

Household Reaction to the Financial Crisis: Scared or Scarred?

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Introduction

The current financial and economic crisis has been characterized as the worst since the Great Depression. While the crisis may be bottoming out, its effects may linger for quite some time. After all, the Great Depression left an entire generation of Americans scarred by their experiences. Times were good, the stock market was booming, and then suddenly it all fell apart. The stock market collapsed, firms went bankrupt, jobs disappeared, large numbers of banks failed and confidence in the economy withered. Many Americans faced poverty and a desperation they never expected.

For many Americans today, the similarities are frightening. Household net worth has plummeted, the unemployment rate has soared, foreclosures and bankruptcies have risen sharply and banks are failing. In response, the personal saving rate has risen significantly as many households have cut back spending. However, it is too early to tell how persistent these responses will be. It wasn't just the depth of the Great Depression that affected subsequent behavior, it was its persistence. The economy didn't bounce back. Had the downturn been sharp, but relatively short, people would have been scared and suffered economic and emotional pain. They would have had to try to rebuild their wealth and their lives, but this would have been made easier by a recovering economy. Thus, it is less likely that they would have been scarred so deeply that many of the survivors retained a lifelong fear of experiencing another Great Depression, causing them to become more financially conservative, wary of taking on debt and distrustful of financial markets.

How will Americans respond to the current crisis? It is hard to gauge the outcome because we do not have a similar recent experience that can be used as a benchmark. Certainly, we have experienced recessions, and even a wave of bank failures in the late 1980s and early 1990s, but they didn't persist. On the other hand, Japan experienced a malaise that rivaled the Great Depression in length, but not in depth, yet still created its own "Lost Generation." Thus, the present financial crisis is an unprecedented

experience for the current generation. Free-spending and optimistic Americans accumulated massive amounts of debt. Of course, they had growing incomes and wealth they thought (or at least hoped) would enable them to meet their obligations and still have a comfortable retirement. However, as the values of the assets they had used as collateral collapsed, and many lost the jobs that generated the income from which they were making their debt service payments, defaults and foreclosures became widespread. Confidence in financial markets, and the economy more generally, evaporated for many, only to be replaced with uncertainty about future prospects, both for their families and the economy overall.

Many Americans will cut their spending sharply out of necessity, others out of fear of what the future holds. Saving rates have already risen substantially. Thus, we are facing the “paradox of thrift” as households try to rebuild their net worth, with the reduced spending likely to delay and weaken recovery from the “Great Recession.” With consumer expenditures accounting for about two-thirds of GDP, severe cutbacks in household spending could prolong our economic malaise, increasing the risk of a more permanent retrenchment of consumer expenditures. But the current uncertainty also will hold back business investment spending, further restraining recovery. With widespread projections that high unemployment and low house prices will be with us for an extended period, as well as the rise in problem loans at banks that will restrain their willingness and ability to provide credit, it is unlikely that the dramatic rise in loan delinquencies, home foreclosures and bankruptcies will soon abate by a meaningful amount.

Unfortunately, we face the possibility of being caught in a vicious circle. The cutbacks in consumer and business spending are likely to contribute to a more anemic recovery. A slower recovery, in turn, will likely deepen and prolong the weakness in consumer and business spending, further undermining the recovery. The longer the malaise in economic activity continues, the more likely that diminished spending persists, adversely affecting future economic growth and the standard of living.

Such headwinds to a strong economic recovery are likely to have lasting impacts on the values and behavior of the current generation, much as the Great Depression had on its generation. However, the economic environment has changed in many ways since the 1930s, which makes the economy more resilient. Thus, while it has certainly been a scary experience for many households, we can hope that the consequences of the Great Recession will be much milder and less scarring on the current generation.

The first section describes the rapid rise and similarly rapid decline in household wealth, emphasizing the role played by real capital gains and losses, as well as the connection between the rapid rises in both home prices and household debt. The second section discusses consumption smoothing by households and the substitutability of capital gains for personal saving as a means to accumulate wealth. The third section discusses the evidence of wealth effects on consumption and saving emanating from changes in various components of wealth, emphasizing the contribution played by the ability of

households to extract home equity through increasing mortgage debt. The fourth section discusses the initial reactions of households to the crisis, and the fifth section discusses factors that may contribute to the persistence of their reactions. The sixth section suggests that weak credit supply may persist, and section seven discusses implications for the strength of the economic recovery. The final section provides some concluding comments.

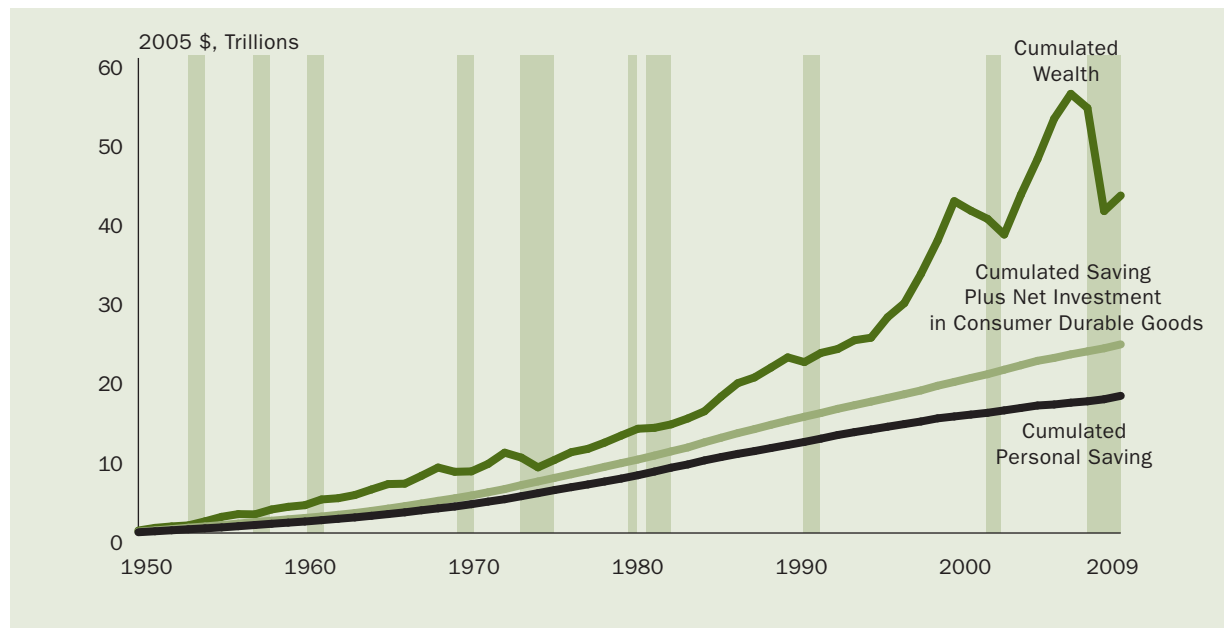
1. The Rise and Fall of Household Wealth

- Accumulation of household wealth can occur actively or passively
- Capital gains, rather than personal saving, account for most household wealth accumulation, as well as its fluctuations
- The dramatic rise in household liabilities is tied to the rise in house values
- The troublesome rise in the ratio of household debt to disposable income is not reflected in the ratio of household interest payments to disposable income
- Financial innovation and an easing of credit standards, as well as declining interest rates, contributed to the dramatic rise in household debt

The post-World War II rise in household sector real net worth in the United States has been dramatic, as has been its recent collapse. Figure 1 shows the cumulative increase in household real net worth since the beginning of 1950 using annual Federal Reserve Flow of Funds data, expressed in constant 2005 dollars using the personal consumption expenditures price deflator. The figure also includes shading to indicate recession periods based on the official National Bureau of Economic Research business cycle dates.¹ While a few bumps occurred along the road, associated with most recessions, the sharpest increases and most striking declines are related to the expansion and bursting of the late 1990s tech stock bubble and the more recent real estate and stock market bubbles of the 2000s. Figure 1 also includes two measures of the cumulative flow of real personal saving by the household sector since the beginning of 1950: the official National Income and Product Accounts (NIPA) personal saving measure and a broader measure that adds the net investment in consumer durable goods to NIPA personal saving. Even with the net accumulation of consumer durable goods included, it is clear that the accumulation of wealth by the household sector has come in large part from the real net capital gains on the assets and liabilities held by the household sector. Moreover, these capital gains account for most of the observed fluctuations in household wealth.²

Figure 1

Cumulated Personal Saving and Household Wealth Accumulation, 1950–2009



Note: The data were converted to constant 2005 dollars using the Personal Consumption Expenditures price deflator.

Source: Personal Saving — Bureau of Economic Analysis (BEA), National Economic Accounts, Table 5.1; or Flow of Funds Accounts of the United States (FOF), Table F.100. Net Investment in Consumer Durable Goods — FOF, Table F.100. Wealth (Net Worth) — FOF, Table B.100.

While the direct effect on household net wealth is the same whether it comes from accrued capital gains or an equal amount of personal saving, we still might think of these sources of wealth accumulation differently. A key distinction is that personal saving represents active wealth accumulation, reflecting a conscious decision by the household not to consume part of its income, while the accrual of capital gains represents passive wealth accumulation from the increase in the real value of its wealth portfolio. However, at least two qualifications to this characterization should be made. First, it is real, not nominal capital gains that add to real net wealth. That is, during a given period, only to the extent that the value of an asset increases by more than the general price level will the real value of that asset increase, thus adding to real net household wealth. Second, the accrual of real net capital gains will impact future active wealth accumulation decisions, insofar as the real net capital gains accruals satisfy some part of desired wealth accumulation, allowing the household to decrease the level of its future personal saving.

Table 1 provides more detail about the accrual of real net capital gains on various components of household sector assets and liabilities.³ Averages for the annual percentage real capital gains are shown for each five-year subperiod, as well as for the entire 1950–2009 period.⁴ Not only are real capital gains large and quite variable over time, but they also can differ substantially across categories of assets at any given time. Real estate, noncorporate equity, and corporate equity and mutual fund shares tend to accrue real net capital gains, while consumer durable goods, life insurance and pension fund reserves, deposits and credit market instruments, other assets and both liabilities categories show persistent

Table 1

Percentage Real Capital Gains on Household Wealth Components, Average of Annual Rates

	Real Estate	Non-corporate Equity	Corporate Equity & Mutual Fund Shares	Consumer Durable Goods	Life Insurance & Pension Fund Reserves	Deposits & Credit Market Instruments	Other Assets	Home Mortgages	Other Financial Liabilities	Household Wealth
1950-54	1.99	0.40	11.02	-0.51	-1.99	-2.34	-5.54	-2.51	-2.48	1.38
1955-59	0.73	1.19	11.58	-0.82	-2.00	-2.02	-4.75	-2.07	-2.03	1.86
1960-64	0.49	1.95	9.03	-1.41	-2.05	-1.43	-5.55	-1.33	-1.33	1.93
1965-69	1.71	2.67	4.28	-1.65	-5.07	-3.35	-4.92	-3.45	-3.25	0.82
1970-74	0.61	5.38	-9.22	-2.14	-6.41	-6.00	-7.06	-6.28	-5.64	-2.04
1975-79	3.73	6.43	5.98	-1.69	-5.25	-7.33	-3.65	-7.43	-7.59	1.77
1980-84	1.54	0.70	4.23	-2.02	-3.28	-5.70	-4.64	-6.08	-5.85	0.02
1985-89	3.43	1.28	18.64	-1.72	-0.18	-3.65	-4.44	-3.92	-3.40	2.85
1990-94	-1.79	-1.78	7.39	-1.34	-0.21	-2.24	-4.78	-2.55	-2.83	-0.24
1995-99	2.53	4.80	22.69	-2.87	7.62	-1.13	-2.12	-1.83	-1.82	7.88
2000-04	7.28	6.65	-2.26	-3.95	-2.10	-1.07	-3.47	-2.21	-1.99	1.53
2004-09	-5.33	-1.71	3.02	-3.02	-0.93	-1.39	-3.68	-2.32	-2.30	-2.10
1950-2009	1.41	2.33	7.20	-1.93	-1.82	-3.14	-4.55	-3.50	-3.37	1.31

real capital losses. Of course, real capital losses on household liabilities increase the value of the real net wealth of households. For example, an increase in market interest rates that reduces the nominal (and thus real) market value of a household's fixed-rate mortgage will increase the household's net worth, other things equal, as will an increase in the general price level that reduces the real value of an outstanding liability that is fixed in nominal terms.

The first column shows that real capital gains on household sector real estate holdings have been positive for each five-year subperiod, with the exception of the early 1990s and the most recent five-year subperiod. While the five-year averages combine offsetting gains and losses for individual years within the five-year intervals, it is clear that, on average, nominal real estate prices have tended to rise faster than the prices of consumer goods (as measured by the NIPA consumption expenditures price deflator). In fact, during this 60-year period, real estate values appear to have increasingly outpaced price level increases, although the momentum has typically slowed around recession periods. Real capital gains on the household sector's holdings of noncorporate equity similarly show negative values for the 1990-94 and 2004-2009 subperiods. The similarities between the patterns of real capital gains on real estate and those on noncorporate equity are due in large part to the substantial real estate component of the household sector's holdings of noncorporate equity.

The other major contributor to real capital gains, corporate equities and mutual fund shares, also is by far the most volatile. Corporate equity values rose well in excess of consumer price inflation until they were hit by the stagflation episode associated with the first OPEC oil price shock in the first half

of the 1970s. However, corporate equities were soon off and running again, with particularly strong performances during the 1985–89 and 1995–99 subperiods. In fact, the 2000–2004 subperiod is the only other five-year subperiod exhibiting a negative average real capital gain, in large part due to the bursting of the tech stock bubble.

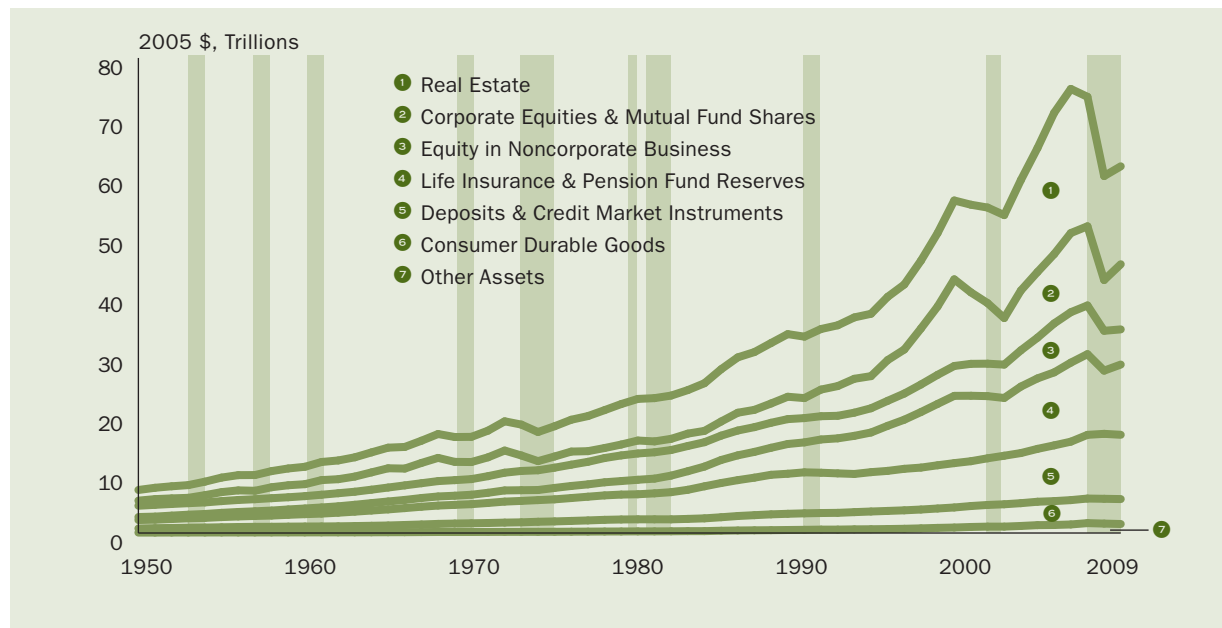
One could argue, however, that the real capital gains on corporate equities overstate the contribution of real capital gains to the wealth accumulation of the household sector. To the extent that a large part of these capital gains can be attributed to retained earnings (corporate saving), one could argue that these gains reasonably could be viewed as reinvested dividends (that is, as stock purchases out of income, a component of personal saving, rather than as capital gains). However, had these retained earnings been paid out to investors, the income tax bite would have eaten a substantial portion of the return, both due to the relatively lower income tax rate on capital gains during most of this period and due to the benefits of the deferral of income taxes until the gains are realized, especially given the step-up in basis for inherited assets.

Real capital gains on consumer durable goods are systematically negative, reflecting the slower growth in durable goods prices relative to those of nondurable goods and services. Life insurance and pension fund reserves, which include a combination of corporate equities and credit market instruments, also have real capital gains that are consistently negative, with the exception of the 1995–99 subperiod when the strong growth of corporate equity values more than offset the real capital losses on the credit market instruments component, which was relatively small (by historical standards) due to falling interest rates (which increased the nominal market values of fixed-rate instruments) and moderate inflation. In fact, as the composition of life insurance and pension fund reserves shifted away from credit market instruments and toward a larger corporate equity component, this category tended to less closely track the real capital gains on deposits and credit market instruments (shown in the next column).

In contrast to the variation shown across the first five columns for any given subperiod, the real net capital gains on the remaining financial assets and liabilities are highly correlated with each other. This is because their real capital gains are dominated by the effect of inflation. Inflation erodes the real value of these assets and liabilities one-for-one to the extent that their nominal values are fixed, such as for deposits. However, the real capital gains on fixed-rate instruments exhibit an even stronger inverse relationship with the inflation rate to the extent that an increase in the inflation rate causes a rise in nominal interest rates as interest rates incorporate a larger inflation premium, which, in turn, reduces the nominal market values of these instruments.

Figure 2 shows the dramatic growth in household sector assets since 1950, as well as the changing composition of that growth across asset categories. While household holdings of equity in noncorporate business, consumer durable goods and other assets have grown, the other four asset categories account for most of the growth in total assets. Furthermore, real estate, corporate equities and mutual fund shares, equity in noncorporate business and life insurance and pension fund reserves account for, by

Figure 2
Household Sector Assets and Their Composition, 1950–2009



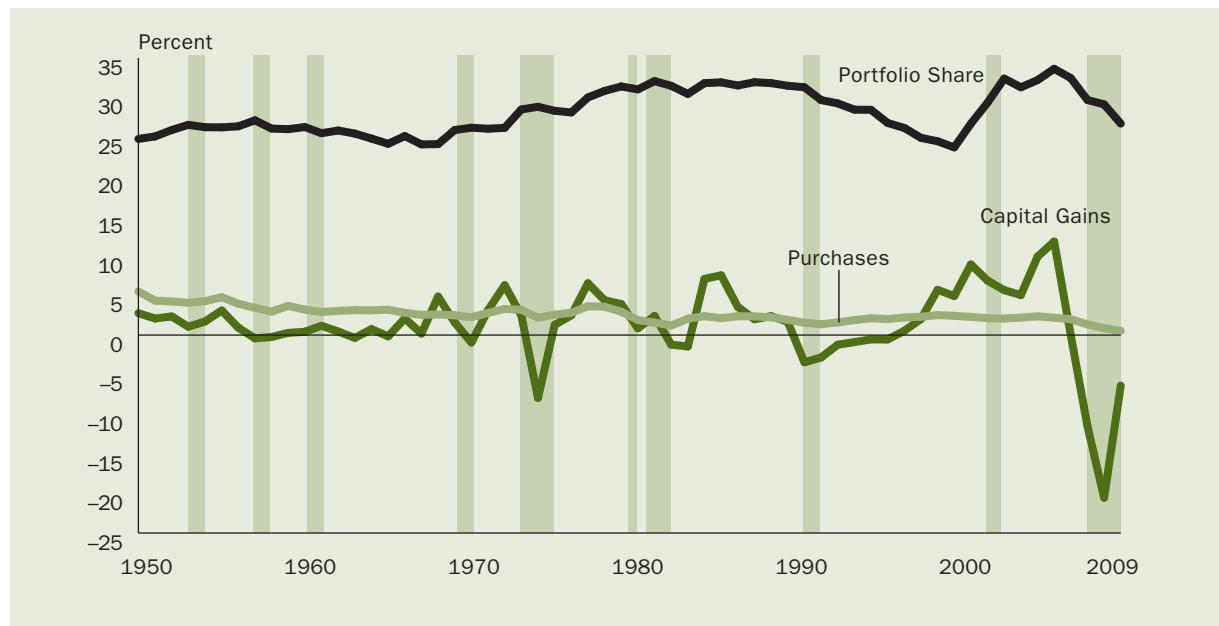
Note: The data were converted to constant 2005 dollars using the Personal Consumption Expenditures price deflator. Other Assets comprise Equipment and Software owned by Nonprofit Organizations, Security Credit and Miscellaneous Assets.
Source: Flow of Funds Accounts of the United States (FOF), Table B.100.

far, most of the fluctuations in total household assets, again emphasizing the importance of real net capital gains and losses in the accumulation of household wealth.

Figures 3 through 5 show the relative contributions of purchases compared to real capital gains (each measured as a percentage of beginning-of-period holdings) for the three asset categories with the most volatile real capital gains, as well as the fluctuations in their shares of the total household sector asset portfolio. Figure 3 shows these patterns for household holdings of real estate. Net purchases of real estate show a slight downward trend with relatively minor fluctuations, tending to temporarily slow somewhat around recessions. In contrast, real capital gains are much more volatile, especially beginning in the late 1960s. On an annual basis, households have experienced real net capital losses relatively infrequently, with only three episodes contributing a meaningful adverse impact on real estate values, each associated with recessions. The negative shock associated with the stagflation episode associated with the first OPEC oil price shock and the 1974 recession was sharp, but short in duration. In contrast, the real capital losses associated with the 1990 recession and the subsequent jobless recovery persisted for much longer. Finally, the sharp reductions in the real value of real estate in the Great Recession are by far the largest experienced during the past 60 years. But, as can be seen in the figure, this decline was preceded by an extended period of large, persistent real capital gains.

The fluctuations in the real estate portfolio share suggest that households willingly accepted, for the most part, the portfolio shifts associated with the capital gains accruing to their real estate holdings, although one should expect to observe some portfolio rebalancing in response to large capital gains in

Figure 3
Real Estate: Purchases, Capital Gains and Portfolio Share, 1950–2009



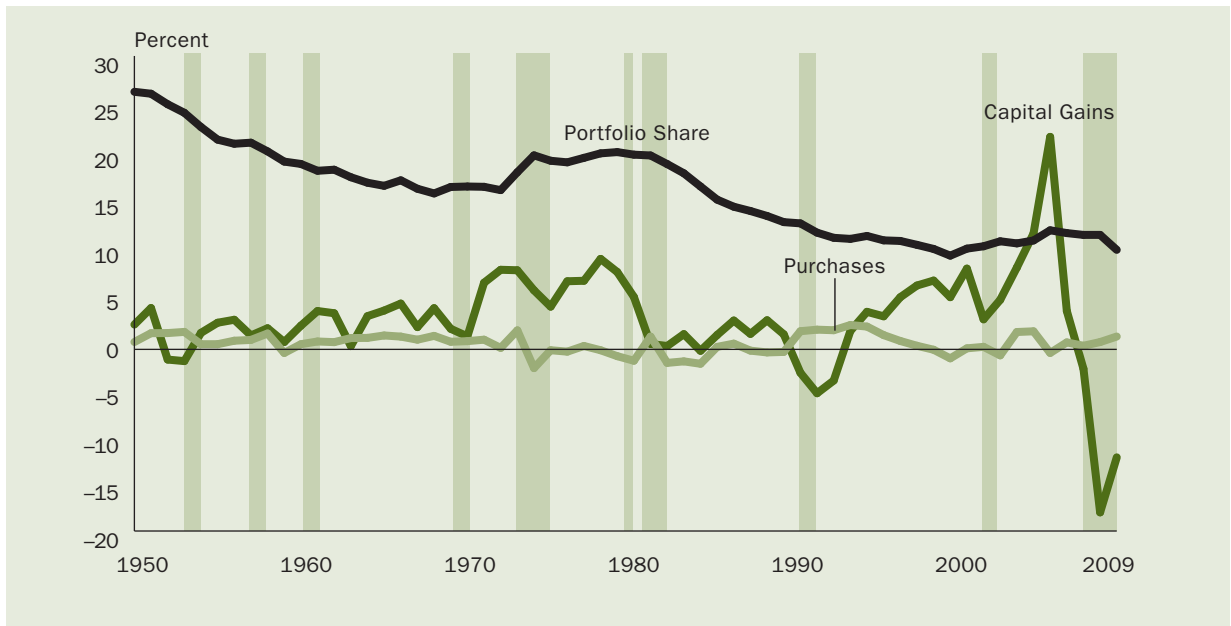
Note: The data were converted to constant 2005 dollars using the Personal Consumption Expenditures price deflator.
Source: Portfolio Share — Flow of Funds Accounts of the United States (FOF), Table B.100. Purchases, Capital Expenditures — FOF, Table F.100. Depreciation was calculated using change in stock from FOF, Table B.100 and nominal capital gains from FOF Capital Gains table — see FOF Table R.100.

specific asset categories that would mitigate the effects of capital gains and losses on a specific category of assets. Moreover, one must keep in mind that portfolio shares can be impacted substantially by large capital gains and losses on other asset categories, such as the large capital gains accruing to corporate equities in the 1990s that would tend to reduce the portfolio shares of other asset categories. For example, the increase in the real estate portfolio share in the 1970s reflects the capital gains on real estate during this period, as well as the large capital losses on corporate equities in the first half of the 1970s. Similarly, the decline in the real estate portfolio share in the 1990s reflects both the real capital losses on real estate in the early 1990s and the strong real capital gains on corporate equities in the 1990s, while the subsequent sharp rise in the real estate portfolio share reflects the strong capital gains on real estate in combination with the poor performance of corporate equities. Again, the large real capital losses on real estate in the late 2000s are reflected in the declining real estate portfolio share.

The willingness of the household sector to accept much of the portfolio share implications of large capital gains and losses on particular asset categories also can be seen in Figure 4, which repeats the information in Figure 3 for household holdings of equity in noncorporate business. While the portfolio share has exhibited a relatively steady decline, that decline was interrupted by two episodes of large and persistent real capital gains on equity in noncorporate business, first during the 1970s, and again during the late 1990s and early 2000s.

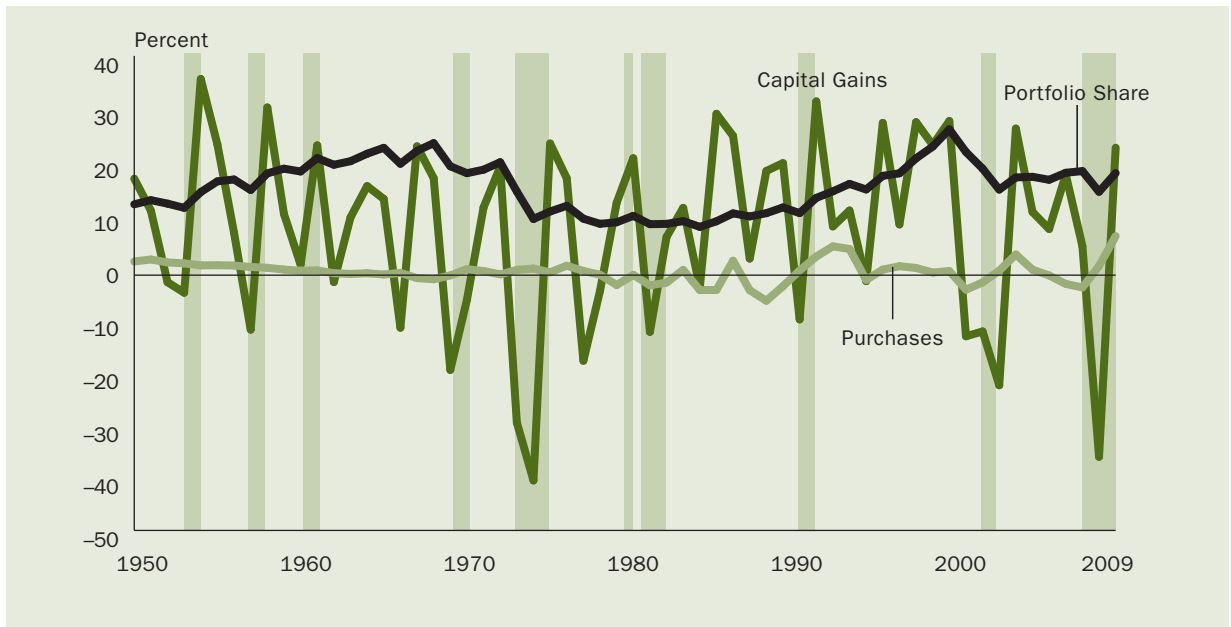
While the volatility of real capital gains on corporate equities and mutual fund shares makes it more difficult to see the impact of real capital gains on the associated portfolio share in Figure 5, the patterns

Figure 4
Equity in Noncorporate Business: Purchases, Capital Gains and Portfolio Share, 1950–2009



Note: The data were converted to constant 2005 dollars using the Personal Consumption Expenditures price deflator.
Source: Portfolio Share — Flow of Funds Accounts of the United States (FOF), Table B.100. Purchases — FOF, Table F.100.

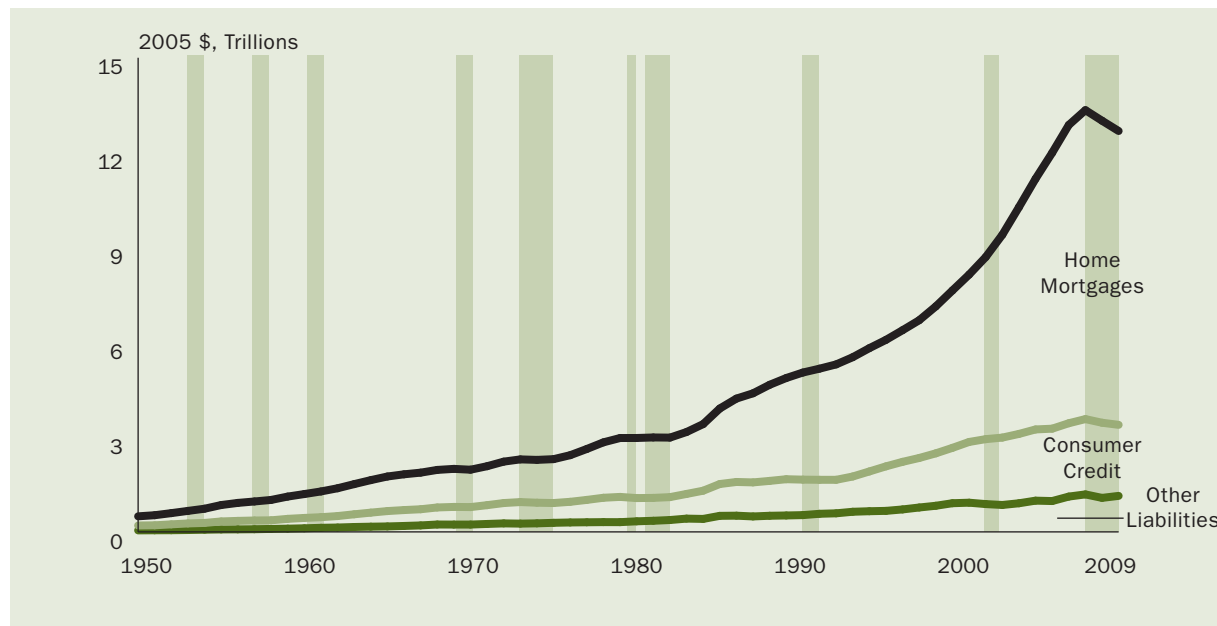
Figure 5
Corporate Equities & Mutual Fund Shares: Purchases, Capital Gains and Portfolio Share, 1950–2009



Note: The data were converted to constant 2005 dollars using the Personal Consumption Expenditures price deflator.
Source: Portfolio Share — Flow of Funds Accounts of the United States (FOF), Table B.100. Purchases — FOF, Table F.100.

for five-year averages of real capital gains shown in Table 1 are reflected in the portfolio share. The (on average) positive real capital gains from the mid-1950s through the 1960s are associated with a rising portfolio share, while the large real capital losses in the early 1970s are reflected in the sharp decline in portfolio share. The portfolio share then rises from the mid-1980s through most of the

Figure 6
Household Sector Liabilities and their Composition, 1950–2009



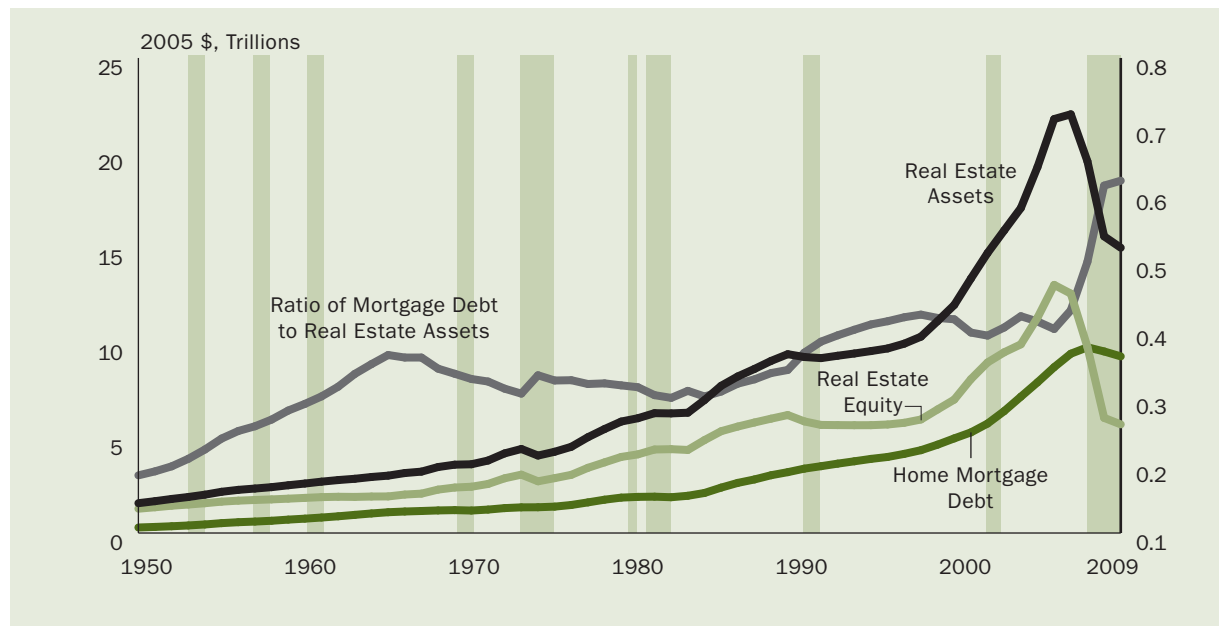
Note: The data were converted to constant 2005 dollars using the Personal Consumption Expenditures price deflator.
Source: Flow of Funds Accounts of the United States (FOF), Table B.100.

1990s with the strong real capital gains performance, and then declines sharply with the large real capital losses associated with the bursting of the tech stock bubble.

Much like the asset side of the household balance sheet, the real value of total household liabilities also rose during the past 60 years. Interestingly, the timing of the acceleration in the growth of total liabilities associated with the recovery from the two recessions of the early 1980s, shown in Figure 6, corresponds to that of total household assets, shown in Figure 2. While other liabilities have grown, consumer credit has grown much more, with a jump in the mid-1980s and the acceleration in its growth rate in the early 1990s. However, it is the dramatic increase in home mortgage debt that accounts for most of the increase. Certainly, one contributor to the flattening of consumer credit from the mid-1980s through the beginning of the 1990s, as well as the acceleration in home mortgage debt, was the phasing out of the personal interest deduction for nonmortgage interest by the Tax Reform Act of 1986. Following that change in the tax treatment of interest on nonmortgage debt, homeowners had an added incentive to substitute mortgage debt for nonmortgage debt as the collateral value of their homes increased.

A number of factors, in addition to the tax-favored treatment of mortgage interest, contributed to the striking rise in home mortgage debt, including the rise in home values, the general decline in interest rates and financial innovation. Figure 7 shows that the recent rapid growth in mortgage debt is related to the dramatic increase in the value of household sector real estate. The run up in house prices provided households with equity that could be used as collateral. Households monetized this equity by increasing their mortgage debt. But mortgage debt didn't simply track the increase in the value of housing. As can be seen in the figure, the ratio of home mortgage debt to the value of

Figure 7
Household Sector Real Estate Assets and Mortgage Debt, 1950–2009



Note: For real estate assets, mortgage debt, and real estate equity refer to left scale. For mortgage debt and real estate assets, refer to right scale. The data were converted to constant 2005 dollars using the Personal Consumption Expenditures price deflator. *Source:* Flow of Funds Accounts of the United States (FOF), Table B.100.

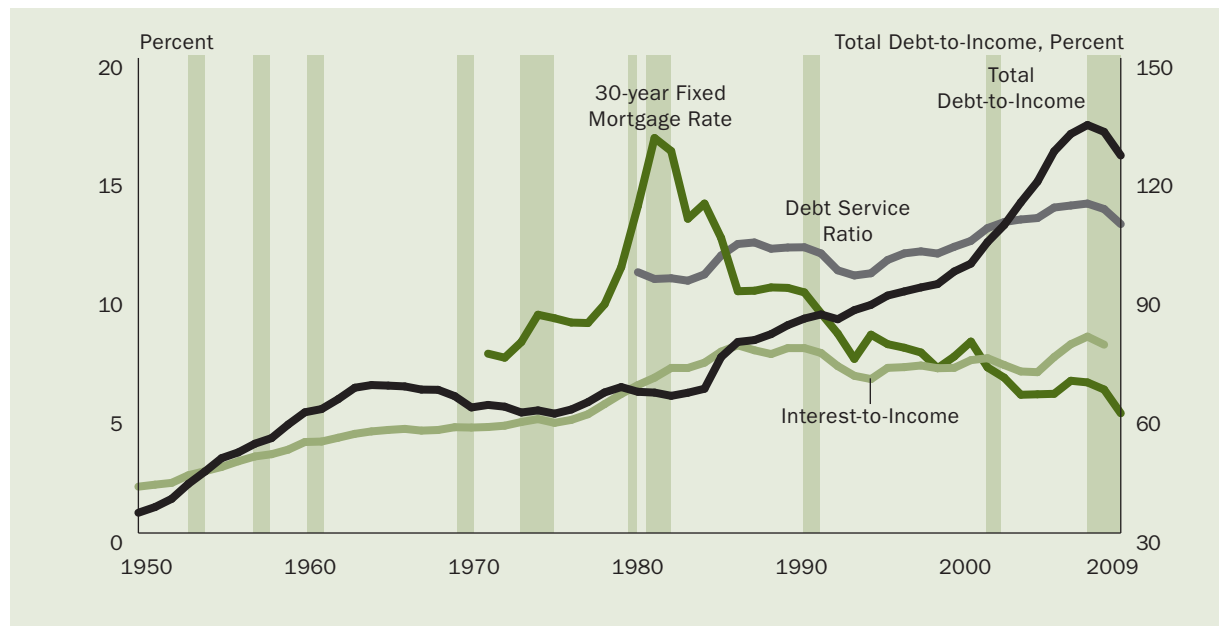
household real estate also has grown. In particular, this ratio grew steadily during the 1950s and early 1960s, again in the 1980s and 1990s, and finally going nearly vertical during the late 2000s. While the first two increases are associated with rising real estate values, the spike in the last half of the 2000s is related to the sharp rise in home mortgage debt and the loss of about half of household real estate equity as real estate values plummeted.

A major concern with the surge in household debt has been the dramatic growth in the ratio of household debt to personal disposable income, which has more than tripled since 1950, even as incomes have grown substantially. How was this accomplished? Figure 8 shows that much of the increase since the early 1980s is associated with the general decline in interest rates. In fact, the ratio of household sector interest payments to disposable personal income shows no upward trend since the mid-1980s, although the debt service ratio that includes the repayment of principal has risen somewhat due to the amortization of the much larger volume of outstanding debt.

In part, the general decline in nominal interest rates was associated with the decline in inflation following the Volcker disinflation policy of the early 1980s. Higher inflation rates, by embedding an inflation premium in nominal interest rates, increases nominal interest payments relative to incomes. This front-loading of interest costs (at a given real interest rate) can constrain the ability of households to take on debt due to the payment-to-income ratio loan qualification criteria. The substantial declines in nominal interest rates put this process into reverse. As nominal interest rates declined sharply from their peak at the beginning of the 1980s, borrowing constraints were eased, contributing to the acceleration in the growth of home mortgage debt shown in Figure 7. In fact, the growth in home

Figure 8

Household Sector Debt and Interest Payments Relative to Personal Disposable Income, 1950–2009



Note: The data were converted to constant 2005 dollars using the Personal Consumption Expenditures price deflator.
Source: Household Debt — Flow of Funds Accounts of the United States (FOF), Table B.100. Personal Disposable Income — FOF, Table B.100 or Bureau of Economic Analysis (BEA), National Income and Product Accounts Table (NIPA), Table 2.9. Household Interest Payment — NIPA, Table 7.11. 30-year Fixed Mortgage Rate — Freddie Mac, Primary Mortgage Market Survey. Debt Service Ratio — The Federal Reserve Board, Household Debt Service and Financial Obligations Ratios.

mortgage debt continued in the 1990s, even though the growth of the household sector’s real estate assets paused, and real estate equity actually declined, in the early part of the decade, resulting in a bulge in the mortgage debt-to-real estate assets ratio shown in Figure 7.

The effect from the general reduction in nominal interest rates was reinforced by demographic factors. The increase in average educational attainment increased credit demand, insofar as more highly educated households tend to have a steeper age-earnings profile. Because households desire to smooth consumption over their lifetimes, a steeper income path suggests that households would desire to borrow even more when young in order to flatten their lifetime consumption path. This steepening of the average age-earnings profile contributed to the surge in debt levels as borrowing constraints were eased due to the decline in interest rates.

Financial innovation also contributed to the rapid growth in household debt by contributing to the observed decline in borrowing costs and by making it easier for households to qualify for loans, especially larger loans, at any given interest rate. These factors were especially important in contributing to the dramatic rise in mortgage debt. By enhancing the ability of households to obtain (larger) mortgages, financial innovation exacerbated the increased leverage that has contributed to the recent sharp increases in mortgage delinquencies and foreclosures as home values declined. Certainly, innovations such as the dramatic growth in securitization, the creation of new types of mortgages, the increased ease of extracting (liquefying) increases in home equity, the move into

subprime mortgages, and lowered down payment requirements each contributed to some degree to the striking increase in household mortgage debt.

Notes

1. The Federal Reserve Flow of Funds data combine the household sector with the nonprofit sector into a single account. We will refer to this aggregate account as the household sector.
2. Because some of these real net capital gains are accrued but not yet realized, they should be measured net of any accrued income tax liability that must be paid if and when accrued capital gains are finally realized.
3. Real capital gains are calculated as the increase in the value of assets and liabilities in excess of any increase in the price level, here the personal consumption expenditures price deflator. Thus, with a 2 percent rate of price inflation, if the value of stock market assets increased by 5 percent after adjusting the previous period's holdings by any net purchases during the year, the real net capital gains on the stock market assets held by the household sector would be 3 percent.
4. These are simple averages of the annual percentage real capital gains. Thus, one should keep in mind that a 10 percent gain following a 10 percent loss would not be perfectly offsetting because the percentage gains would be calculated from different bases. That is, starting at a level of 100, a 10 percent loss would move the level to 90, while the subsequent 10 percent gain would increase the level to only 99. While this distinction makes relatively little difference for very small percentage capital gains and losses, given the volatility, especially recently, in real capital gains and losses, simply averaging the percentage gains and losses can produce a distorted picture of the net effect over time.

2. Wealth Accumulation and Personal Saving Behavior

- The Life Cycle Theory of consumption and saving posits that households desire to smooth consumption over their lifetimes
- The consumption of borrowing-constrained households will be below its desired level
- Accrued capital gains can satisfy the wealth accumulation motive, reducing the need to save out of current income
- Current consumer expenditures include the purchase of consumer durable goods which represent future, not current, consumption
- The wealth effect on consumption and saving may differ depending on the source and nature of any change in household wealth
- In addition to any direct wealth effect from increased home values, consumption may be stimulated through a collateral effect as homeowners extract home equity and spend the proceeds from increasing their mortgage debt on goods and services

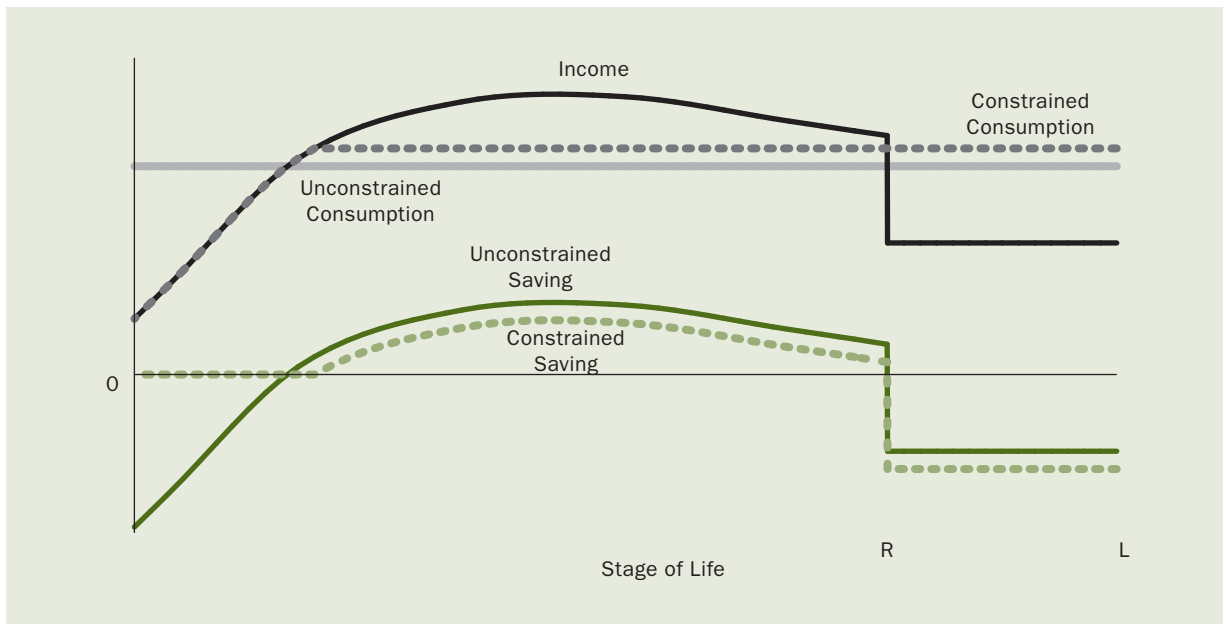
The recent rapid accumulation of debt by households, especially by younger households, as borrowing constraints were eased is consistent with the well-known Life Cycle Theory of consumption and saving that posits that individuals accumulate wealth in order to smooth consumption over their lifetimes, as well as possibly being driven by a bequest motive. However, in addition to any random variation, lifetime income tends to have an upward trajectory during the working lifespan, and then be lower during the retirement years. Thus, in order to smooth their lifetime consumption pattern, individuals tend to have low or negative saving (as they take on debt) during their early years of employment, although they typically face borrowing constraints that limit the extent to which they can consume above their current income by taking on debt. They then attempt to accumulate wealth during the remainder of their working years to finance consumption during their retirement years. Moreover, this desire to accumulate and maintain a stock of assets is reinforced by a precautionary motive, insofar as

accumulated wealth can be used to protect households against unexpected fluctuations in either their income (e.g., spells of unemployment) or needs (e.g., medical emergencies) throughout their lifetimes.

Figure 9 presents a simple representation of these lifetime consumption and saving patterns for both an unconstrained household and a borrowing-constrained household. In the unconstrained case, the household is able to borrow during the early earning years when income is below the optimal (horizontal) path of real consumption. However, to take the extreme case in which the household is unable to dissave (have negative saving) by borrowing during the early earning years, consumption is constrained to be no more than income until income reaches the level of desired (smoothed lifetime) consumption for the remaining (unconstrained) lifetime. For a borrowing-constrained household, an easing of borrowing constraints would allow the household to increase its current consumption at the cost of lower consumption later in life. To the extent that the household prefers to smooth its lifetime consumption, this intertemporal shifting of consumption from later (unconstrained years) to earlier (constrained) years in response to an easing of borrowing constraints is optimal.

This desired (and feasible) plan of consumption is determined by an individual or household based on expected lifetime resources which, in turn, are based on expected labor income and capital income, the interest rate used to discount these income flows and the expected length of retirement. Given the amount and expected pattern of lifetime resources, the desired consumption path implies a planned wealth accumulation path consistent with the desired consumption path, with the amount of planned wealth in any given period being the amount consistent with the individual achieving the desired consumption path, presuming that expectations about the future are realized. Thus, the planned change in wealth in any period is the difference between planned (desired) household wealth at the end

Figure 9
Illustration of the Life Cycle Hypothesis of Consumption and Saving



of the period (based on the planned consumption path) and actual household wealth at the beginning of the period (end of the previous period).

In order to achieve the planned change in household wealth, households can save out of their current disposable income, representing active wealth accumulation. However, household wealth also is impacted by real capital gains on household assets and liabilities, representing passive wealth accumulation which, as shown in the previous section, can be quite substantial in any given year. As a consequence of accruing capital gains or losses, the need for households to save from current income to achieve their desired change in wealth may be reduced or increased in any given period. Moreover, to the extent that the capital gains or losses were unexpected, they impact the household's perceived lifetime resources and thus induce a recalculation of the household's planned consumption and wealth accumulation paths. Of course, the extent to which realized capital gains or losses will impact future consumption and saving will depend on the nature of those gains and losses, especially the extent to which the capital gains and losses are expected to persist, and therefore impact the perceived permanence of the associated change in household wealth, as well as the household's expectations about future capital gains and losses. Consequently, in addition to capital gains impacting current household saving, they have the potential to affect future consumption and saving through a wealth effect by altering the household's perceived lifetime resources, and thus its planned consumption and wealth accumulation paths.

Given the recent substantial changes in housing and equity prices, it is not surprising to find a resurgence of interest in wealth effects on household consumption and saving. Recent studies distinguish among capital gains and losses on different asset categories, consistent with those gains and losses potentially having effects of differing magnitudes on a household's perceived lifetime resources, and therefore differing implications for a household's response to a change in wealth. The empirical evidence is derived from both aggregate household data and micro data at the household level. Still, because of the range of estimated effects and the differing strengths and weaknesses of the aggregate data compared to the household-level data, as well as theoretical considerations, the interpretation of the evidence is quite mixed. Some studies support, and other studies question, the existence of a meaningful wealth effect on household consumption expenditures, and thus on saving behavior. Moreover, among the studies which do find evidence of wealth effects, the relative magnitudes of the effects emanating from specific asset categories, such as corporate equities compared to real estate, differ.

A major problem with this literature is distinguishing between correlation and causation. For example, we might observe that consumption increases when household wealth increases. However, the increase in consumption may not be due to the increase in wealth. Rather, it may be that a positive shock to lifetime resources, for example, a favorable productivity shock, has increased the perceived lifetime resources of households, inducing them to raise their lifetime consumption path. Furthermore, this increase in consumption presumably would include a desire to consume more housing services, tending to bid up the value of houses, and therefore household sector real estate assets. At the same

time, with capital being more productive, the value of capital, and thus the value of firms and the corporate equities held by households, also increases to reflect the higher level of firm profits. This induces a positive correlation between consumption and household wealth that is not due to a direct response of households to the increase in their net wealth. Rather, both the increase in consumption and the increase in household wealth are due to the brighter macroeconomic prospects. Similarly, a reduction in the interest rate used to discount future income streams (from both human and physical capital) would induce increases in both consumption and household wealth.

Another complication is that the theoretical models are about the flow of consumption, which differs from measured consumption expenditures. The most obvious difference is the treatment of purchases of consumer durable goods. Durable goods by their very nature are not fully consumed in the period in which they are purchased. Rather, the household has decided to purchase a bundle of future consumption in the form of a durable good. For example, rather than making regular expenditures at a laundromat, a household may prefer to purchase a washer and dryer. Expenditures jump up with the purchase of durable goods, while future expenditures will be lower because the household no longer makes its regular expenditures at the laundromat, even though it continues to consume laundry services from its own washer and dryer. However, by adjusting consumer expenditures for the consumption of the services provided by durable goods, and saving for the net investment in durable goods (which represents the purchase of an asset), the expenditure data can be converted easily to a measure that more closely corresponds to the theoretical concept of consumption.

An additional distortion occurs because the imputed rent (user cost) associated with owner-occupied housing is added to both personal income and consumption expenditures. Thus, a positive relationship between household wealth and consumption expenditures is induced when the value of owner-occupied housing increases, because consumption also is increased by the higher user cost imputed to that housing. One way to avoid the effects of this mechanically induced correlation is to focus on nondurable consumption expenditures that omit the imputed consumption of the services provided by owner-occupied housing.

Given that household wealth increases, why should we expect consumption to increase? The answer is relatively straightforward for stock market wealth. A positive shock to productivity would be associated with a higher stream of future income emanating from the capital stock which, in turn, should be reflected in higher stock prices. The associated increase in the perceived lifetime resources of the owners of this capital (shareholders) should be expected to induce them to raise their consumption path. To the extent that these equity ownership rights can be traded internationally, the increase in stock market wealth can be viewed as an increase in aggregate national household wealth. Still, the composition of the ownership of stock market wealth is distributed unevenly across households, with the wealthier households holding a disproportionate share of stock market wealth. To the extent that the marginal propensity to consume out of stock market wealth is lower for wealthier households, the aggregate effect on consumption would be mitigated. Similarly, if households perceive increases

in stock market wealth as less persistent, or permanent, than increases in other asset categories, such as houses, the perceived increase in lifetime resources would be less, and therefore the relative effect on stimulating consumption expenditures again would be mitigated.

What about the other key component of household wealth, real estate? Unlike a favorable shock to productivity that increases stock market wealth, an increase in relative house prices does not necessarily increase the real resources available to be allocated to nonhousing consumption. While the user cost of housing services rises, increasing measured consumption, the rise in the relative price of houses has not enhanced the ability of the economy to produce nonhousing goods and services. Thus, the productive capacity of the economy has not increased, suggesting that the perceived lifetime resources of households in the aggregate have not been enhanced. Furthermore, at the individual household level, while homeowners who anticipate downsizing might perceive an increase in net resources, homeowners who plan to continue living in their house, or in a similar house, have not gained. Even if they sell their house, they would use the proceeds to purchase their replacement home, if we categorize moving to a less expensive geographical location as a form of downsizing. On the other hand, current renters, or members of current households who plan to form a separate household in the future, who plan to eventually become homeowners would tend to view the rise in the relative price of homes as an adverse event, possibly reacting by decreasing their current consumption and increasing their saving in order to increase their wealth sufficiently to purchase a house in the future. Thus, it is possible that no direct housing wealth effect on consumption exists in the aggregate, other than through a distributional effect due to differences across individuals, or households, in their marginal propensities to consume out of increases in home values.

Still, even if the direct effect of an increase in house prices is quite limited, a substantial stimulating effect on consumption might still exist through a collateral effect. With an increase in home values, homeowners may be able to use the increased collateral value to increase their mortgage debt. By borrowing against this increase in home equity, homeowners can use the proceeds for consumption expenditures, although the proceeds also could be used for other purposes, such as home improvements or to purchase other assets rather than to purchase goods and services. Moreover, the increase in housing wealth may ease borrowing constraints faced by many households, especially young households desiring to raise their current consumption to flatten the pattern of their lifetime consumption paths, in which case the increase in home values would release a pent up demand for mortgage credit.

Given that housing wealth is much more broadly distributed across households than is stock market wealth, the collateral effect could be widespread. Furthermore, the impact of the collateral effect depends on the extent to which households are liquidity constrained and on the ease with which home equity can be extracted, as well as on the distribution of adverse income shocks across households. Thus, the bottom line is that the relative magnitudes of any wealth effects emanating from housing wealth and from stock market wealth remain an empirical question.

3. Empirical Evidence on the Wealth Effect

- For U.S. data, most estimates of the wealth effect are in the range of 3 to 8 cents of an additional dollar of wealth
- The wealth effect differs by type of wealth and its perceived persistence
- The collateral effect may be more important than the direct wealth effect emanating from increases in house values
- Home equity extraction is quite substantial, and its effect on consumer expenditures depends on the circumstances of the household

Most, but not all, studies agree that a wealth effect on consumption exists, although the precise magnitude of that effect varies somewhat, as does the allocation of the effect between an immediate short-run effect and the longer-run impact on consumption. For example, Paiella (2009) provides a recent survey of the evidence on wealth effects. For aggregate U.S. data, the marginal propensity to consume out of total household wealth is in the range of 0.03 to 0.08; that is, for each additional dollar of wealth, a household will consume an additional 3 to 8 cents (and save 3 to 8 cents less). Moreover, the estimates of the separate effects for equity, housing, financial wealth and nonfinancial wealth exhibit a slightly wider spread. Using household-level data, some studies find even larger effects. It should not be surprising to find a range of estimates, given that the time periods covered, as well as the measures of consumption and wealth, vary across studies. Furthermore, the composition of any wealth increase, for example, arising from corporate equities, real estate or other assets, will also vary over time, so that if the marginal propensity to consume differs for different asset categories, the resulting estimated effects for total wealth also should be expected to differ. Moreover, the effects should be expected to differ across studies using household-level data for different subsets of households; for example, homeowners compared to renters, or old compared to young.

Because the relevant literature is vast, and recent survey papers summarize the results from earlier papers (for example, Poterba 2000; Paiella 2009), I will focus on just a few very recent studies, a

number of which have been motivated by our recent experience with large capital gains on both corporate equities and real estate. Juster et al. (2005), using household-level data, argue that the decline in the U.S. personal saving rate from the mid-1980s to the end of the 1990s is due in large part to the substantial capital gains on corporate equities. Considering a five-year horizon, they find the effect of stock market capital gains on saving to be in the vicinity of a 20 cent reduction in saving for each additional dollar of capital gains (equivalent to a 20 cent increase in consumption), much higher than is typically found, and furthermore, much larger than they find for other asset categories, including housing which has an estimated effect of about a 3 cent reduction in saving for each additional dollar of housing capital gains. In contrast, Salotti (2009), using household data, finds relatively small wealth effects on consumption. However, in contrast to Juster et al. (2005), Salotti finds that financial wealth, which includes stock market wealth, has essentially no effect on consumption, while tangible assets do have a small effect, with owner-occupied housing having a larger effect than other categories of real estate holdings.

In a widely cited study, Case et al. (2005), relying on data across 14 countries and a panel dataset for U.S. individual states, find that, indeed, housing wealth does have a sizable effect on consumption, and that effect is consistently larger than for stock market wealth across a number of empirical specifications. However, Calomiris et al. (2009) argue that the Case et al. (2005) results are due to the correlation between changes in housing wealth and changes in the expected permanent income of households. Using the Case et al. (2005) state-level data, they find that once this endogeneity bias is controlled for, the housing wealth effect on consumption disappears. In contrast, using a different technique, Carroll et al. (2006) find a long-run housing wealth effect on consumption of about 9 cents of additional consumption for each additional dollar of housing wealth, more than double that for stock market wealth.

While some argue that good reasons exist for increases in housing wealth to have no direct effect on non-housing consumption, for example, because increases in house values produce increases in housing consumption due to the increase in the user cost of housing, it can still be argued that a net effect on non-housing consumption can still arise because the increased value can serve as collateral for a larger mortgage, with the mortgage proceeds available for consumption (and other) expenditures. Muellbauer (2008) argues that the housing wealth effect based on the life cycle hypothesis should be small, or even negative, in the absence of the effects emanating from a credit channel. However, once the role of greater access to credit through the increased collateral value of housing is considered, a wealth effect appears. In fact, he argues that the absence of a housing wealth effect on consumption before 1980, in combination with an effect that is now often estimated to exceed that of other components of wealth, is evidence that it is the indirect effect operating through the easing of borrowing constraints that accounts for the housing wealth effect. An important contributing factor to the emergence of the housing wealth effect is the enhanced access to credit that has occurred through financial innovation, financial deregulation and technological innovations. In fact, Muellbauer (2008) does find an effect of

housing wealth on consumption when housing wealth is interacted with an index of consumer credit availability, but not for housing wealth on its own, consistent with the collateral effect being the sole source of the housing wealth effect on consumption. Similarly, Gerardi, Rosen and Willen (2010), using household-level data, argue that the development of mortgage markets has eased borrowing constraints faced by many households since the early 1980s, with the development of the secondary mortgage market being a key contributor.

Cooper (2009), using household-level data, also investigates the mechanism through which housing wealth affects consumption, distinguishing between the direct wealth effect of increases in house prices and the collateral channel of the effect on consumption expenditures. While he finds an overall effect on consumption of 3.5 cents for each additional dollar of housing wealth, the effect jumps to 11 cents for households that potentially need to borrow, while the effect on households with limited borrowing needs disappears. Moreover, the effect is particularly strong for those households that are already highly levered, precisely those households that are most likely to take advantage of an increase in their housing wealth to further smooth their consumption path.

Still, we have no consensus on the extent to which the equity extracted by households from their homes through mortgage refinancing and taking on new or larger home equity loans is used for additional consumer expenditures. Households may spend these funds on current consumption, but they also may use these funds to pay down other forms of credit, perhaps due to differences in interest rates charged on alternative forms of household credit or the tax-favored status of mortgage interest, or to acquire other assets. Because of the large magnitude of equity extraction, how these funds are used is of importance for understanding the contribution of increased home values to aggregate demand.

Greenspan and Kennedy (2007) provide estimates of both the magnitude of this equity extraction and its allocation to alternative uses. They estimate that about 80 percent of the rise in home mortgage debt since 1990 represents the discretionary extraction of home equity by households. They then use survey results to estimate that home equity extraction directly financed about 1 percent of consumer expenditures, on average, with the amount being only about 0.6 percent during the 1990s, rising to 1.75 percent of consumer expenditures in the early 2000s as the increase in mortgage debt accelerated (see Figure 6), accounting for much of the observed decline in the personal saving rate. At the same time, equity extraction funded about 40 percent of the expenditures on home improvements. On the other hand, much of the disposition of the funds from home equity extraction did not directly add to aggregate demand, being used to pay down non-mortgage household debt and to acquire other assets. Of course, these uses still may have indirectly affected aggregate demand for goods and services, insofar as the sellers of the assets to these households used the proceeds to make expenditures on goods and services, or the lenders used the non-mortgage debt repayments to provide additional credit to others who used the funds for expenditures on goods and services.

Mian and Sufi (2009), using data on individual homeowners, provide an alternative estimate of home equity extraction, finding that, on average, homeowners extract 25 to 30 percent of any increase in their home equity and that these funds tend to be spent on consumption or home improvements. Furthermore, borrowing against increases in home equity is stronger for younger households, consistent with increases in home prices easing binding borrowing constraints, enabling these households to further smooth their lifetime consumption path. In addition, this high rate of home equity extraction is more likely to occur for households with low credit scores, consistent with financial innovation and deregulation making credit more available, and for households with high credit card utilization rates, again, consistent with households that face more severe borrowing constraints being more likely to exploit increases in their home values to increase current consumption.

Hurst and Stafford (2004) also use household-level data to investigate differences across households, focusing on the extent to which homeowners use their home equity as a financial buffer to smooth their consumption in the face of adverse income (or expense) shocks. They find support for the income smoothing hypothesis, finding differences across types of households in terms of their propensities to use the home equity extracted for current consumption expenditures. In particular, households subjected to an adverse income shock are more likely to refinance and extract home equity, and the relationship is much stronger for those households deemed to be liquidity constrained and having less available liquid assets to carry them through the adverse shock. Moreover, those households who refinanced primarily to access their home equity and even incurred the cost of private mortgage insurance to do so spent about two-thirds of the extracted equity on consumption expenditures. On the other hand, households which were not deemed to be liquidity constrained tended not to use the additional funds for current consumption.

4. Initial Reaction by the Household Sector to the Financial Crisis

- The general downtrend in the personal saving rate has reversed
- The saving rate rebound is likely related to the large capital losses on household assets, as well as a precautionary motive in response to increased uncertainty
- Underemployment is much higher than the reported unemployment rate, and the persistence of spells of unemployment are lengthening
- Household retrenchment also may be due to tightened lending standards
- Many are delaying retirement in an effort to rebuild retirement nest eggs
- The shift from defined benefit to defined contribution pension plans has made retirement wealth more susceptible to capital losses on household wealth portfolios

The household sector has been hit very hard during the current crisis. Already it appears that the general downtrend in the personal saving rate has reversed. Figure 10 shows this reversal in the National Income and Product Accounts (NIPA) standard measure of personal saving. However, when consumer durable goods are properly recognized as assets by including the net investment in consumer durable goods in a broader measure of saving, the erosion of the saving rate since the mid-1980s is muted due to the substantial purchases of durable consumer goods by households. Still, even in the broader saving measure, the recent upturn in the saving rate is apparent.

What might account for the turnaround in the personal saving rate? Certainly, the large capital losses on household assets, both stock market and real estate, are a leading candidate. Figure 10 includes a real net capital gains series that has been smoothed by averaging gains and losses over the current and two previous years in order to smooth the very volatile series. A general inverse relationship is apparent, with households typically reducing their NIPA saving out of current income when they accrue large real capital gains. This is consistent with accrued capital gains satisfying the wealth accumulation motives of households so that they do not have to save as much out of current income.

Figure 10
Personal Saving and Capital Gains, 1950–2009



Note: The data were converted to constant 2005 dollars using the Personal Consumption Expenditures price deflator. Because the capital gains series is quite volatile, it has been smoothed by using a three-year moving average using the values for the current year and the two previous years.

Source: Net Investment in Consumer Durable Goods — Flow of Funds Accounts of the United States (FOF), Table F.100. Personal Saving — FOF, Table F.100 or Bureau of Economic Analysis (BEA), National Income and Product Accounts Table (NIPA), Table 5.1. Real Net Capital Gains — using Household Wealth from FOF, Table B.100 and Net Investment from FOF, Table F.100.

At the same time, when the accrual of real capital gains ebbs, or even turns into capital losses as in the current crisis, households tend to increase saving. Thus, this figure is suggestive of an operational wealth effect on consumption.

Still, that is likely not the entire story. The real capital losses suffered by the household sector are unprecedented in the post-World War II period. As such, the widespread devastation to household net wealth is a new experience for most households, shaking their confidence in the economy and inducing a high degree of economic fear and uncertainty. These events would be expected to strengthen the precautionary motive for saving. Even if you, or one of your household members, are not one of the millions who have lost their jobs, the fear that you might be next is very real for many. Thus, it is crucial for households to maintain, or build, a financial cushion to carry them through these difficult times.

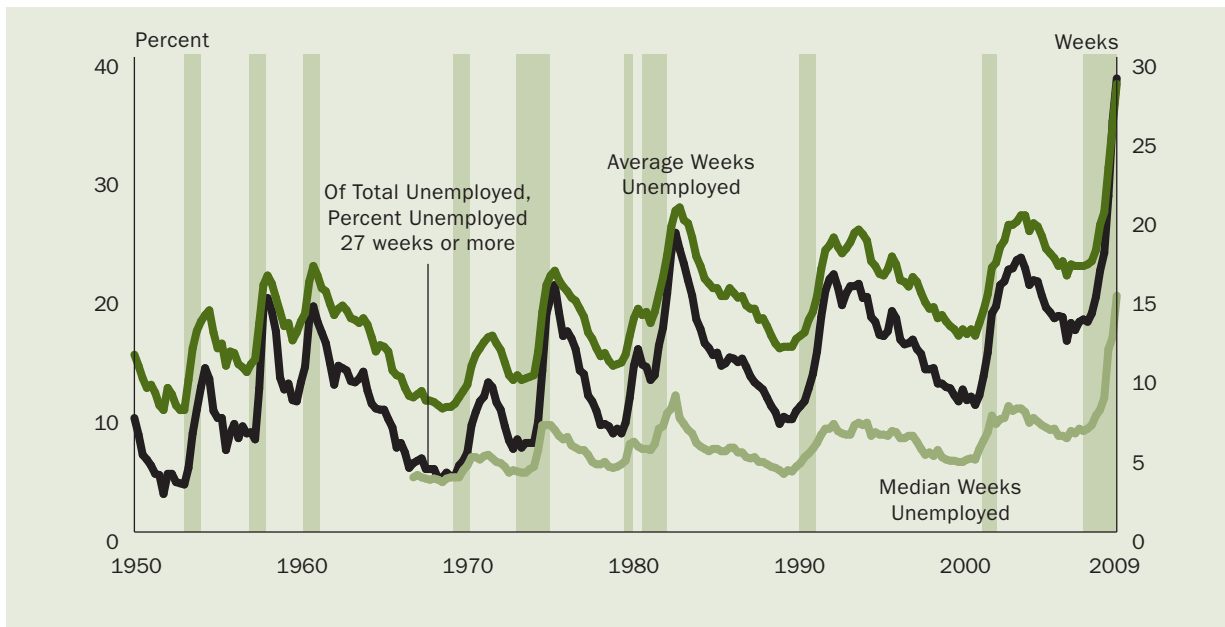
While the official unemployment rate has risen sharply, broader measures of underemployment, or labor underutilization, have risen even more. Figure 11 shows both the official unemployment rate and the Bureau of Labor Statistics (BLS) U-6 measure of underemployment. This latter measure of labor underutilization, which includes all persons marginally attached to the labor force or employed part time for economic reasons, exceeded 17 percent in late 2009. Moreover, the plight of the unemployed has worsened sharply during this crisis, with the duration of unemployment rising sharply, as shown in Figure 12. While both the mean and median of the duration of unemployment have risen sharply,

Figure 11
Unemployment and Underemployment, 1950–2009



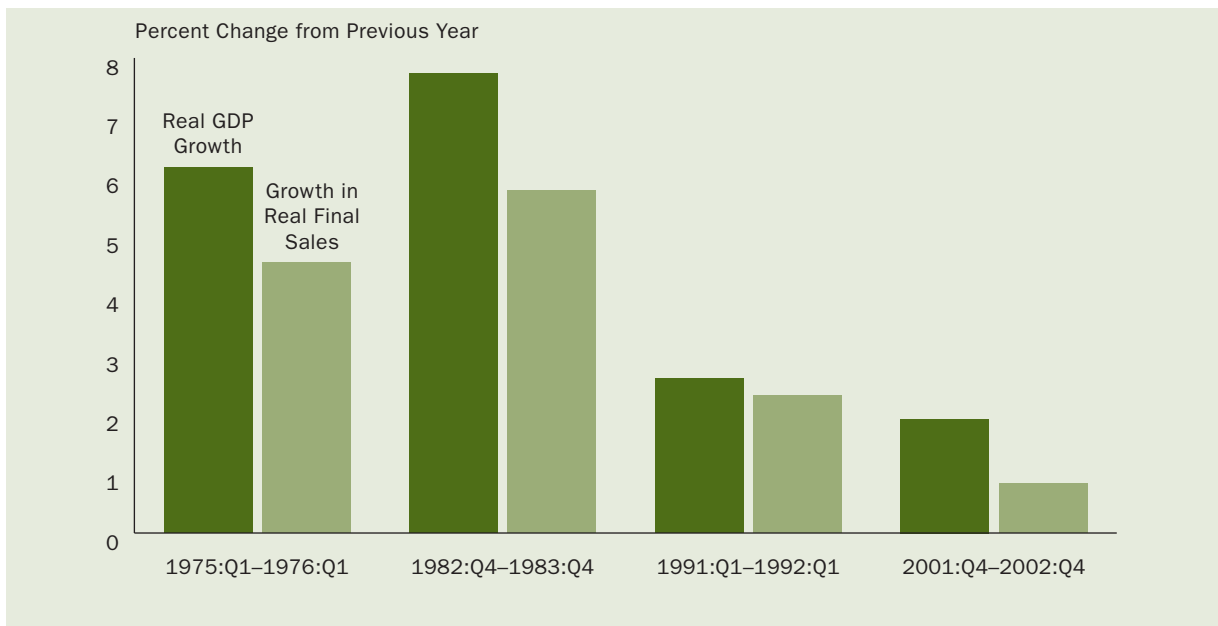
Source: *Unemployment Rate* — Bureau of Labor Statistics (BLS) Series LNS1400000Q. *Underemployment Rate* — BLS Series LNS13327709 (Table A-15).

Figure 12
Unemployment Duration, 1950–2009



even more striking is the rise in the share of the longer term unemployed, here measured by the share of unemployed who have been unemployed 27 weeks or more. Moreover, the employment picture is unlikely to improve markedly soon, with the unemployment rate forecast to remain high for an extended period. With such dour prospects for being re-employed quickly, many less well-off households will eat through a major portion of their wealth before being fully employed again.

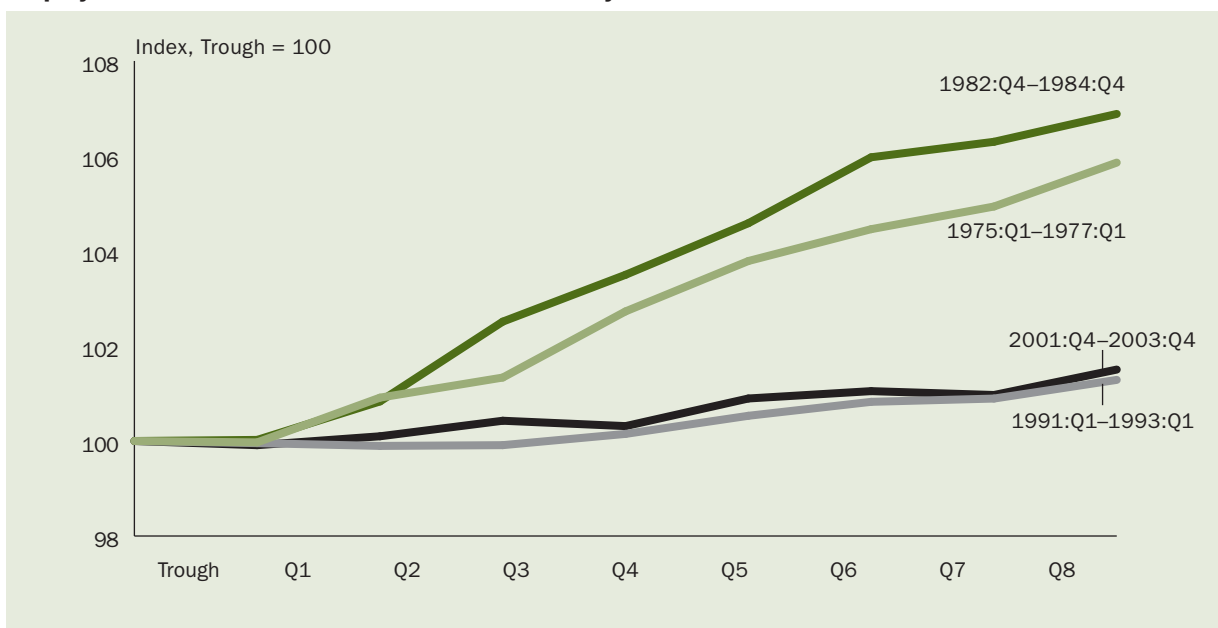
Figure 13
Real Growth in First Year of Recovery



Source: Bureau of Economic Analysis (BEA), National Economic Accounts, Table 1.4.6.

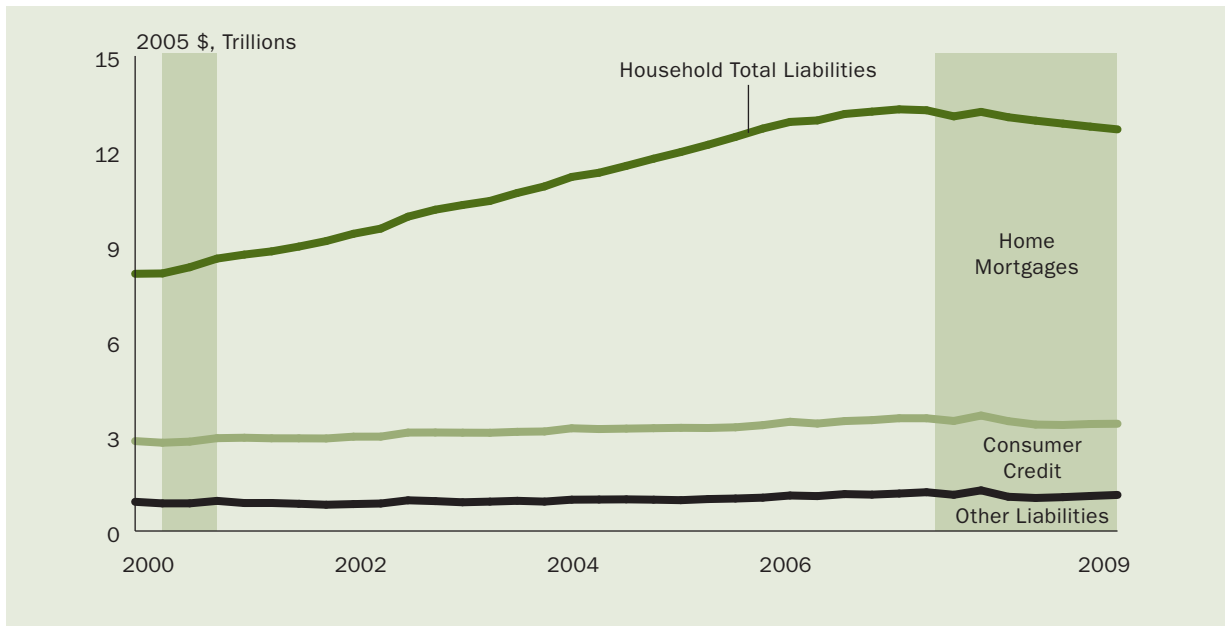
In fact, the concerns of the unemployed, and even the employed, that many of the lost jobs will never come back, and those that do come back will come back slowly, are justified by our experiences during the recoveries from our most recent recessions. Figure 13 shows how weak real GDP and real final sales growth have been during the first year of each of our recent recoveries. In fact, many have referred to our two most recent recoveries as “jobless recoveries,” and the justification can be seen in Figure 14. Even a year

Figure 14
Employment Growth in First Two Years of Recovery



Source: Employment — Bureau of Labor Statistics (BLS), Series LNS12000000.

Figure 15
Recent Declines in Household Debt, 2000–2009



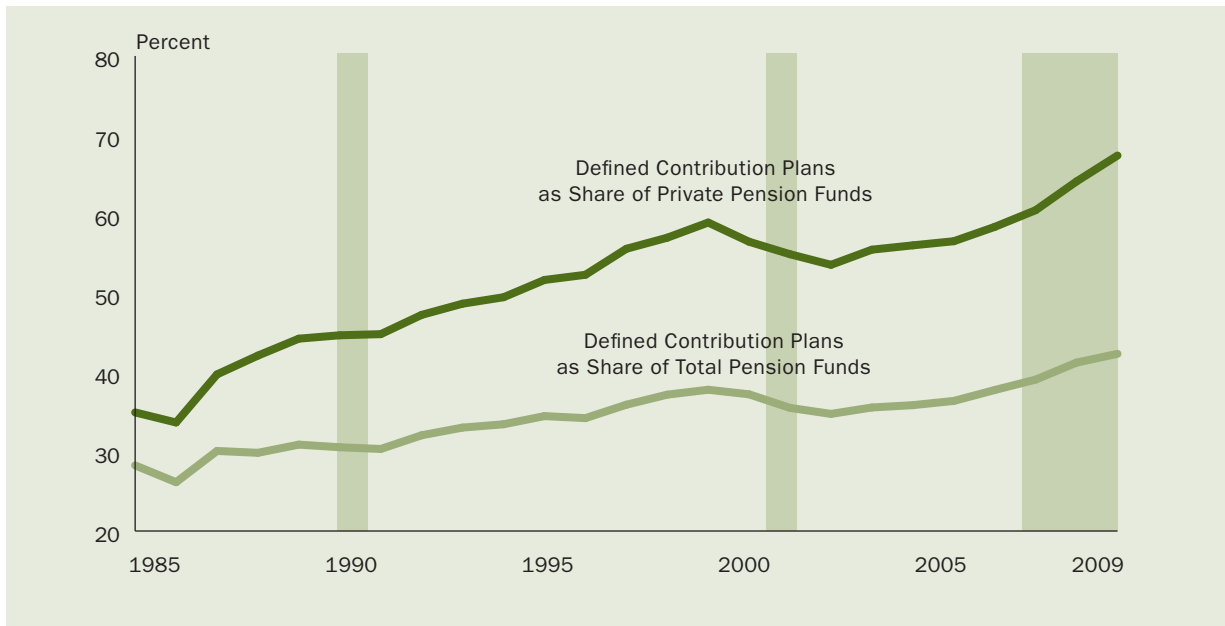
Source: Flow of Funds Accounts of the United States (FOF), Table B. 100.

into those recoveries, employment remained barely above its level at the trough of the recession, in sharp contrast to the employment recovery from the 1974 and 1982 recessions, and based on the forecasts, we have good reason to believe that the current recovery will exhibit a similarly slow return of employment.

The depth, and the likely persistence, of this financial and economic crisis suggests that households have a strong incentive to increase saving to bolster their cushion against a prolonged period of economic hardship. However, the sharp decline in income associated with high rates of unemployment and underemployment have severely impacted the ability of many households to save. Such problems are made worse by the high levels of debt service payments faced by many households due to the dramatic increase in mortgage debt in recent years, leaving little discretionary income available for saving. Moreover, as extended unemployment benefits and medical coverage expire, many households will experience additional adverse impacts on both their incomes and expenses, making it extremely difficult to maintain consumption expenditures, even as they increasingly rely on social safety net programs, and perhaps impossible to maintain or add to a buffer stock of assets for emergencies.

However, some of the bad news for households will contribute to an increase in aggregate saving. The tightening of credit standards by lenders, as well as the recent widespread reductions in home equity lines of credit and credit card balance limits, will prevent many households from being able to smooth their consumption path through the recovery by dissaving. But even if credit standards had not been tightened, the home equity of many households has already been wiped out, with reports that nearly a quarter of home mortgages are currently underwater and the massive wave of home foreclosures will not soon end. Figure 15 shows total household debt and its components since 2000. After the dramatic run up in debt, households are now retrenching,

Figure 16
Defined Contribution Pension Plans, 1985–2009

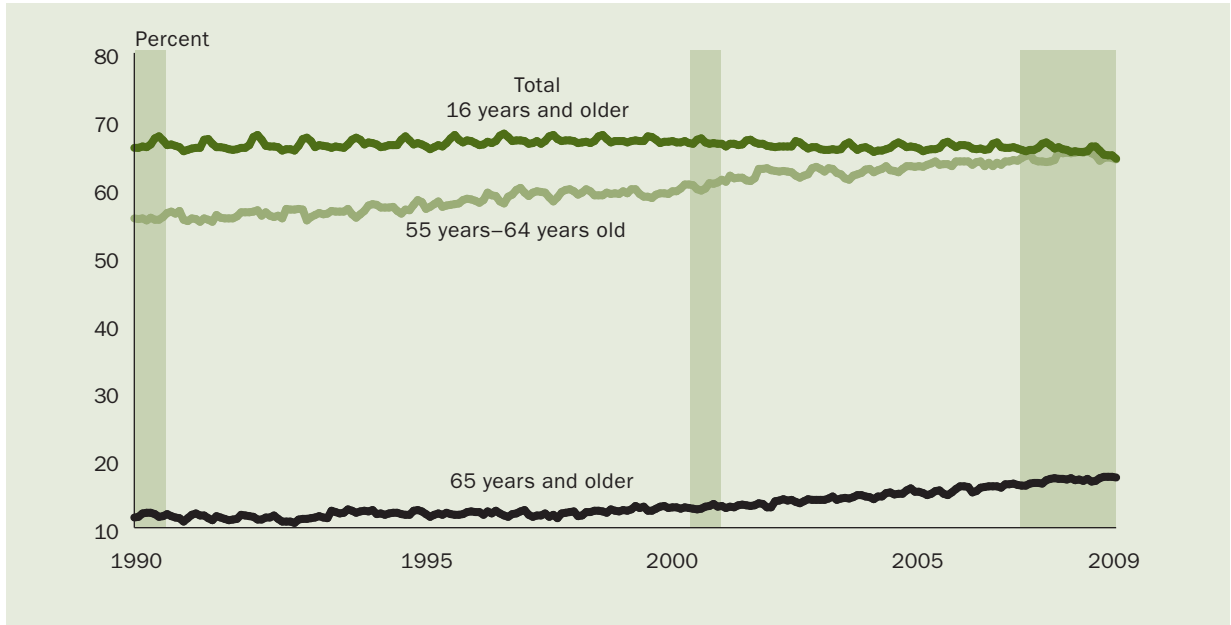


Source: Flow of Funds Accounts of the United States (FOF), Table B. 100e.

as lenders cut back credit due to reduced incomes, reduced collateral values and tightened lending standards. Most of the observed decline to date is in the form of home mortgages. Of course, some of the decline in household debt is related to loan defaults and foreclosures, which reduce reported debt outstanding. Given the delay in removing problem loans from the books of banks until foreclosures have occurred, one should expect to see substantial reductions in household debt as foreclosures continue.

Another factor that may add to personal saving is delayed retirement. Many households nearing retirement age have had their retirement wealth diminished substantially. While the degree of the decline in household assets has exceeded the experiences of most households, the impact is even more devastating than in the past because of the dramatic switch in the past 25 years from defined benefit to defined contribution retirement plans (see Figure 16), with the majority of private sector employees who currently do participate in employer-sponsored retirement plans now relying on defined contribution plans. Consequently, many private sector employees who once would have been protected during their retirement years from declines in their net wealth with pensions based on the level of their past earnings now must rely on the market returns generated by their retirement fund contributions. For many, the sharp reductions in those retirement assets, with little or no time left before planned retirement, gives them little or no time to make up for those losses. Thus, a possible response for many will be to delay retirement or attempt to reenter the labor force. While the labor force participation rate for the total population aged 16 and over has been falling, those for people aged 55 to 64 and 65 and over exhibit a positive trend, as can be seen in Figure 17. This positive trend is likely related to increases in longevity and improved health of the older

Figure 17
Labor Force Participation Rates, 1990–2009



Source: Labor Force Participation Rate, 16 years and older — Bureau of Labor Statistics (BLS) Series LNU01300000; 55 years–64 years old — BLS Series LNU01300095; 65 years and older — BLS Series LNU01300097.

population. The decline in retirement wealth provides an added incentive to remain in, or reenter, the labor force, although the projected scarcity of jobs may cause many to become discouraged about finding a job, or even to become an unemployment statistic.

5. Factors Affecting the Persistence of the Household Reaction to the Financial Crisis

- Employment growth is expected to be slow
- Housing sector is expected to be weak for some time
- The banking sector is still under severe stress with problem loans and securities
- Firms are shifting from permanent employees with benefits to part-time, temporary and independent contract employees
- People entering the labor force during recessions have lower lifetime incomes

It still is too early in the recovery to obtain a good understanding of how the many factors will play out over the next few years. However, it is reasonable to expect an extended period of slow employment growth and continuing home foreclosures, and thus weak performance of house prices. Moreover, many local and regional banks are now facing large volumes of problem commercial real estate loans on top of their existing problems with home mortgages, consumer loans and business loans. Given the sharp rise in the FDIC problem bank index, one should expect continued high rates of bank failures, suggesting that credit availability may be muted for some time to come.

In addition, labor markets will not be a bright spot. As noted earlier, recoveries have become weaker over time, characterized by a prolonged period of slow employment growth. Certainly, part of the reluctance of firms to hire additional workers is tied to a weak recovery of final sales, as well as to substantial uncertainties about economic activity and government policies to stimulate the economy. With the federal budget deficit already a severe problem, policy gridlock is a real possibility in the absence of bipartisan cooperation in Congress, and with the substantial uncertainty about changes in regulation and tax policies, business investment and hiring may be put on hold by many firms until a clearer picture emerges. In addition, with the rapid growth in benefit costs, especially healthcare, firms have an incentive to shift from permanent employees to employees who are part-time, temporary or independent contractors. Moreover, chronic unemployment and underemployment will do lasting

damage to the labor force, especially for young, new entrants, as career development is stunted and their attachment to the labor force is weakened. In fact, labor market research has found a cohort effect on the lifetime incomes of people who first enter the labor force during recessions, finding that they are less likely to find a job, and when they do find one, it is at a lower wage, and that lower level of income tends to persist through their career.

But the permanence of these effects on lifetime income is not the full story. Several recent studies have found that poor macroeconomic outcomes early in life have a lasting impact on subsequent behavior. For example, Guiliano and Spilimbergo (2009) find that generations growing up during recessions tend to be more likely to believe that success depends more on luck than on effort, which is likely to affect labor supply and effort, as well as views toward government institutions and tax policy. Malmendier and Nagel (2009) find that macroeconomic outcomes have long-term effects on the risk attitudes of those experiencing these outcomes. In particular, they find that individuals who have experienced significant losses from stock or bond investing are less likely to invest in those markets going forward, with experiences early in life still having a strong influence decades later. Thus, it is likely that the experience of the current recession and financial crisis will have long-term effects, especially on the younger cohort still in their “impressionable” years.

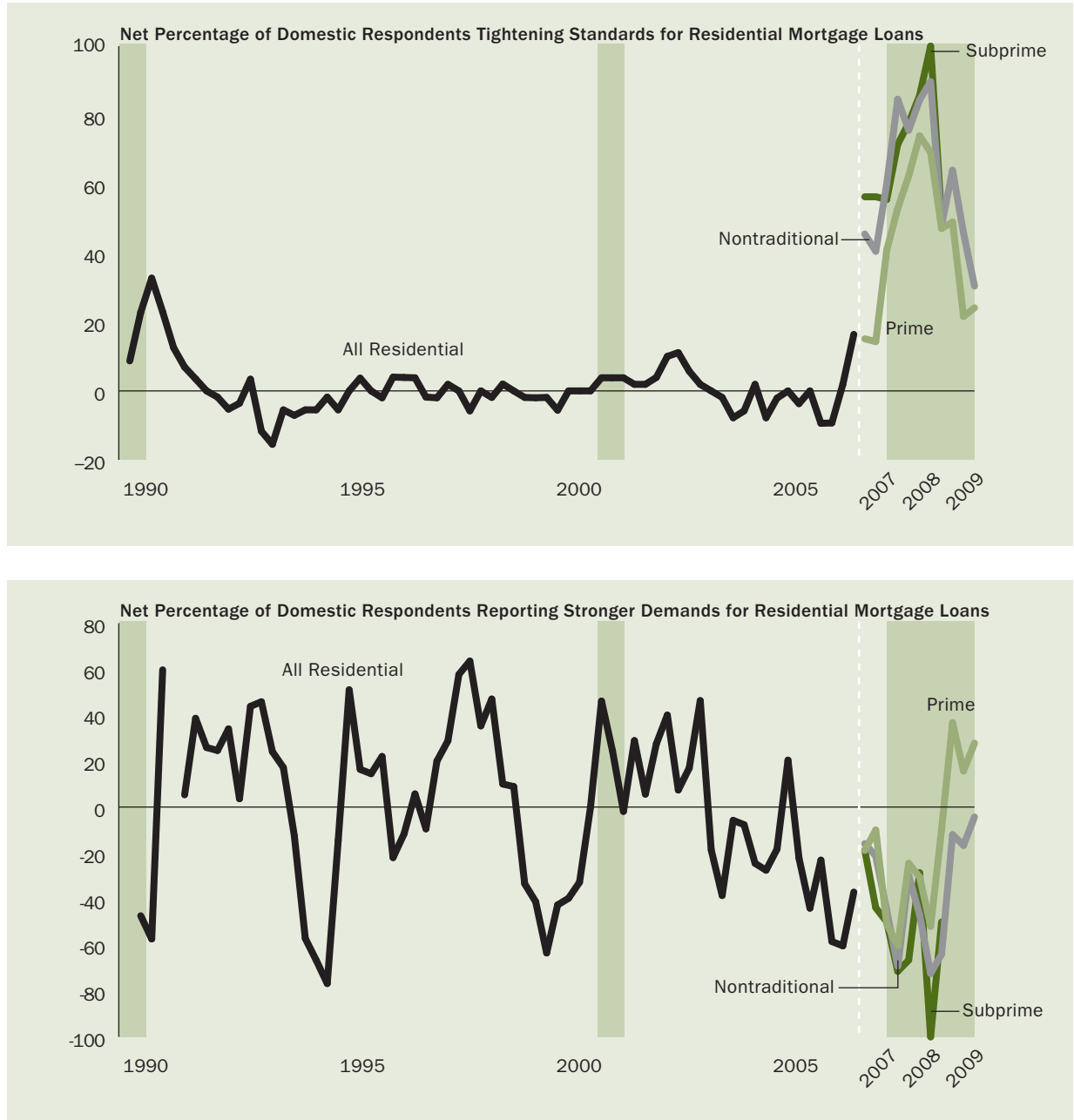
6. Credit Supply

- Credit supply and credit demand have been impacted by the financial crisis, as well as by government programs to support financial markets and the housing sector
- Banks remain in weak financial health, and thus are unlikely to increase credit supply much in the near term
- Many households will emerge from this crisis with severely damaged credit ratings, hindering their future ability to access credit for years to come
- Credit underwriting and pricing models developed with data from years prior to this crisis were heavily influenced by our experience with moderate macroeconomic volatility; this downturn will likely play an outsized role in credit decisions over the intermediate term

Understanding the dynamics of household debt is further complicated by the difficulty in distinguishing the extent to which any observed changes in household debt outstanding are due to changes in household demand for credit or changes in the ability and willingness of lenders to provide that credit. That is, is an observed change in household debt driven primarily by loan demand or loan supply? Given the current pressures on incomes and household balance sheets, as well as the deterioration in bank balance sheets during the financial crisis, this distinction becomes an important issue as we attempt to recover from the current recession.

Figure 18 contains information on the supply and demand for residential mortgage loans from the Federal Reserve's Senior Loan Officer Survey. The top panel indicates a widespread tightening of lending standards during the early stages of the financial crisis and recession. While the net percentage of banks tightening lending standards has receded from its peak, it is still positive, suggesting that more banks are tightening standards than easing them. Because much of the recent decline in the net percentage of banks tightening lending standards is likely related to the success of government policies that improved the functioning of financial markets, the fact that some of those policies are now winding down may be crucial for the future supply of credit. In particular, the artificial support

Figure 18
Measures of Supply and Demand for Residential Mortgage Loans, 1990–2009



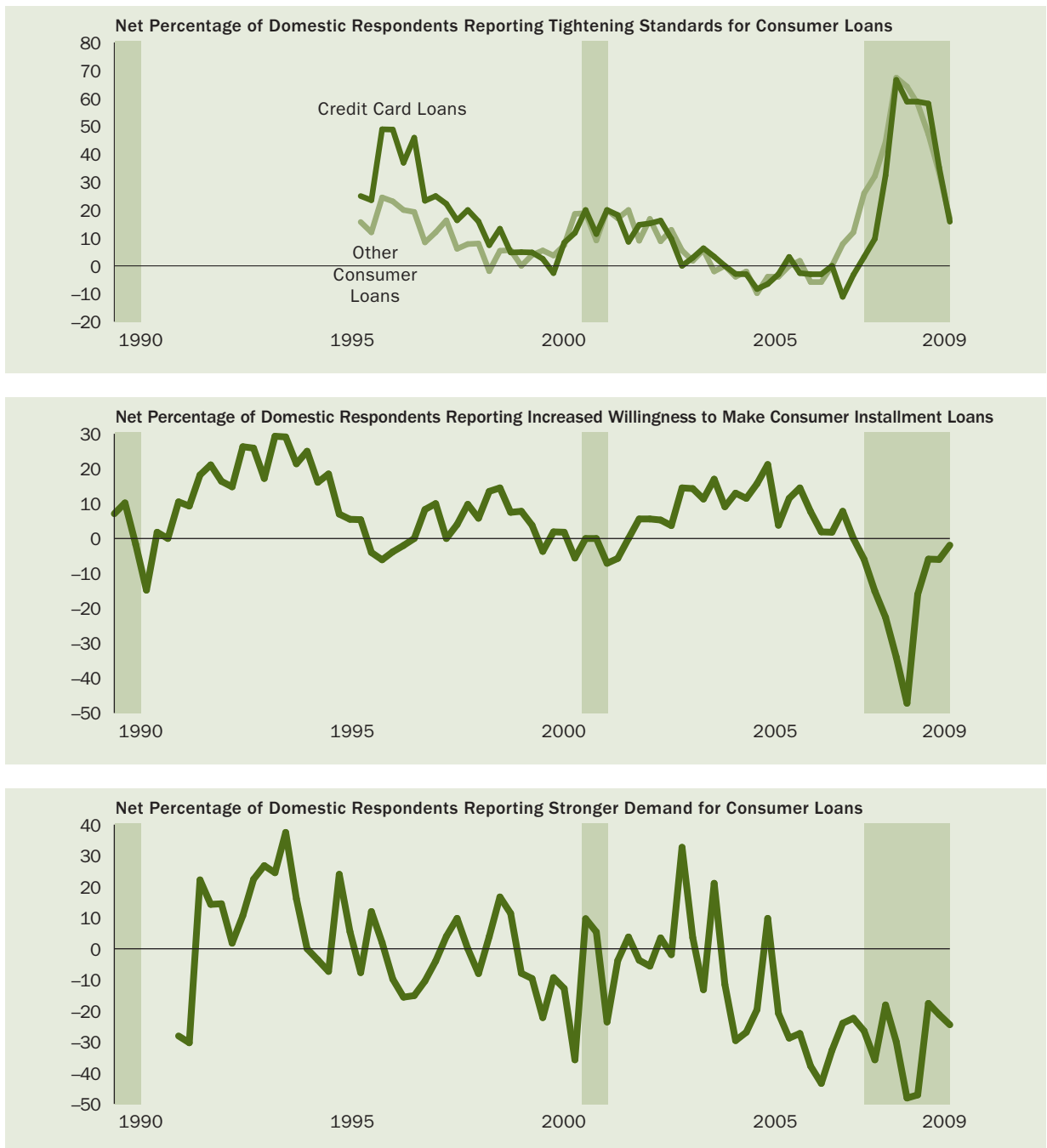
Note: The break in the bottom chart is caused by unavailable data.
Source: Federal Reserve Board — Senior Loan Officer Survey on Bank Lending Practices Chart Data.

provided by the Federal Reserve purchases of mortgage-backed securities and agency debt is ending. The lower panel presents the corresponding information for residential mortgage demand. For the recent period, the net percentage of banks reporting stronger demand is a mirror image of the top panel: during the early stages of the financial crisis, banks saw widespread weakening of loan demand, followed by strengthening. However, this pattern also likely reflects government policies. In particular, the tax credits for homebuyers artificially (and temporarily) stimulated housing demand. With this program ending, mortgage demand is likely to weaken somewhat.

Figure 19 shows similar patterns for consumer loans. The top panel indicates widespread tightening of lending standards for consumer loans during the early stages of the financial crisis, and, while the net percentage has declined, it is still positive, indicating that more lenders still are tightening standards than easing them. The middle panel tells the same story in terms of lenders' willingness to make consumer installment loans. The bottom panel indicates that most lenders still are not experiencing stronger demand for consumer loans, likely the result of weak household incomes and balance sheets and the efforts of households to delever their balance sheets.

Figure 19

Measures of Supply and Demand for Consumer Loans, 1990–2009



Source: Federal Reserve Board — Senior Loan Officer Survey on Bank Lending Practices Chart Data.

Given the weak financial situation in which many households find themselves, and the relatively dire prospects for a sharp rebound in employment to absorb the massive numbers of unemployed and underemployed, it would be surprising to observe an immediate rebound in household loan demand. At the same time, the damage that has been done to bank balance sheets is likely to restrain the willingness of banks to provide credit. Given recent experience, not only may banks be unwilling to provide easy credit, they may not be able to do so, at least to the same extent, due to the reregulation of financial markets. Many of the more exotic forms of mortgage loans have now fallen into disfavor, both by lenders and borrowers. Moreover, while reported problem loans and loan charge-offs have been substantial, many suspect that banks still have many impaired loans and securities hidden on their balance sheets. Until these problems are resolved, it is likely that bank lending will remain weak, especially as bank failures and the FDIC problem bank list continues to grow.

But even if weak bank health were not an issue, credit growth still would likely be restrained due to the damage that has been done to household balance sheets and, at least in the shorter term, their employment prospects, presuming that we repeat our recent experiences by having a “jobless recovery.” The rapid growth in household debt followed by the substantial declines in home prices and the sharp rise in the unemployment rate set the stage for large numbers of mortgage delinquencies and foreclosures in this crisis. More generally, although personal bankruptcies fell into a trough following the dramatic spike as people rushed to file before the effective date of the 2005 bankruptcy law, since that time, personal bankruptcies have been rising steadily. Thus, many households will emerge from this crisis with severely damaged credit ratings, hindering their ability to access credit for years to come.

While the quality of loan applicants has deteriorated, loan underwriting standards will be notably higher than before the crisis. Credit underwriting and pricing models developed with data from years prior to this crisis were heavily influenced by our experience with moderate macroeconomic volatility. Given the recent experience with widespread defaults, those models will be recalibrated with the more recent data. Furthermore, regulatory changes will reinforce this movement toward tougher lending standards. Additional pressure for higher underwriting standards will come from potential investors in securitized products who suffered large losses in this crisis and will now view credit ratings with more skepticism, which, in turn, will put added pressure on credit rating agencies and securitizers to do a much better job. In fact, credit rating agencies have already dramatically increased required levels of credit enhancement on mortgage securitization deals. Consequently, this economic downturn will likely play an outsized role in credit decisions over the intermediate term, if not longer.

7. Impact on Future Economic Growth

- Although consumer expenditures are the largest component of GDP, business investment and real estate construction typically account for most of the fluctuations
- Monetary policy has no room to lower the federal funds rate to stimulate interest-sensitive spending
- There is unlikely to be a major rebound in consumer expenditures, business investment or construction activity
- Federal, state and local government budgets are stressed, reducing the likelihood of additional stimulus from government expenditures
- While increases in net exports have contributed to aggregate demand, they may not continue to provide a meaningful lift to the economy

How fast and how strongly we recover from the Great Recession will depend in large part on the strength of aggregate demand going forward. While consumer expenditures represent by far the largest component of aggregate demand, other components historically have accounted for most of the fluctuations in real GDP. In particular, business investment and real estate construction have typically been important contributors to recoveries, in large part as a response to an easing of monetary policy. In addition, depending on exchange rate movements and the health of the economies of the rest of the world, net exports may contribute. And, of course, fiscal stimulus also may be an important contributor to a recovery.

It is difficult to argue that the household sector will be the source of a surge in demand during the current recovery. In fact, it could even be weak enough to retard the recovery. Although household wealth has begun to recover from its sharp decline (Figure 1), household wealth is still well below its peak, and is likely to remain so for an extended period of time. Thus, any wealth effect on consumption will retard rather than stimulate consumer expenditures. Moreover, the recovery in household wealth to date has been concentrated in corporate equity holdings; housing values are still trying to find a

bottom in many local markets. To the extent that real estate capital gains (and losses) have larger effects on consumer expenditures than do capital gains on other categories of wealth, the net wealth effect on consumption will serve to retard household expenditures. Similarly, with about one-quarter of home mortgages currently underwater, the extraction of home equity to be used to sustain consumer expenditures is unlikely to contribute to aggregate demand.

Similarly, residential investment likely will continue to be a drag on the economy. With high unemployment rates likely to recede slowly, and as foreclosures continue to mount, the supply-demand imbalance in the housing market will restrain house prices. Thus, residential real estate investment is unlikely to provide any meaningful stimulus to economic activity. The continuing overhang of housing supply will keep residential construction at bay in most markets, with the knock-on effects keeping demand for durable goods such as furniture and appliances weak as well. Commercial real estate investment also is unlikely to provide much stimulus. In fact, foreclosures on commercial real estate appear to be a growing problem.

Typically, an easing of monetary policy is a key contributor to stimulating the interest-sensitive components of GDP. However, in this recovery, no room is left to lower the federal funds interest rate to provide further stimulus. Moreover, the nontraditional policies used by the Federal Reserve to provide stimulus to the economy during this crisis are being wound down, rather than revved up. For example, unless extended, the support for the mortgage market by the Fed is due to end, and many are concerned about the extent to which mortgage, and thus real estate, markets can survive without the artificial stimulus that has been provided by the Fed, along with the tax and Treasury policies that have contributed to a stabilization of those markets. More generally, fears of a resurgence of inflation may put pressure on the Fed to limit any additional stimulus to the economy. While the Fed's provision of liquidity has been extraordinary, and its balance sheet has ballooned, the same was the case for the Bank of Japan in Japan's 1990s crisis. Yet, rather than dealing with runaway inflation, even now Japan is still struggling to escape deflation.

While additional stimulus from the Fed may be limited going forward, concerns about the dramatic rise in the federal deficit suggest that additional stimulus from that quarter may be limited as well. At the same time, state and local government budgets are under severe stress, making their spending more likely to mitigate rather than augment a recovery. All in all, the government contribution to further stimulus likely will be somewhat limited.

As is typically the case, business investment deteriorated during the Great Recession. While some recent stimulus has come from inventory investment, and corporate profits are increasing, in large part due to cost cutting and enhanced productivity, until we observe stronger aggregate demand it is unlikely that firms will go on an investment binge. At the same time, while the strength in net exports during the recession has provided a lift to the economy, the additional stimulus provided by this component of aggregate demand is likely to weaken somewhat, especially with the continued weakness in Europe, and China trying to rein in its growth rate.

8. Concluding Comments

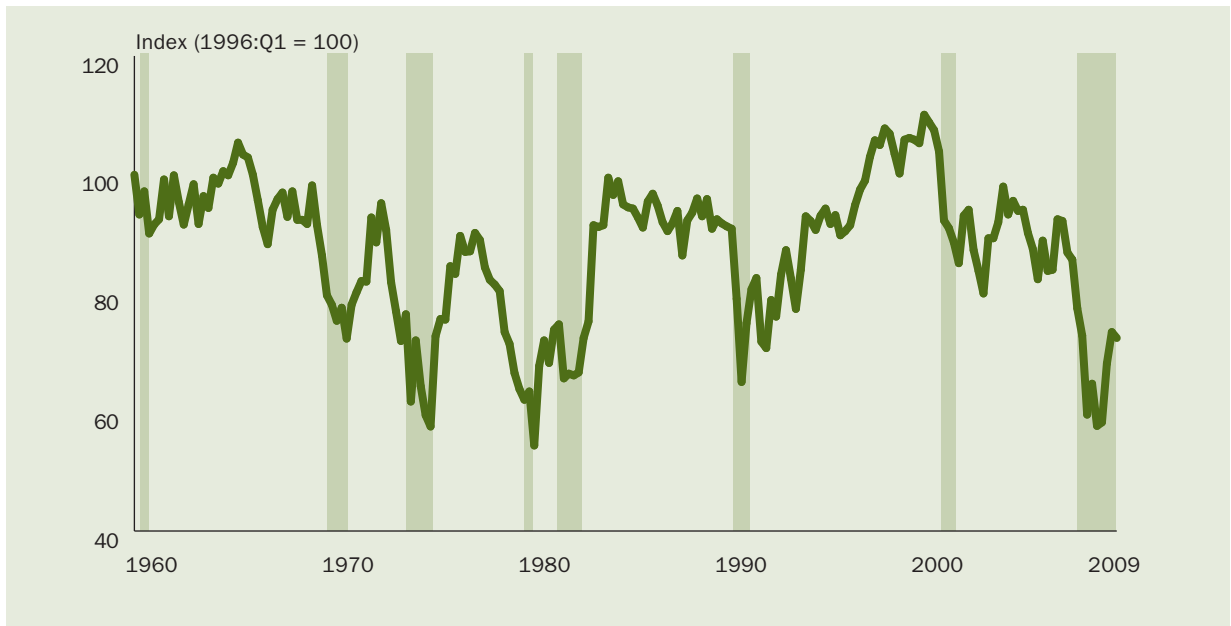
Are we scarred or simply scared by recent events? While Americans and the American economy are noted for their resilience, the current financial crisis and recession exceeded the devastation created by other post-World War II recessions. Although financial markets have been stabilized and the economy appears to have started its recovery, this recovery is likely to be characterized as a “jobless recovery,” perhaps even worse than our previous two such recoveries.

The usual suspects that typically lead a recovery have not yet stepped forward. Real estate construction activity and business investment are normally the first to rebound, stimulated by easier monetary policy. However, in this case, the federal funds rate long ago hit bottom, and the nontraditional monetary policy stimulus programs are now being wound down. Moreover, the temporary stimulus provided by government programs to support the housing sector is coming to an end. Many are concerned about whether the housing sector is ready to make it on its own, with foreclosures still rising and home sales weak.

Is it likely that other sectors of the economy will step forward to lead us back to prosperity? Consumer expenditures are the largest component of GDP. However, with consumer sentiment still very weak, although slightly improved from its depths (see Figure 20), it is unlikely that consumers will spearhead the recovery, especially if employment is slow to return to more normal levels. Similarly, with federal, state and local government budgets under severe stress, additional stimulus from the government sector will be muted, although additional stimulus from the federal government is a possibility if the economy takes another dive rather than continuing its slow recovery. And, although net exports have made a positive contribution to aggregate demand, the boost from that sector is unlikely to be sufficient as a driver of the recovery, even if net export strength persists. Finally, given the continuing problems in the banking sector, substantial increases in bank lending that would boost economic activity are unlikely to materialize. All in all, this recovery is likely to be relatively weak and drawn out.

If, in fact, the recovery is slow to materialize, the current young generation is likely to be scarred by the experience. Research has shown that entering the work force during a recession has long-term

Figure 20
University of Michigan: Consumer Sentiment, 1960–2009



Source: University of Michigan — Survey Research Center.

effects on lifetime earnings and attitudes toward risk and social policies. The unemployment rate for those aged 16 to 24 is nearing 20 percent in spite of the decline in participation by this segment of the (potential) labor force. Thus, many of our younger generation may not even be able to become underemployed. Without a reasonably rapid recovery in employment, at this point an unlikely scenario, we risk creating a “lost generation” that may never catch up.

At the other end of the spectrum, those (who may have thought they were) nearing retirement are increasing their participation rates, delaying retirement and reentering the labor force in an effort to rebuild at least some of the retirement wealth that was wiped out by the financial crisis. Moreover, with the shift from defined benefit pension plans to defined contribution plans, increasing numbers find themselves in particularly dire straits as the values of both their retirement nest egg and their home equity have plummeted.

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