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Will the Demand for Assets Fall When the Baby Boomers Retire?

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Preface

The Congressional Budget Office (CBO) produces regular reports on the state of the U.S. economy as well as 10-year and long-term projections of the nation's budget and economic outlook. In its analyses, CBO examines a range of developments that could have short- or longer-term consequences for the economy. In the decade to come, one such important development will be the retirement of a substantial proportion of the baby-boom generation—the segment of the nation's population born between 1946 and 1964, whose oldest members turned 62 in 2008.

Although the shift in demographics caused by that group's retirement from the workforce might affect the U.S. economy in many ways, this background paper focuses on what could happen in just one area: the demand for assets, particularly financial assets, such as stocks and bonds. Some economists have warned of the possibility of a dramatic decline in demand as baby boomers sell off their assets to finance consumption in retirement; they assert that the sell-off could cause a dramatic decline in prices. An evaluation of the evidence, however, indicates that such a dramatic decline in asset demand and prices is unlikely.

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Will the Demand for Assets Fall When the Baby Boomers Retire?

Summary and Introduction

Between 1946 and 1964, some 78 million babies were born in the United States, forming a cohort that has come to be known as the baby-boom generation. When the oldest people in the group turned 62 in 2008, the generation's first members reached the age of eligibility to collect retirement benefits under Social Security and, presumably, began to retire from the workforce. Some economists warn that if the baby-boom generation begins to sell off assets to finance retirement, there could be a steep decline in the demand for assets, particularly stocks (Brooks 2000; Shoven and Schieber 1997; Siegel 1998; Yoo 1994).

The amount of saving by the baby boomers during their working years might already have affected asset markets. Some economists conclude that the increase in baby boomers' demand for assets during their high-saving years explains some of the strength of the stock market over the past two decades (Geanakoplos, Magill, and Quinzii 2004; Lim and Weil 2003). That demand for assets also could have contributed to the increase in the real (inflation-adjusted) price of housing in the 1970s and 1980s (Mankiw and Weil 1989), although the sharp rise and fall in house prices during the past decade does not appear to be closely linked to demographic factors.

In principle, if such an unusually large cohort were to sell its accumulated assets to finance consumption during retirement, the total demand for assets in the economy could fall substantially over several decades and the prices of those assets could decline as well. However, empirical evidence about the behavior of earlier groups of retirees suggests that baby boomers will not sell their accumulated assets quickly after they retire. Several factors probably explain that evidence. First, retirees generally are cautious about selling assets to finance consumption, thinking that they might need those assets as they face uncertainty: They might live longer than expected, and medical costs, which are likely to rise as people age, could be higher than anticipated. Second, rather than spend all of their assets, retirees might intentionally retain some to make bequests. Third, wealth in the United States is highly concentrated: About one-third of the nation's financial assets is held by the wealthiest 1 percent of the U.S. population. The wealthiest people do not spend down significant portions of their assets to finance consumption during retirement; in most cases, they die leaving bequests.

Some baby boomers who have lost or spent a significant portion of their retirement assets during the financial turmoil of the past two years might decide to defer retirement, although the empirical evidence is mixed. Such delays could shorten the duration of retirement for those people, reducing the amount of assets they would need to sell off to finance consumption during retirement. The aggregate effect on asset demand might be small, however, if people delayed retiring for only a year or two.

Asset demand also could be affected if retiring baby boomers sell risky assets, such as corporate stocks, in order to shift their portfolios toward safer assets. According to the evidence, however, once they retire, most people do not substantially change the composition of their asset portfolios.

Foreign demand is likely to help sustain the demand for U.S. assets even though some baby boomers might sell some of their assets to finance consumption during retirement. Such an increase in foreign demand is expected to be driven by a rising demand from investors in developing nations with emerging economies and relatively young populations. By contrast, the demand for assets by new immigrants to the United States is unlikely to have much effect on overall demand.

Although the retirement of the baby boomers is not likely to cause a large decline in aggregate demand for assets, several economic studies suggest that the retirement and aging of baby boomers could cause a temporary decrease in asset prices. That prediction of a temporary decrease is based on the studies' theoretical prediction that the retirement of baby boomers will cause the demand for assets to fall more rapidly than the installed stock of capital will be reduced, causing asset prices to fall while the capital stock adjusts. Empirical evidence, however, has not revealed much connection between demographic trends and the changes observed in financial markets.

What Does Simple Theory Predict About Asset Demand?

Over the course of most people's working lives, real income tends to peak in late middle age and then to fall as people enter retirement. Economic theory predicts that to smooth spending, people will accumulate assets during their working lives, which they will then sell in retirement to cover living expenses. In the aggregate, then, retirees sell assets to finance their retirement, whereas young and middle-aged workers buy assets to save for old age. As a population ages, the share of older, retired people selling assets increases relative to the share of younger, working people buying them.

Over the next 50 years, the aging of the baby boomers and the smaller cohorts that follow will increase the ratio of older people (those at dissaving ages—at the ages when they might sell off their assets to finance consumption in retirement) to younger people (those at asset-accumulating ages) by 75 percent, potentially generating a significant drop in the demand for assets.

What Does the Evidence Tell Us?

Although the data generally support the view that people accumulate assets early in life and throughout middle age, some empirical research raises questions about the extent to which people sell their assets rapidly or fully after retirement (for a review, see Hurd 1990).¹ Data from the U.S. Survey of Consumer Finances (SCF), which allow cross-sectional comparisons between people of different ages during particular years, show that household wealth rises sharply when people are in their 40s and 50s but declines gradually as people enter their retirement years (see Figure 1).² That pattern is observed both for the mean and for the median value of household net worth.³

To be sure, there could be bias in the inferences about a typical age profile that are drawn based on such single-year cross-sections: The data document the behavior of different households of different ages at a single point in time, so the age–wealth profile might simply reflect generational differences in attitudes toward saving; that is, the attitudes toward saving could display a *cohort effect*. However, studies that control for cohort effects display age profiles of asset accumulation that are similar to those discussed here. Those studies also indicate that people dissave very slowly as they reach old age (Poterba 2001, 2004).

Even if the typical individual had an age–wealth profile characterized by significant and fast dissaving after retirement, the aggregate patterns of saving at very old ages would show a much less pronounced drawdown of assets because those patterns are dominated by the behavior of the wealthy. Empirical research indicates that wealthy people live longer than do the poor (see Bernheim 1987) and that they dissave less in old age.

Why Are Baby Boomers Unlikely to Draw Down Assets Rapidly in Retirement?

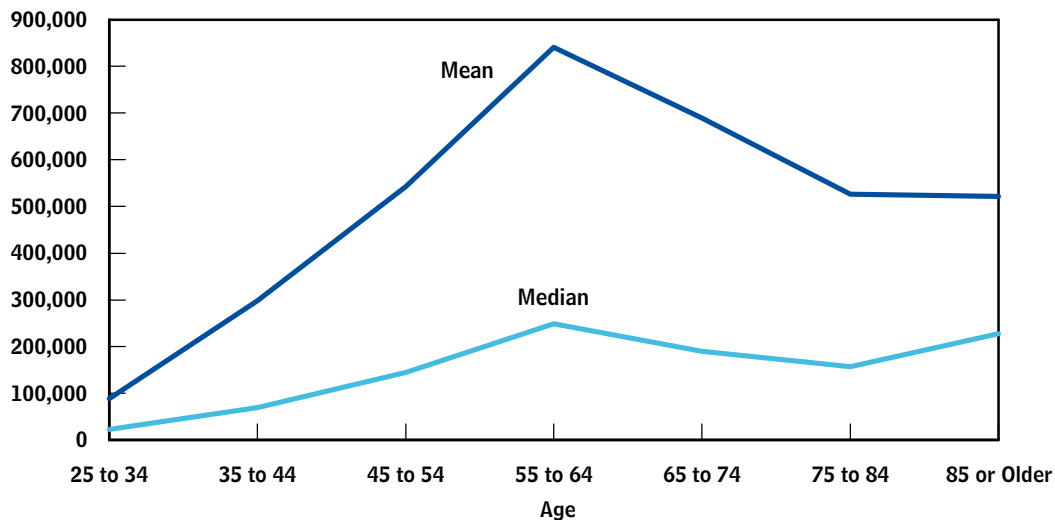
Several factors suggest that baby-boom retirees, like retirees in earlier groups, are not likely to draw down their assets quickly in retirement. Many will retain their assets as a buffer against high and unanticipated medical expenses and against the risk of out-living their assets. Some will preserve assets to leave as bequests to family members or others. In addition, wealth is distributed unequally among baby boomers. Those with

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1. Even abstracting from such research about the dissaving behavior of the elderly, the fact that people die leaving large bequests shows directly that many retirees do not dissave fully in retirement.
 2. Data on net worth do not include assets people hold indirectly through defined-benefit pension plans, which also sell retirees' assets to pay out pension benefits (see Shoven and Schieber 1997). However, the prevalence of defined-benefit plans has declined significantly over the past several decades, and that decline is expected to continue.
 3. Mean net worth is an arithmetic average of household net worth. The median is the point in a distribution at which half of the observations have higher and half have lower net worth. The difference between the mean and the median stems from the nation's pronounced concentration of wealth in a relatively small segment of the population.

Figure 1.

Net Worth in the United States Over a Lifetime

(2007 dollars)



Source: Congressional Budget Office based on Survey of Consumer Finances, 2004.

Note: The median represents the value of the net worth of the bottom 50 percent of the population by total net worth in each age group. The mean is the average value of the net worth within each age group. The distance between the two measures is attributable to the unequal distribution of wealth in the United States.

Data from the 2007 survey show a mean profile that peaks later, in the 65-to-74 age group. The age pattern found in the 2004 data is reported here because that profile is more consistent with previous years of the survey. The profile found in the 2007 data, although more consistent with a general finding that assets decline slowly in old age, is not yet well understood and could be a statistical anomaly.

great wealth generally would not spend a substantial portion of their assets to finance the consumption they chose in retirement, whereas the less-well-off would have few assets to liquidate. As a further consideration, although the evidence is mixed, some baby boomers who have lost or spent a significant portion of their retirement assets during the financial turmoil of the past year might decide to defer retirement. Such a response, though, could have a limited effect on the total sales of assets after the baby boomers retire. Finally, empirical evidence also provides little reason to expect that retiring baby boomers will sell risky assets, such as corporate stocks, in order to shift their portfolios toward safer investments.

Saving for Unexpected Events

Like all retirees, baby boomers will have an incentive to spend down their assets slowly in retirement and to keep a buffer of wealth as protection against two particular risks. First, the costs of health care, which are uncertain and tend to increase as people age, point to the importance of retaining assets for out-of-pocket medical expenses. Second, as life expectancy has risen, the variation of life spans also has widened,

providing a greater incentive for people to hold some assets in reserve against the risk of an unexpectedly prolonged need to meet living expenses. Both factors suggest the need to draw assets down more slowly in old age than a simple life cycle theory predicts.

The prospect of rising and uncertain out-of-pocket medical expenses can create strong incentives for elderly households to retain their assets, even at later ages. For example, De Nardi, French, and Jones (2006) explained that incorporating rising and uncertain old-age medical expenses into a life cycle model allowed them to closely replicate actual dissaving patterns in old age.⁴ In particular, their analysis implies that the median worth of assets for people between the ages of 74 and 81 who are in the fifth quintile of the income distribution is approximately constant at \$150,000. That information is consistent with data from the Assets and Health Dynamics Among the Oldest Old (known as the AHEAD survey).⁵ Other researchers (Love, Palumbo, and Smith 2008) have confirmed that increasing and uncertain out-of-pocket medical expenditures can help explain the pattern of asset retention in old age.

Dissaving in retirement also tends to proceed slowly because people do not know how long they will live. In theory, someone with an uncertain life span (that is, not knowing when life will end), full health insurance, and no desire to leave a bequest would find it optimal to hold all assets as a lifetime annuity, which would provide income until death, if the annuity could be purchased at a fair premium.⁶ If the annuity could not be purchased at a fair premium, there would be an incentive to preserve some wealth to avert the risk of outliving one's assets. Social Security annuities and Medicare reduce that risk by providing a safety net, although for many people those programs offer only partial support for consumption at older ages.⁷

Because private annuities carry high administrative costs and their markets are vulnerable to adverse selection, those markets tend to impose annuity premiums above actuarially fair amounts.⁸ As a result, people might forgo private annuities and choose instead to preserve some of their assets even at later ages as a buffer against the

4. The life cycle model they study also accounts for uncertain life spans.

5. The AHEAD survey studies a subsample of people ages 70 and older who participate in the Health and Retirement Study, a national longitudinal study of the economic, health, marital, and family status of older people conducted by the University of Michigan under the sponsorship of the National Institute of Aging.

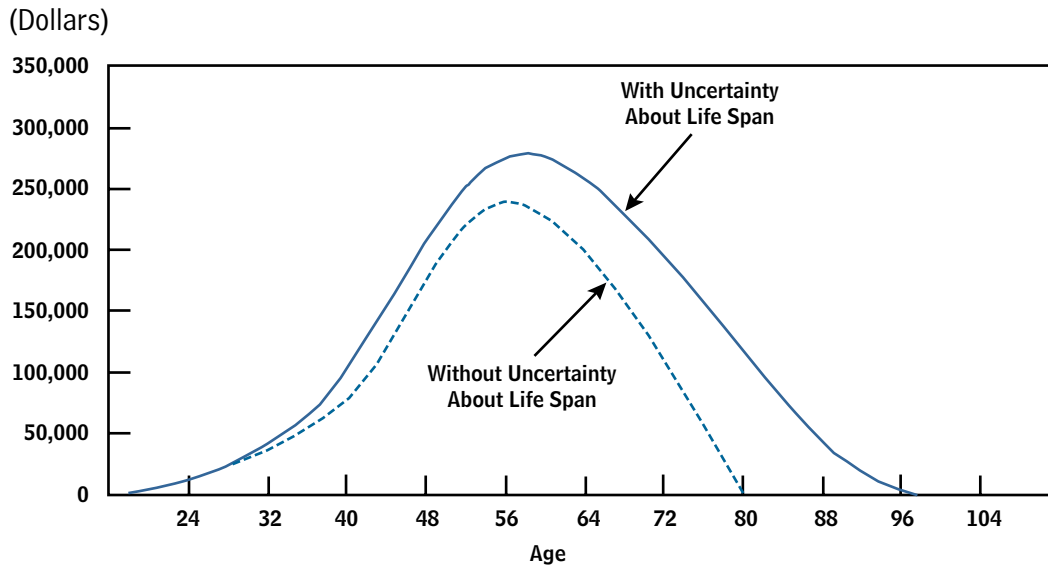
6. Such a premium is technically defined as "actuarially fair," and the additional costs of becoming insured are called transaction costs (Davidoff, Brown, and Diamond 2003; Yaari 1965).

7. For some people, Social Security and Medicare provide only incomplete insurance against the risk of not being able to finance consumption if one outlives his or her own wealth.

8. Adverse selection occurs when people with short expected life spans choose not to purchase annuities, causing higher premiums for people who remain in the pool. Several researchers have examined the phenomenon in the annuity markets (see, for example, Brown and others 2008; Finkelstein and Poterba 2004). For a literature review, see Brown (2007).

Figure 2.

Accumulation of Assets, by Age, in a Life Cycle Model



Source: Congressional Budget Office based on Hubbard, Skinner, and Zeldes (1994).

Note: The profile is for an average college graduate; patterns are similar for people in other demographic groups.

possibility of living longer than expected.⁹ It is difficult to measure precisely how much people's uncertainty about their life span affects their accumulation of assets, but that effect could be substantial (see Figure 2 and Hubbard, Skinner, and Zeldes 1994). Such uncertainty can significantly reduce the amount by which people draw down assets during retirement.

Saving for Bequests

Baby boomers also would be reluctant to spend down their assets after retirement if they intend to leave a bequest, although the quantitative importance of that factor in explaining the slow rate of dissaving among older people is still not entirely clear.

Several groups of researchers have studied the extent to which bequests are intentional or accidental (that is, occasioned by an early and unexpected death). The distinction is important because if bequests were found to be completely accidental, an intentional bequest motive would not explain the observed tendency for people to dissave slowly in old age. Instead, the observation that people actually do leave bequests would simply reflect what happens when people, by chance, do not end up facing

9. Premiums for individual annuities totaled \$30 billion in 2007; the potential market is estimated at more than \$200 billion. Data on the total market sales of annuities are estimated by Beacon Research and are available online by product type; see www.primenewswire.com/newsroom/news.html?d=126723.

high health costs or living especially long.¹⁰ Establishing that people intend to leave bequests is a necessary first step in elucidating the role of bequests in the observed dissaving patterns of the elderly and wealth dynamics in the United States (De Nardi 2004).

Unfortunately, it is difficult to disentangle bequest motives in the data, so the importance of intentional bequests is still an open issue for research.¹¹ Some researchers conclude that accidental bequests account for a large share of households' wealth (Abel 1985; Hurd 1987). Others conclude that some significant proportion of bequests are made intentionally (Bernheim, Shleifer, and Summers 1985; De Nardi 2004; Kotlikoff 1988).

A study by Kopczuk and Lupton (2005) examined whether bequest motives can be identified as intentional or accidental from observed patterns of consumption and saving. The researchers reported that the behavior of about three-quarters of the people in the elderly population indicates an intentional bequest motive and that the average elderly household that exhibits a bequest motive spends about 25 percent less on personal consumption in order to leave a bequest.¹² Those results hold even after the authors controlled for the fact that part of the observed slow rate of spending can be attributed to precautionary savings.¹³

Using different data, from the Health and Retirement Study (HRS) about individuals' intentions to make bequests, Fink and Redaelli (2005) also concluded that a significant number of people exhibit an intentional bequest motive. Those authors reported that about 50 percent of survey respondents indicated a specific intention to leave a bequest and that the strength of the motive correlated with a donor's wealth and social background.¹⁴

10. See Finkelstein (2003) for a discussion of the importance of distinguishing between intentional and accidental bequests.

11. This point is highlighted by Finkelstein (2003).

12. Kopczuk and Lupton (2005) used data from the AHEAD survey. To overcome limitations of earlier studies, the authors did not assume that parents are the only people who can have an intentional bequest motive.

13. The sensitivity analysis that Kopczuk and Lupton performed might not be sufficiently rigorous, however. Their conclusions depend fundamentally on just a single variable that was constructed from questions about survey respondents' expectations about future out-of-pocket medical expenditures.

14. Fink and Redaelli's assessments should be interpreted cautiously because they assumed that survey respondents who indicated that they expected to leave a bequest with 100 percent likelihood would signal that they intentionally saved to do so. But respondents' reported expectations might also signal a belief they had saved enough as a precaution against outliving their wealth and that they did not expect to exhaust their assets before death.

Another study (Ameriks and others 2007) used experimental survey data to disentangle intentional bequest motives from precautionary motives. The survey presented participants with a hypothetical chance to win a \$250,000 prize that recipients could divide into a bequest or into spending on a long-term medical care policy. Because most respondents indicated they would devote some portion of the prize to a bequest, the researchers concluded that most respondents had a significant bequest motive.

Regardless of the motives for bequest, some economists have estimated that bequests and other types of transfers made by the elderly account for a significant fraction of people's wealth. The fact that people leave bequests in itself proves that they do not spend down all of their assets in retirement. Brown and Weisbenner (2004) examined SCF data and estimated that total transfers from parents to children in the form of bequests and inter vivos gifts (gifts that are established before the death of the giver) represented between 20 percent and 25 percent of U.S. households' net worth in 1998.¹⁵ The data do not cover charitable transfers of wealth, which implies that intergenerational transfers probably represent an even larger fraction of household wealth than is indicated by those studies.

Unequal Distribution of Assets

Wealth is highly concentrated in the United States. Data from the 2007 SCF indicate that baby-boomer households own more than 50 percent of the value of all outstanding financial assets in the U.S. financial market. The data also show, however, that about one-third of all baby-boomer households own virtually no financial assets (see Figure 3). Even among the two-thirds who do own financial assets, the distribution is particularly concentrated: The wealthiest 10 percent hold more than two-thirds and the wealthiest 1 percent hold almost one-third of all the financial assets held by baby boomers.¹⁶

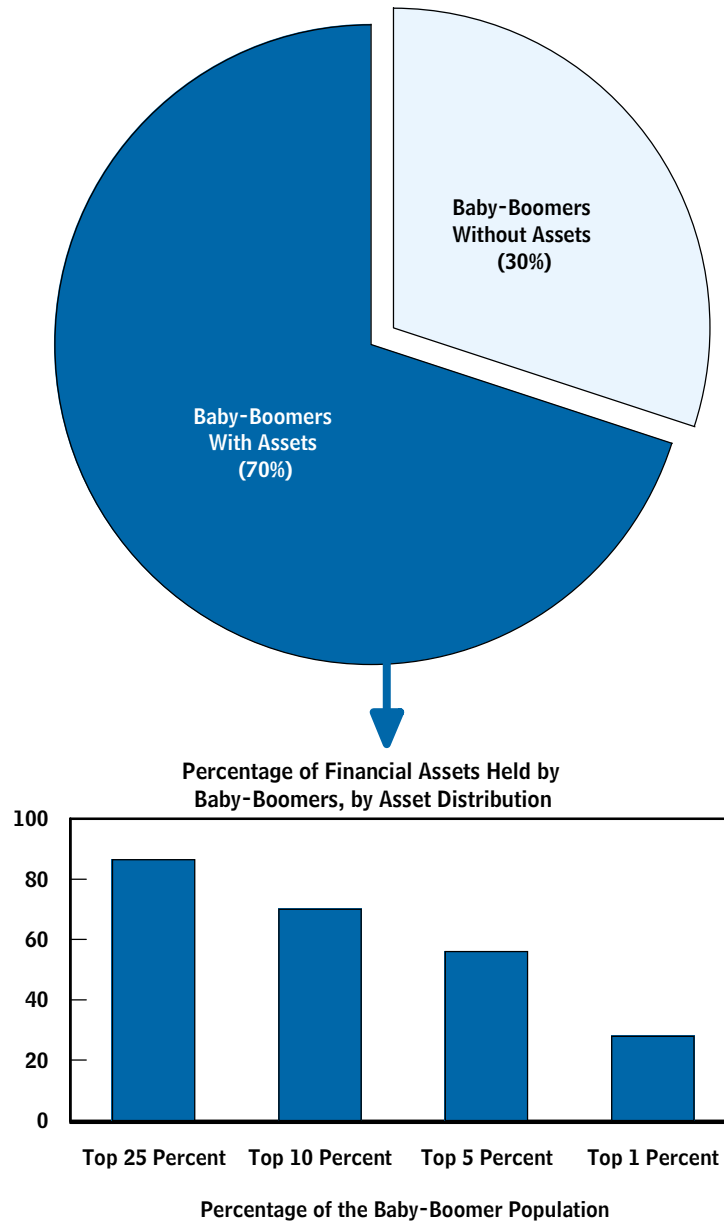
Such a concentration of wealth can strongly affect the outlook for dissaving after retirement, at the aggregate level, because the wealthiest people do not spend significant portions of their assets during retirement, and the poorest people have no assets to spend. Several economists have shown that the richest people accumulate their

15. Hurd, Smith, and Zissimopoulos (2007) examined HRS longitudinal data from 1992 to 2002 and concluded that the amount of cash couples give to children dramatically increases when the givers reach the age of 80. The implication could be that many parents prefer to make bequests in the form of gifts at very old ages. As part of their tax-planning strategy, couples who are wealthy enough to be potentially subject to the estate tax if they leave bequests might prefer instead to make inter vivos gifts.

16. Financial assets include stocks, bonds, mutual funds, individual retirement accounts, and other retirement saving instruments. Measures of wealth that include real assets, such as housing, would feature a less uneven distribution in the U.S. population. This paper focuses in particular on financial assets because they are considered liquid assets and some economists have shown that retirees do not decrease their housing stock even at old ages (see Yang 2006b).

Figure 3.

Financial Assets Held by Baby-Boomer Households, by Asset Distribution



Source: Congressional Budget Office.

Note: Financial assets consist of stocks, bonds, mutual funds, individual retirement accounts, and other saving instruments.

wealth at much higher rates relative to their lifetime income than poor people do (for example, see Carroll 2000a, b; Dynan, Skinner, and Zeldes 2004). Their wealth remains large as they age, showing a low rate of dissaving.¹⁷ To spend down their assets, elderly households must spend more than their income. On average, only 5 percent of elderly people in the top 1 percent of the wealth distribution reported that their spending exceeded their income during the survey years 1992 and 1995 of the SCF (Carroll 2000b). The situation is different for poor households, however, who have nothing to sell in retirement. Thus, the more unequally that wealth is distributed, the less likely it is that baby boomers' retirement will have a significant negative effect on aggregate demand for assets.

Effects of the Financial Turmoil

The financial turmoil of the past year has affected baby boomers in ways that might influence their decisions about spending, retirement, and the rate at which they sell assets after they retire. Most important, the turmoil has reduced the value of many baby boomers' wealth as stock markets crashed and housing prices declined. Additionally, job losses and credit difficulties are likely to have caused some baby boomers to reduce their retirement assets by making early (preretirement) withdrawals from retirement funds.

A sudden loss of retirement wealth is likely to have had the strongest effect on the retirement decisions of baby boomers who are age 55 or older. That age group holds about 60 percent of total retirement account wealth, according to data from the 2007 SCF on the value of assets in retirement accounts, and people in that group will have the shortest time to recover from their losses before retirement.

The decline in retirement wealth can be expected, in theory, to influence the baby boomers' decisions about work, retirement, and consumption expenditures. However, empirical research shows only mixed evidence that the stock market boom of the 1990s and the subsequent decline of the early 2000s had any effect on the retirement decisions that followed.

One study identified no statistically significant evidence that people postponed retirement (as would be exhibited by an increase in the average age at which people retired) in the aftermath of the stock market decline of 2000 (Coile and Levine 2004). The authors argued that their assessment might reflect the fact that stock holdings, especially direct holdings rather than those in retirement accounts, are concentrated in a relatively small group of people. Even if the market decline of 2000 had influenced

17. Wealthy people do not necessarily draw down all their assets to finance consumption in retirement because they tend to accumulate wealth for reasons other than simply to smooth consumption over a lifetime. Carroll (2000a) asserts that wealthy people save in a way that does not conform to a simple life cycle model and suggests that their behavior could be explained, for example, by strong bequest motives.

Table 1.**Distribution of Direct and Indirect Equity Holdings, by Equity-Holding Class**

	Bottom				Top	
	50 Percent	60 Percent	80 Percent	90 Percent	5 Percent	1 Percent
Direct	0	0	0.1	3.3	88.9	59.3
Direct and Indirect	0	1.1	8.4	20.0	66.5	38.9

Source: Congressional Budget Office based on the 2007 Survey of Consumer Finances.

Note: Direct equity holdings include stocks owned by baby boomers, directly or through mutual funds. Indirect equity holdings include stocks held through defined-contribution plans, such as individual retirement accounts and 401(k) accounts. Holdings are grouped according to rank in the equity-holding distribution.

retirement decisions made by those people, the group might have been too small to have had much effect on the overall average age of retirement.

Another study that examined survey data indicated that people who held corporate equity immediately before the bull market of the 1990s—either directly or through defined-contribution pension plans—retired, on average, seven months earlier than other respondents did (Coronado and Perozek 2003). Data used in the study signaled that stock market fluctuations might have affected some individual retirement decisions and that those effects might be weaker for people in defined-benefit plans.

Recent shifts in pension coverage toward defined-contribution plans could be expected to increase the influence of stock market fluctuations on retirement behavior. The distribution of equity holdings looks less concentrated if one accounts for assets held through defined-contribution plans and for the fact that such a distribution exposes more people to risk (see Table 1).

Survey data from May 2008 provide some indication about how baby boomers plan to respond to the recent financial turmoil. AARP reported that 60 percent of the baby boomers who were between the ages of 55 and 64 responded that they had already lost value in their retirement assets and other investments.¹⁸ Between 50 percent and 60 percent of the respondents stated that they reacted to the events by reducing unnecessary expenses and postponing major purchases. Thirty-two percent indicated that they intended to respond to the losses by postponing retirement. More than half (56 percent) of survey respondents between the ages of 45 and 54 declared they had already cut major expenses, and 19 percent from that younger group said they expected to postpone retirement. One-fourth of the respondents in both age groups

18. The report, “The Economic Slowdown’s Impact on Middle-Aged and Older Americans,” http://assets.aarp.org/rgcenter/econ/economy_survey.pdf, is cited here for its qualitative assessment of the effects on baby boomers’ decisionmaking that are attributable to recent conditions in the financial markets.

said they had made early withdrawals from their 401(k) retirement plans in the year before the survey.

The baby boomers who decide to delay retirement, perhaps by working into their late 60s or 70s, will not need to draw down their savings as much as they would have if they had retired at a younger age. Additionally, they will have had more time to accumulate savings and they will retire with more Social Security income than they would have received otherwise. Such delays would shorten and therefore reduce their total consumption during retirement, which might reduce the sales of assets necessary to finance that consumption.

Overall, decisions by baby boomers to delay retirement in response to the recent financial turmoil would further slow the rate at which they sell assets to finance retirement. However, any effect of those decisions on the total sales of assets will probably be small if retirements are delayed only by a year or two.

Will Baby Boomers Alter the Mix of Assets in Their Portfolios?

The retirement of the baby-boom generation could influence the relative demand for various types of assets (Campbell 2001). Turmoil in the financial markets might already have affected the portfolio choices of many who are close to retirement. Forty-five percent of respondents between the ages of 55 and 64 in AARP's 2008 market survey said they reduced exposure to risky assets as a consequence of the stock market collapse. It is possible that the rush might have exacerbated market declines in the autumn of 2008 (Carroll 2008).

Empirical evidence, however, suggests that baby boomers are likely to make only slight further changes in their portfolios as they get older. Ameriks and Zeldes (2004) tracked a group of people for several years to identify how their households' portfolios might change as they aged. The data Ameriks and Zeldes used came from TIAA-CREF, a large private pension provider in the United States. When participants in the pension plans enroll, they choose how much to contribute to each investment account, including the amount to invest in the equity accounts; participants are permitted to restructure contributions while they are enrolled. Information on the flows to various accounts can be used to track people's portfolio choices and preferences for risk as they age. The authors reported that more than 50 percent of enrolled households owned no stock. Moreover, households that owned assets did not change their portfolios' allocations very often, and the data show a strong cohort effect on equity holdings. Controlling for that effect, the study shows that most people do not reduce their portfolios' shares of equity when they reach old age and that age is not a

significant determinant of changes in asset allocation.¹⁹ That evidence contradicts the existing literature on theory, and most financial planners advise people to change their portfolio allocations over a life cycle to move away from risky assets at old ages.²⁰

There also is little evidence that elderly people will draw down housing wealth in retirement. On the basis of data from SCF and HRS, some researchers report that households start accumulating housing wealth early and that home ownership does not decline in old age (Venti and Wise 2001; Yang 2006b). The steady share of housing wealth held by older people could reflect the high transaction costs of trading houses. Moreover, instead of selling, some people who have a large amount of equity choose to keep their homes as potential collateral for loans to meet unanticipated expenses (Yang 2006a).

Could Other Factors Sustain the Demand for Assets?

The discussion so far has concentrated only on the demand for assets by U.S. investors, but demand for assets from foreigners matters as well. In particular, demand for U.S. assets is likely to be sustained by investors from developing and fast-growing countries over the next several decades. In theory, demand for assets also could be sustained by immigrants to the United States, although CBO concludes that immigration is unlikely to have a significant effect.

Demand from Abroad

A rising demand for U.S. financial assets is likely to come from developing countries with emerging economies whose populations are younger or aging less quickly than is the U.S. population. If China and India continue their rapid economic growth, there could be increased demand from those countries for U.S. assets by the time most baby boomers are retired (Siegel 2005).

The population demographics of such developing countries will tend to generate international demand for assets that is diverted toward countries like the United States, which has an older population. Those demographic trends are likely to affect the demand for U.S. assets for decades, but they are expected to disappear sooner for China than for India. The population of India is mostly younger than the U.S. population, and India's population of working-age people who are saving and could potentially demand U.S. assets is expected to grow faster than the corresponding working-age population in the United States. In contrast, China's population is actually aging faster than the U.S. population, but its working-age population is a larger share of its total population and is expected to remain that way at least until 2040. For the next

19. Other studies have exhibited strong evidence of such inertia in portfolio allocation as people age (see Choi and others 2004; Madrian and Shea 2001; and Poterba and Samwick 1997).

20. See, for example, the seminal theoretical work by Merton (1971) and by Jagannathan and Kocherlakota (1996).

Table 2.**Population Projections for the United States, India, and China**

	2000	2010	2020	2030	2040	2050
	Fertility Rate^a					
United States	2.1	2.1	2.0	2.0	1.9	1.9
India	3.4	2.8	2.3	2.0	1.9	1.9
China	1.3	1.4	1.5	1.7	1.8	1.9
	Life Expectancy at Birth (Years)					
United States	77.1	78.3	79.1	79.9	81.0	81.6
India	61.5	64.9	68.5	71.4	73.8	75.9
China	71.5	72.6	73.8	75.3	77.1	78.7
	Age Distribution					
Percentage of Population Under Age 15						
United States	21.8	20.5	20.0	19.3	18.5	17.9
India	34.1	29.9	26.3	22.6	19.7	18.3
China	24.8	19.5	18.4	16.9	15.6	15.7
Percentage of Population, Ages 15 to 64						
United States	65.9	66.6	64.1	61.5	61.7	62.1
India	61.0	64.4	66.7	68.1	68.3	66.8
China	68.4	72.2	69.7	66.8	62.1	60.7
Percentage of Population, Ages 65 to 90						
United States	12.3	12.8	15.9	19.2	19.8	20.0
India	4.9	5.7	7.0	9.3	12.0	14.8
China	6.8	8.3	11.9	16.3	22.3	23.6

Source: United Nations population database for 2003 and 2005, medium variant projections.

a. Fertility rate is the number of children per woman.

three decades, the fraction of the population that will sell assets to finance retirement is expected to be smaller in China than in the United States (see Table 2).

The potential importance of international demographic trends is highlighted by Fehr, Jokisch, and Kotlikoff (2005), who examined interactions among the United States, Europe (treated in a block as a single country), Japan, and China, and reported that capital flows among countries with different population age structures can help soften the impact of the aging of any particular country's population. The authors posited the effects of projected national demographic changes on the economy of each country. Consideration of China's demographics, in particular, was found to dramatically affect predictions about the asset demand and capital stock that will be available to the United States over the next 40 or 50 years. According to their analysis, through 2050, the effects of demographic trends could be large enough that the resulting increase in

Chinese demand for U.S. assets could more than offset asset sales by baby boomers during their retirement.²¹

Other researchers (Attanasio, Kitao, and Violante 2007; Domeij and Floden 2006; Henriksen 2002) have taken a similar approach and reported that demographic trends can be expected to have a substantial effect on international flows of capital. Their studies demonstrate that, when different regions or countries have populations that exhibit different demographic patterns, international capital flows can mitigate the macroeconomic effects of demographic transitions that occur within any particular region or country.

Brooks (2003) found that the actual differences in population trends around the world are likely to have been an important determinant of international capital flows. For example, such population trends can explain an inflow of capital in past decades from the European Union and Japan (where aging populations were at the peak years of saving for retirement) toward countries like the United States (where corresponding aging of the population and its effect on net saving for retirement were relatively less pronounced). Brooks also suggests that the aging of the baby boomers can be expected to cause capital to flow out of the United States toward countries with younger populations and faster growing economies during the peak years when baby boomers are expected to save for retirement. Similarly, in reverse, those patterns of saving and population aging can be expected to cause an inflow of capital to the United States by 2020, when, Brooks asserts, most of the baby boomers will be dissaving to finance retirement.

Ludwig, Krueger, and Boersch-Supan (2007) predicted that baby-boomer retirements between 2020 and 2030 could cause a decline in the current account balance in the United States equal to almost 2 percent of gross domestic product.

Demand Among Immigrants

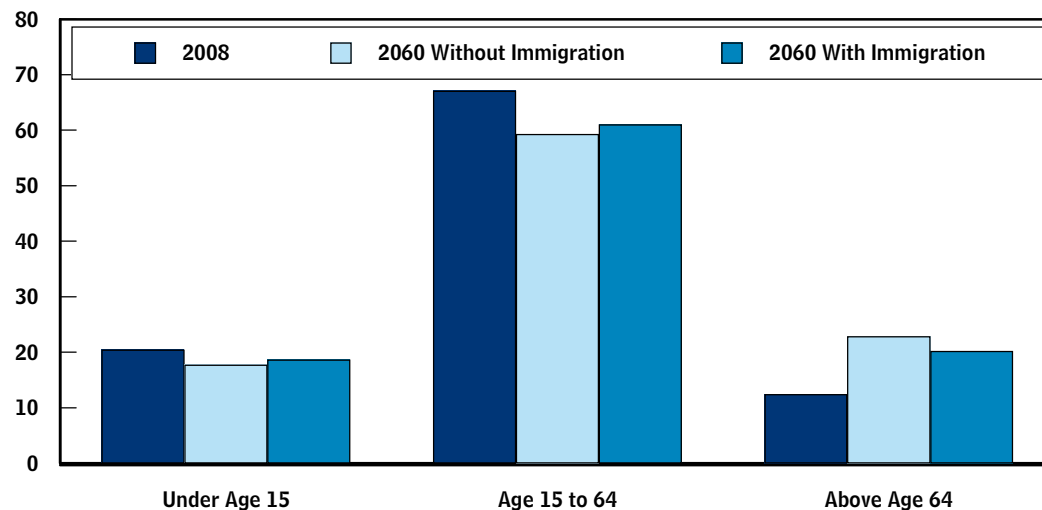
In principle, immigration also could help sustain the demand for U.S. assets after the baby boomers retire. However, if immigration continues at the current rate, it is not likely to have much effect on the age structure of the U.S. population or on the potential demand for U.S. assets.

21. Fehr and coauthors' results depend not only on demographic patterns. Those patterns are not the only factor that can be expected to influence aggregate savings in China. China's high rates of saving and growth and its fiscal policies are currently very different from those at work in the United States and other more developed countries. The results depended on several strong assumptions (in addition to the demographic patterns): that successive cohorts of Chinese people will continue to save the way current cohorts do, that the Chinese government will continue its current policy of restrained growth in expenditures, and that Chinese technology will catch up with that in the United States.

Figure 4.

Effect of Immigration on the Distribution of the U.S. Population, by Age, 2008 and 2060

(Percent)



Source: Congressional Budget Office.

Note: CBO's long-term microsimulation model incorporates the methodology for projecting net immigration that was adopted by the Social Security Administration's Office of the Chief Actuary and reported in its *2008 Trustees Report on Social Security*.

Currently, an estimated 1.6 million legal and undocumented immigrants settle each year in the United States; about 350,000 people emigrate, resulting in net annual immigration of 1.25 million people.²² Immigration will be a major source of growth in the U.S. population, but it will only marginally slow the general aging of the U.S. population (see Figure 4).²³ In 2060, immigration will have little effect on the working-age share of the population—the group that demands assets. Accounting for immigration, the working-age share will constitute 61 percent of the population in 2060—almost the same as the working-age share without immigration (59.3 percent). Immigration will contribute somewhat more to decreasing the proportion of the population that is elderly—the group that sells assets. Accounting for immigration, the elderly share will be 20.2 percent in 2060; without immigration, the elderly share will be 22.8 percent. Although immigration is projected to reduce what is called the age-dependency ratio (the number of people over age 64 divided by the number between 15 and 64), at current rates over the next 50 years, immigration

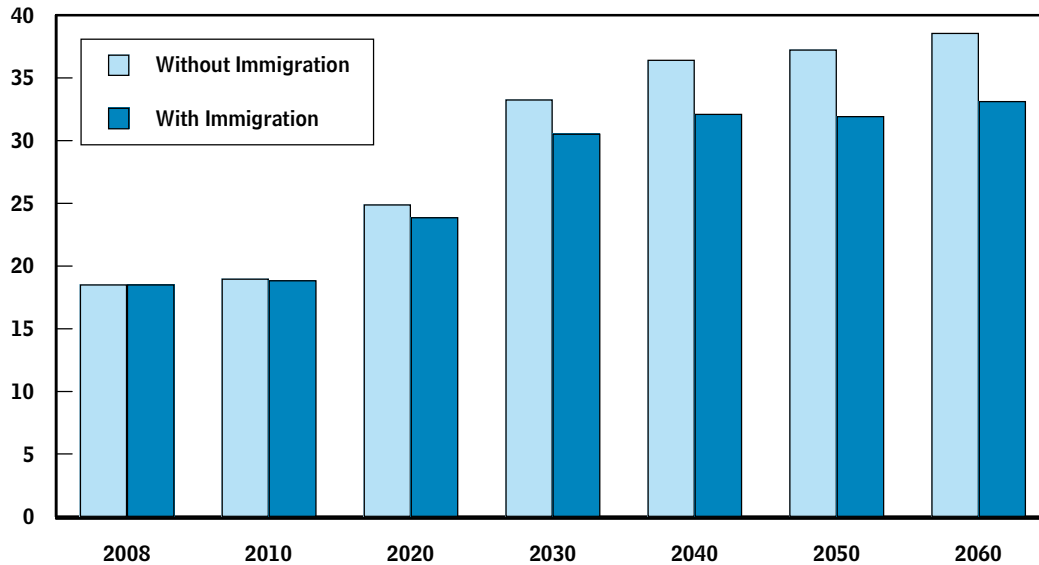
22. See Center for Immigration Studies, www.cis.org/impact_on_population.html.

23. This conclusion is based on CBO's projections from its long-term microsimulation model (Congressional Budget Office 2008). Immigration might ultimately reduce the aging of the U.S. population if future immigration rates are substantially greater than CBO projects.

Figure 5.

The Age–Dependency Ratio for the United States, With and Without Immigration, 2008 to 2060

(Percent)



Source: Congressional Budget Office.

Note: The age–dependency ratio expresses the number of people age 65 and older (who often are not in the labor force) divided by the number of people between the ages of 15 and 64 (who are more likely to be in the labor force).

will have little effect on the expected sharp increase in the share of the population constituted by the elderly (see Figure 5 and Figure 6).

Immigrants typically exhibit higher fertility rates than do people who were born in the United States. Thus, immigration contributes to an increase in the share of the population at the other end of the age spectrum—those who are under the age of 15.²⁴ Immigrant households typically have more dependents and are likely to dedicate more resources to child rearing. Their income profiles also appear different from those of U.S. natives, especially during the first few years after arriving in the United States (for example, immigrants who entered between 1990 and 2000, see Figure 6).

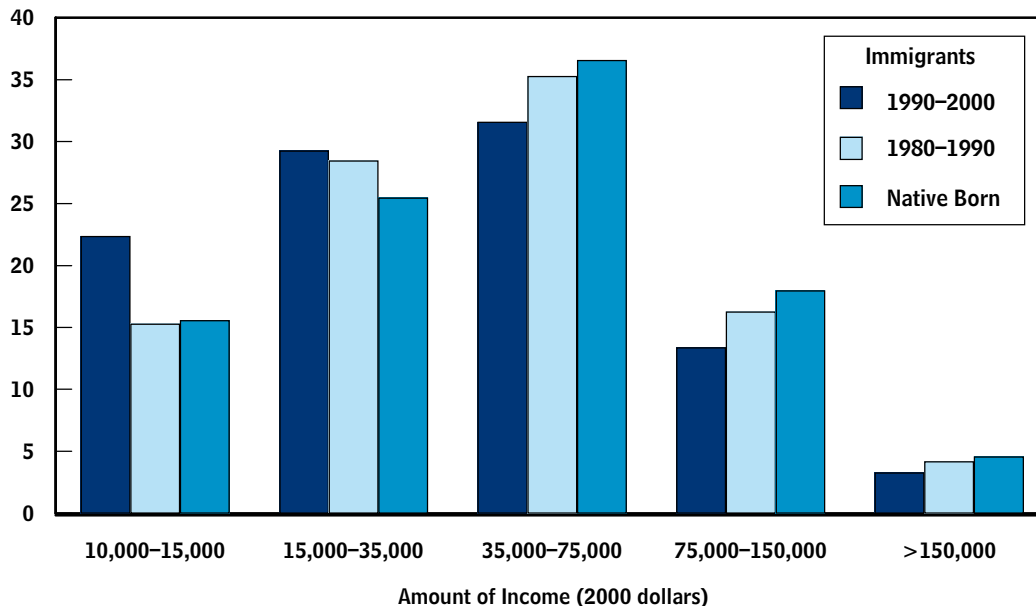
Despite a measurable and significant presence at the high end of the income distribution, immigrants are still more concentrated in lower-income groups than are U.S. natives—a phenomenon that is more pronounced among the most recent arrivals to the United States. Duleep and Dowhan (2008) reported that although immigrants generally earn far less than natives do when they enter the United States and their income grows significantly after about 10 years in the country, catching up with

24. The age of 15 is used for compatibility with international data shown in Table 2 on page 14.

Figure 6.

Income Distribution for the Native Born and for U.S. Immigrants, by Period of Entry

(Percentage of the population)



Source: Congressional Budget Office based on the 2000 Current Population Survey, U.S. Census Bureau.

natives is never fully accomplished. Long periods of transition in the income profiles and the higher number of dependents relative to natives add more reasons to the pure demographic figures mentioned above to conclude that immigration will contribute little to national savings.

Effect on Asset Prices

Several economic studies have predicted that the aging and retirement of the baby boomers will dramatically reduce asset prices and rates of return (Siegel 1998; Shoven and Schieber 1997).²⁵ Those studies are based on an unproven premise that the retirement of such a relatively large cohort will create a dramatic drop in the demand for assets. The simplest analysis assumes that the stock of installed capital is fixed and that asset prices will fall because the demand for assets by younger cohorts will not be enough to offset the fall in demand by retiring cohorts. If that simple analysis told the whole story, asset prices would fall significantly as baby boomers retired and sold their assets. As discussed previously, however, the baby boomers' demand for assets and savings probably will not fall quickly, so any corresponding decline in the price of assets is likely to be similarly muted.

25. This discussion refers to assets as the total claims to capital installed in the companies. The prices of assets that promise the payment of a fixed payout, such as Treasury bonds, move in the opposite direction from the rates of return. The price of an asset can change in the same direction as the rate of return when the payout stream also is variable, as it is for the assets discussed in this analysis.

More comprehensive analysis (Abel 2001, 2003; Brooks 2002) accounts for the fact that the retirement of baby boomers also will contribute to reduced growth in the economy's labor supply, and it further recognizes that the stock of installed capital can change.²⁶ Even with those additional considerations, the more comprehensive analysis suggests that the baby boomers' retirement will cause the prices of real assets to be temporarily lower than if the demographic shift had not occurred.²⁷ As baby boomers retire, their exit from the labor force will not be fully offset by the entry of workers from younger cohorts, thus contributing to an increase in the capital intensity of production (the amount of capital per worker).²⁸ Capital intensity will increase temporarily to the extent that the capital stock does not adjust as quickly as the change in labor supply. A transitory increase in capital intensity would lead to a temporary increase in real wages and a temporary decrease in the return on capital.²⁹

The size of the capital adjustment, the time it takes to occur, and its effect on real asset prices and the return on capital will depend on several factors. For reasons discussed earlier in this paper, people do not spend their accumulated wealth quickly or fully after they retire. Such a life cycle pattern of spending suggests that downward adjustment in the demand for assets will be gradual and limited. Investment frictions and capital market imperfections also are likely to slow the rate at which the capital stock is reduced. The price of installed capital could fall temporarily if the capital stock is reduced more slowly than the demand for assets declines.³⁰

In addition to those expected patterns of change in the real economy, the prices of financial assets also depend on evaluations by participants in the financial markets. Retrospective examination of financial market data does not support a prediction that the retirement of baby boomers will cause financial asset prices to fall noticeably. Brooks (2006) studied a historical time series of stock and bond prices for most of the developed economies to investigate whether it is possible to establish empirically that countries that are characterized by aging populations experience reductions in financial price indices. His results did not establish much of a connection between such demographic trends and changes observed in financial markets.

26. Long-term demographic trends other than the aging and retirement of the baby-boom generation will drive down the long-term rate of growth in the labor supply.

27. Abel (2001), however, warns that it is difficult to draw firm conclusions about the effect on the prices of assets.

28. The labor force is likely to grow more slowly as a result of the general aging of the population, not just of baby boomers (Social Security Administration 2008).

29. Eventually, changes in saving and investment decisions in response to the lower return can be expected to cause the capital stock to adjust and the capital intensity to fall back in the direction of, but not all the way to, its previous level.

30. Economic literature usually refers to this as the Tobin's q or the shadow price of installed capital relative to consumption goods. For a comprehensive dissertation on investment adjustment frictions, see Khan and Thomas (2008).

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