds have seen net outflows in recent years that only recent turned positive. Thus while the stock market has staged an impressive rally in the past two years, fewer investors have benefited from it. Figure 10 shows that stock market trading volumes are well down from their peaks and are nearing volumes that predate the last two stock booms. As more data become available we will be able to tell with greater precision whether it is the older generation driving this trend. Yet, because they hold most of the stock wealth, they have reason to be more cautious given their reduced horizon for

making up losses. Surveys suggest a reduced interest in equity investments, so the likelihood is that older workers' portfolios have shifted.

Figures 9 and 10 here

Conclusion

Evidence on consumption and labor force participation over the past several years suggests that households nearing retirement are making up for financial losses by increasing saving and deferring retirement. They also appear to have reduced financial risk exposure by taking on less leverage and moving their portfolios in a more conservative direction. These findings complement survey data indicating that households were inclined to make such changes to their behavior.

In addition to responding to financial losses experienced during the Great Recession, households are also forming expectations around how they believe large unfunded liabilities in public and private pensions and health care programs are likely to be resolved. The losses suffered in recent years probably understate the overall loss of retirement resources. A key question is whether the behavioral changes discussed in this chapter will be sufficient to allow older households approaching retirement to avoid making a material cut in their retirement standards of living. This question should be a priority for future research as individual- and household-level data become available for this period and the years that follow.

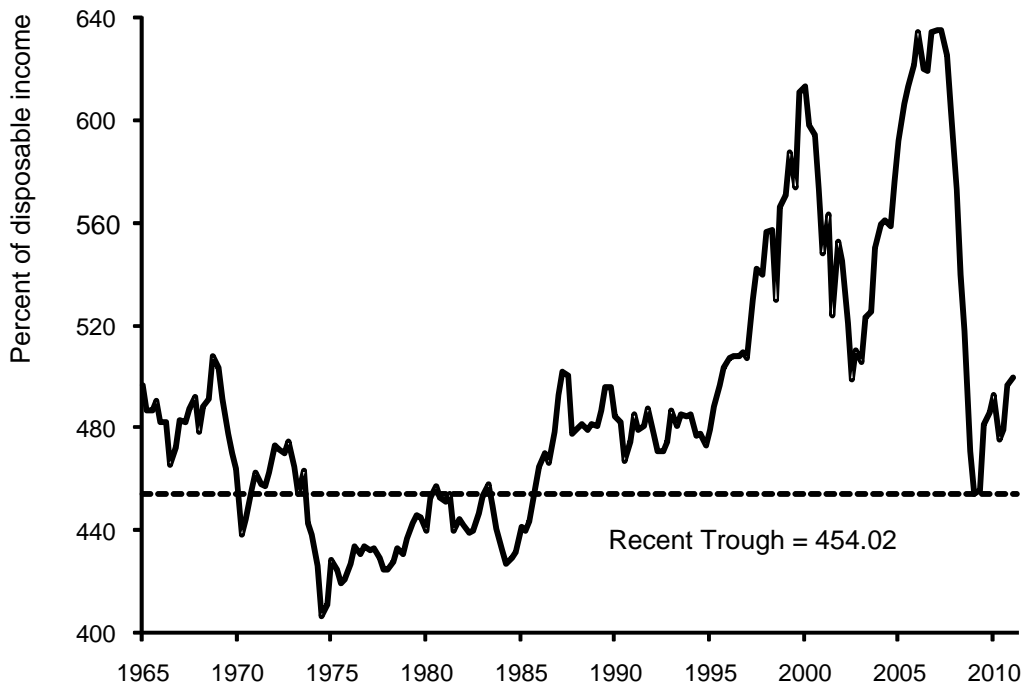


Figure 1. Household net worth as a percent of disposable income: 1965-2011. *Source:* Board of Governors of the Federal Reserve System (2011a).

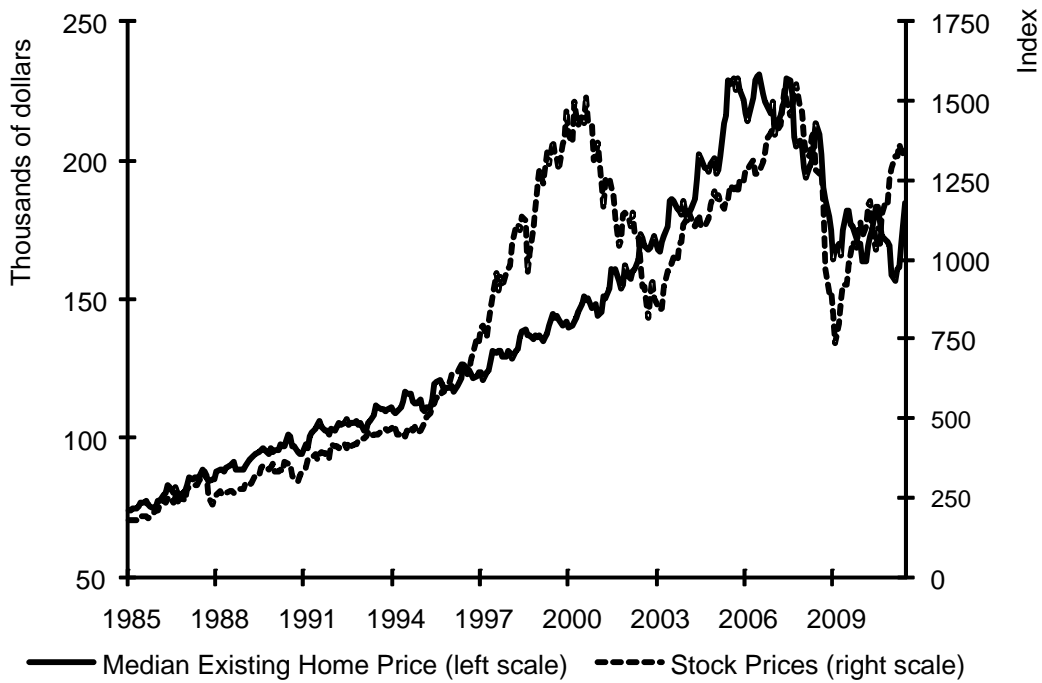


Figure 2. US stock and home prices: 1985-2010. *Source:* National Association of Realtors (2011); Standard and Poor's (2011a).

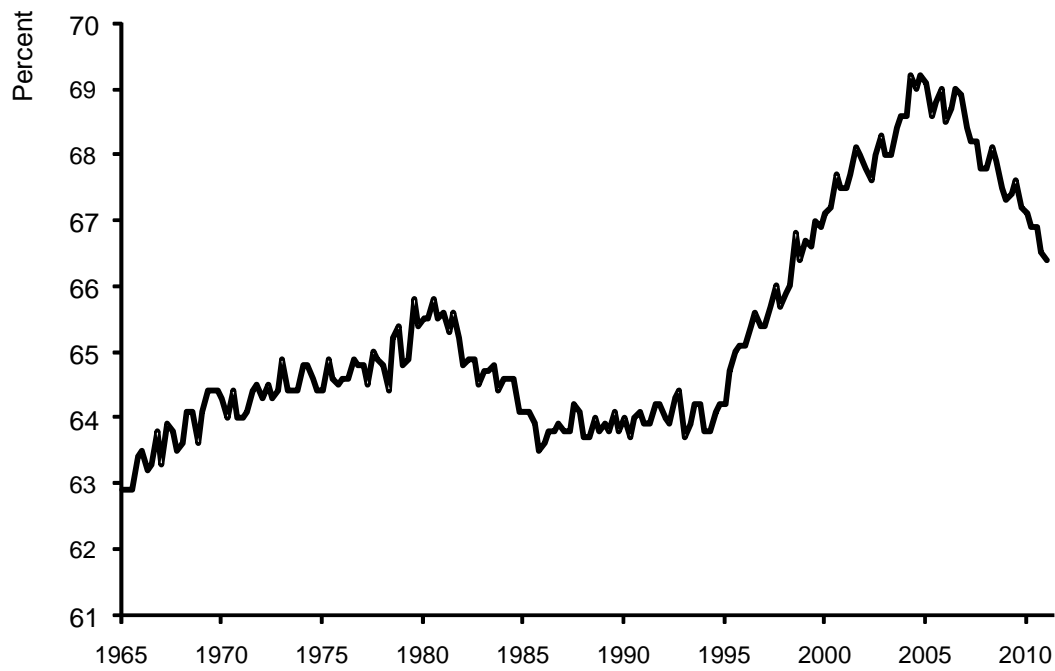


Figure 3. US homeownership rate: 1965-2011. *Source:* US Census Bureau (2011).

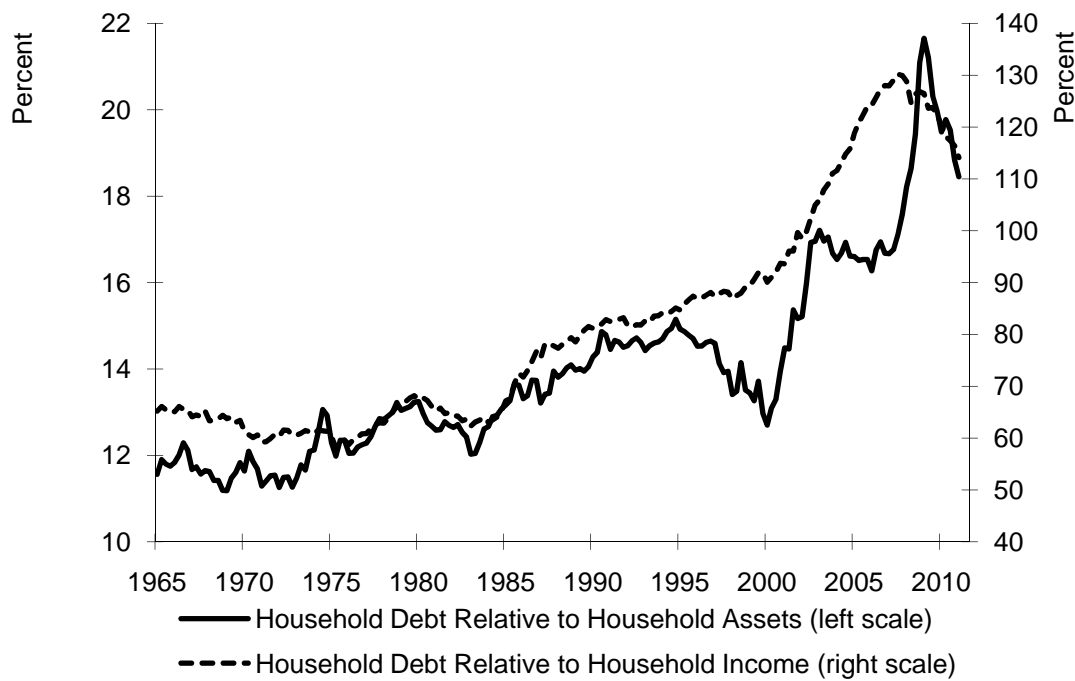


Figure 4. Measures of US household stress resulting from debt: 1965-2011. *Source:* Board of Governors of the Federal Reserve System (2011a).

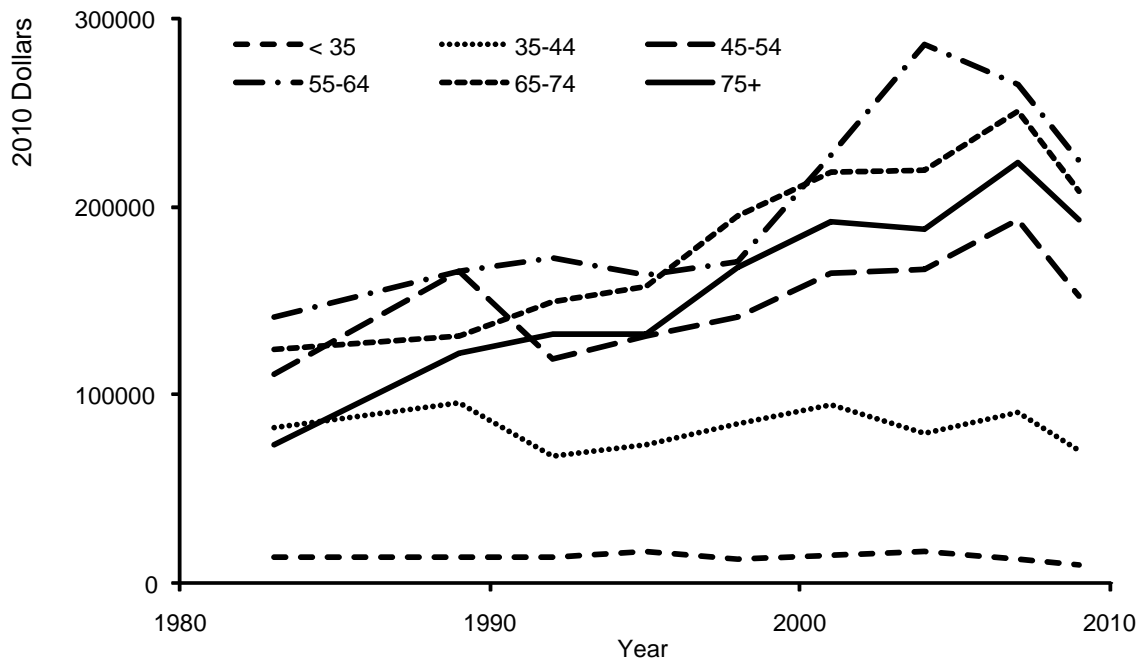


Figure 5. Median household net worth (\$2010) by household head age over time. *Source:* Authors' calculations from the Survey of Consumer Finances (FRB 2011*b*).

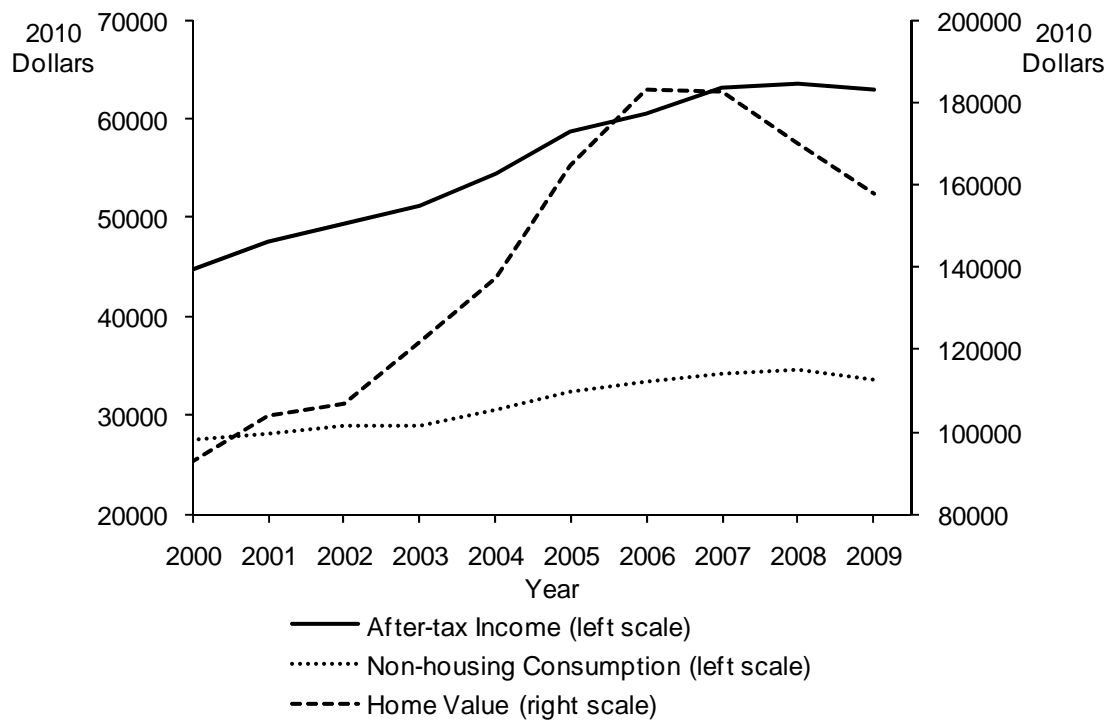


Figure 6. US average household income, consumption, and home value over time. *Source:* Authors' calculations from the Consumer Expenditure Survey (BLS 2011*a*).

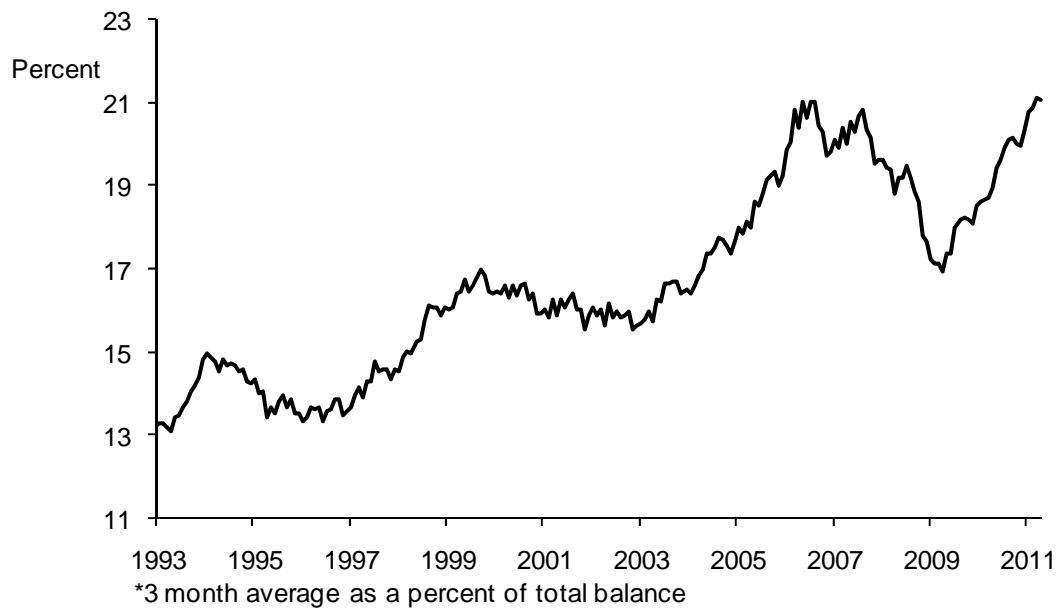


Figure 7. US credit card repayment behavior: 1993-2011. *Note:* Three-month average as a percent of total balance. *Source:* Standard and Poor's (2011b).

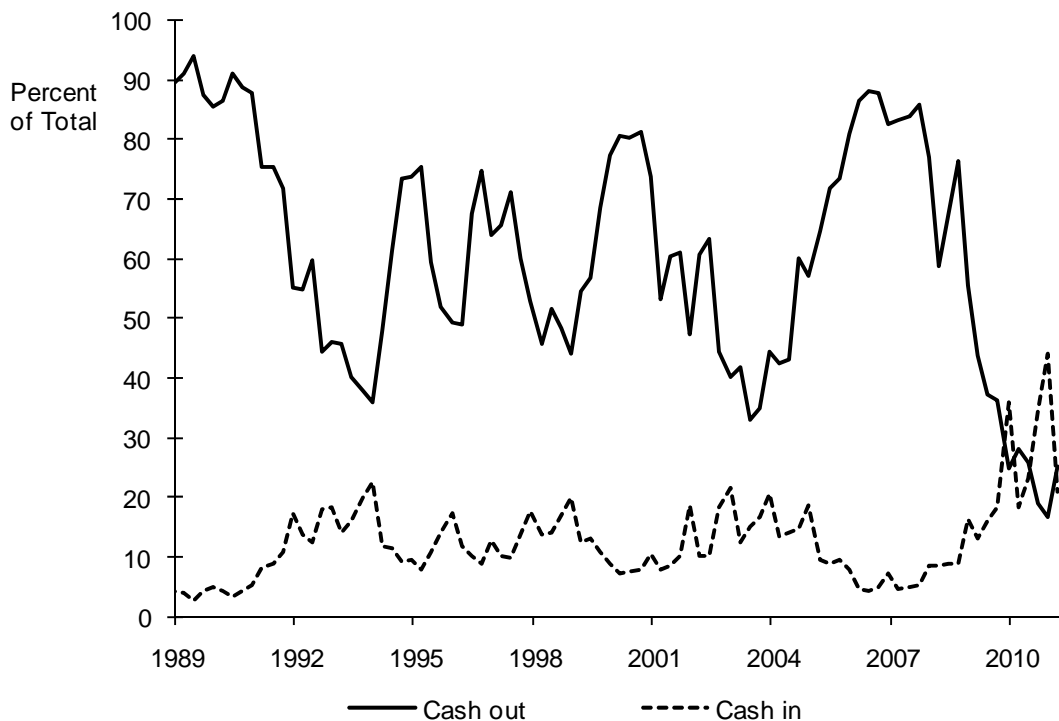


Figure 8. US mortgage refinancing transactions: 1989-2011. *Source:* Freddie Mac (2011).

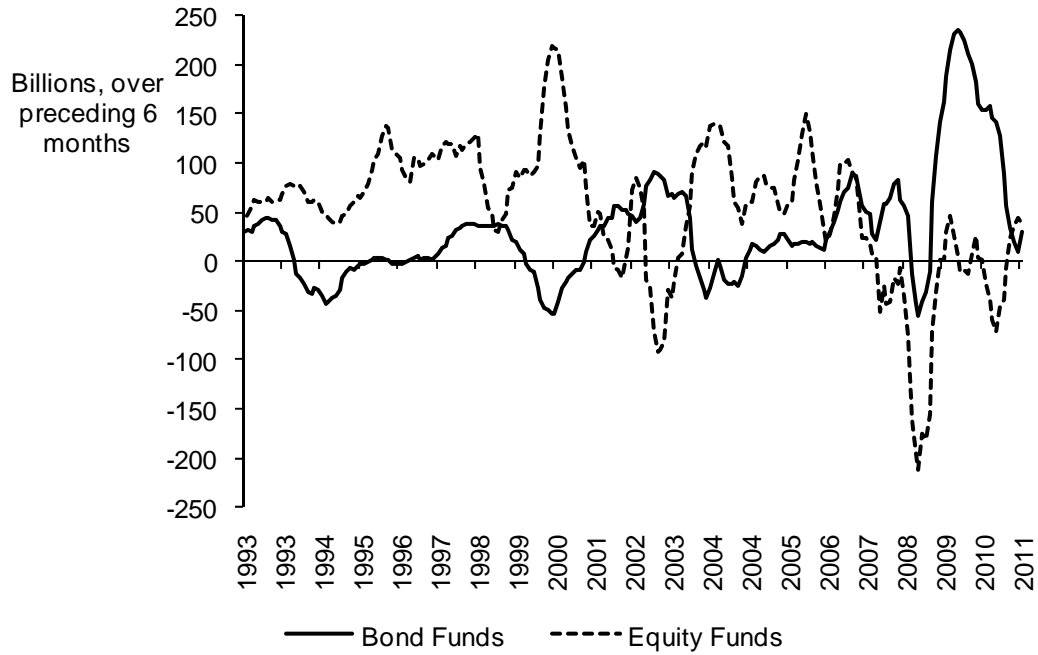


Figure 9. Net cash flows into US mutual funds: 1993-2011. *Source:* Investment Company Institute (2011).

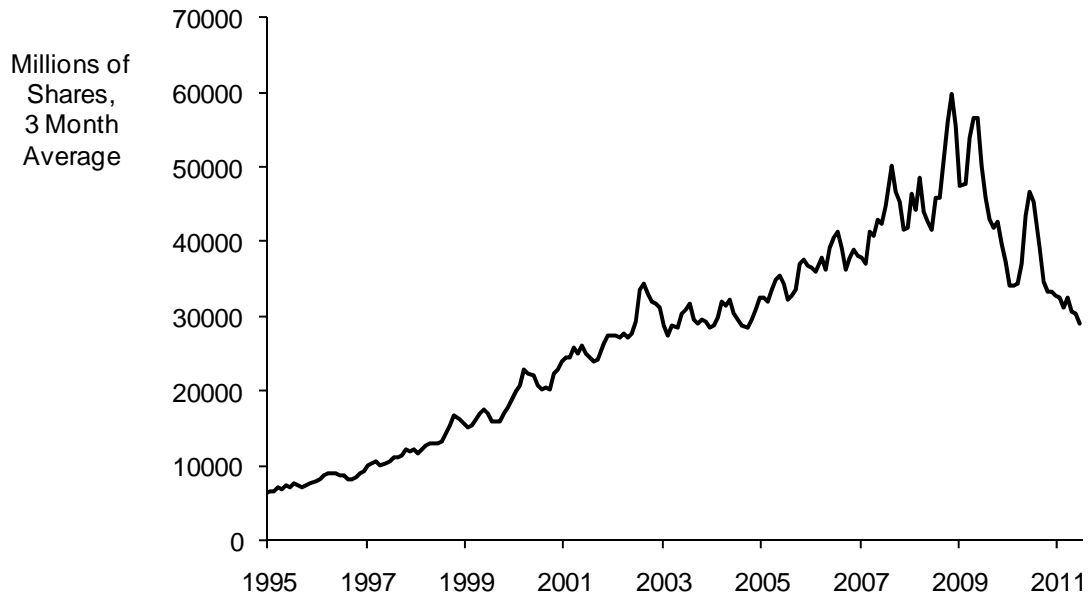


Figure 10. New York Stock Exchange trading volumes: 1995-2011. *Source:* New York Stock Exchange (2011).

Table 1. Household median net worth in 2007 by age of head (\$2010).

| Age of head | Median net worth (\$) |
|-------------|-----------------------|
| < 35 | 12,268 |
| 35-44 | 90,844 |
| 45-54 | 192,564 |
| 55-64 | 265,063 |
| 65-74 | 250,815 |
| 75+ | 223,366 |

Source: Authors' calculations from the 2007 Survey of Consumer Finances (FRB 2011b).

Table 2. Household assets by age of head: Ownership, holdings, and portfolio shares (in 2007: \$2010)

| | Equity | | | Residential Real Estate | | | Other Financial Assets | | |
|-------------|--------------|-------------------|-------------|-------------------------|-------------------|-------------|------------------------|-------------------|-----|
| | Share owning | Median for owners | | Share owning | Median for owners | | Share owning | Median for owners | |
| Amount (\$) | | Share of assets | Amount (\$) | | Share of assets | Amount (\$) | | Share of assets | |
| < 35 | .39 | 7,559 | .06 | .42 | 183,344 | .79 | .89 | 5,238 | .10 |
| 35-44 | .54 | 26,925 | .09 | .69 | 225,251 | .71 | .93 | 14,772 | .08 |
| 45-54 | .61 | 47,146 | .11 | .79 | 256,682 | .67 | .93 | 29,649 | .11 |
| 55-64 | .59 | 82,033 | .15 | .83 | 246,205 | .58 | .97 | 40,860 | .13 |
| 65-74 | .52 | 61,289 | .10 | .86 | 209,536 | .62 | .96 | 44,107 | .14 |
| 75+ | .40 | 42,955 | .12 | .79 | 157,152 | .66 | .97 | 30,068 | .21 |

Source: Authors' calculations from the 2007 Survey of Consumer Finances (FRB 2011b).

Table 3. Household debt by age of head: Ownership, holdings, and ratio to income (in 2007; \$2010)

| Age of head | Share with debt | Median conditional on having debt | |
|-------------|-----------------|-----------------------------------|-----------------|
| | | Amount (\$) | Ratio to income |
| < 35 | .84 | 37,863 | .91 |
| 35-44 | .86 | 111,054 | 1.44 |
| 45-54 | .87 | 100,504 | 1.20 |
| 55-64 | .82 | 63,112 | .98 |
| 65-74 | .66 | 42,043 | .84 |
| 75+ | .31 | 13,620 | .44 |

Source: Authors' calculations; 2007 Survey of Consumer Finances (FRB 2011*b*).

Table 4. Distribution of selected assets and debt by age of head: 2007

| Age of head | Equities | Residential real estate | Other financial assets | Debt | <i>Memo: Population Share</i> |
|-------------|----------|-------------------------|------------------------|------|-------------------------------|
| <35 | .02 | .09 | .03 | .19 | .22 |
| 35-44 | .10 | .17 | .10 | .26 | .20 |
| 45-54 | .24 | .25 | .25 | .28 | .21 |
| 55-64 | .31 | .23 | .29 | .19 | .17 |
| 65-74 | .21 | .15 | .19 | .08 | .11 |
| 75+ | .12 | .10 | .14 | .02 | .11 |

Source: Authors' calculations from the 2007 Survey of Consumer Finances (FRB 2011*b*).

Table 5. Changes in real spending and income by age of head: 2002-09

| | Age of head | 2000-02 % change | 2007-09 % change | Difference in changes |
|----------------------------|-------------|---------------------|---------------------|--------------------------|
| Non-housing consumption | 25-34 | -1.6 | -7.9 | -6.3 |
| | 35-44 | 1.7 | -7.7 | -9.4 |
| | 45-54 | .1 | -2.2 | -2.3 |
| | 55-64 | 6.6 | -8.3 | -14.8 |
| | 65+ | 1.4 | -1.7 | -3.1 |
| Food expenditures | 25-34 | .7 | -.7 | -1.4 |
| | 35-44 | .3 | 1.4 | 1.1 |
| | 45-54 | -4.2 | .2 | 4.4 |
| | 55-64 | 4.1 | -2.4 | -6.6 |
| | 65+ | 3.7 | 4.9 | 1.2 |
| Apparel expenditures | 25-34 | -6.5 | -14.2 | -7.7 |
| | 35-44 | -12.4 | -2.9 | 9.5 |
| | 45-54 | -17.2 | -16.9 | .3 |
| | 55-64 | 2.4 | -18.6 | -20.9 |
| | 65+ | 1.7 | -.8 | -2.5 |
| Vehicle expenditures | 25-34 | -.2 | -30.7 | -30.5 |
| | 35-44 | 11.3 | -36.2 | -47.5 |
| | 45-54 | 5.3 | -3.1 | -8.4 |
| | 55-64 | 3.7 | -20.6 | -24.3 |
| | 65+ | -7.6 | -9.0 | -1.4 |
| After-tax income | 25-34 | 4.5 | -.5 | -5.1 |
| | 35-44 | 5.4 | -2.8 | -8.2 |
| | 45-54 | 6.8 | -2.9 | -9.7 |
| | 55-64 | 7.0 | -4.0 | -11.0 |
| | 65+ | 14.1 | -4.4 | -18.5 |

Note: Relative to the business cycle peak

Source: Authors' calculations from various Consumer Expenditure Surveys (BLS 2011a).

Table 6. Employment conditions and choices by age, through the recession

| Age group | June 2011 | <i>Peak to trough change in current cycle</i> | | <i>Average for past recessions</i> | |
|--------------------------|-----------|---|----------|------------------------------------|----------|
| | | First difference | % change | First difference | % change |
| Unemployment rate | | | | | |
| All | 9.2 | 5.7 | 130 | 3.5 | 90 |
| 16-24 | 17.3 | 9.2 | 93 | 5.6 | 67 |
| 25-34 | 9.6 | 6.4 | 145 | 3.8 | 112 |
| 35-44 | 7.8 | 5.8 | 176 | 3.0 | 114 |
| 45-54 | 7.3 | 4.7 | 152 | 2.5 | 100 |
| 55+ | 7.0 | 3.8 | 119 | 2.2 | 86 |
| Labor force | | | | | |
| All | 70.5 | -1.4 | -1.9 | -0.2 | -0.3 |
| 16-24 | 55.9 | -3.9 | -6.4 | -1.0 | -1.4 |
| 25-34 | 89.1 | -1.9 | -2.1 | -0.1 | -0.1 |
| 35-44 | 91.6 | -0.7 | -0.8 | -0.1 | -0.1 |
| 45-54 | 86.4 | -0.5 | -0.6 | 0.1 | 0.1 |
| 55+ | 46.6 | 1.0 | 2.2 | -0.6 | -1.0 |

Note: Change from May 2007 (recent low for overall unemployment rate) to October 2009 (recent high for overall unemployment rate).

Source: Authors' calculations from the US Department of Labor (BLS 2011*b*).

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Endnotes

¹ For more description of the follow-up survey see Bricker et al. (2011).

² For further discussion of possible long-run implications see Tang, Mitchell and Utkus (2012).

³ See <http://www.bls.gov/cex/csxstnd.htm>

⁴ See, for example, Attanasio (1998).

⁵ A sharper test would involve isolating patterns for the non-retired households in this group, but we do not have these data. We can say, though, that households approaching retirement look to be concentrated in this group, as the average number of earners per household is a little lower than for the next youngest group, and much higher than for the next oldest group.

⁶ These income changes should be taken with a grain of salt given that the core mission of the survey is really to collect expenditure information and many researchers over the years have expressed doubts about their degree of accuracy. Similar reasoning is behind our decision not to conduct the analysis in terms of saving rates.

⁷ The greater presumed credit dependence of this group is consistent with findings by Gourinchas and Parker (2002) and others that consumption tracks income much more closely for households with heads below the age of 40.

⁸ We concentrate on men, as women's labor force participation has exhibited a structural increase in recent decades that make cyclical patterns more difficult to detect.