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Abstract

This paper provides an examination of the decline in the household saving rate over the past two decades from both the macroeconomic and microeconomic perspectives. Between 1980-84 and 2000-04 private saving fell more than 8 percentage points of U.S. GDP. At the aggregate level, about 40 percent of the fall in the household saving rate occurred within contractual retirement accounts, that is, within employer-sponsored and individual retirement plans. Moreover, much of the drop in discretionary saving occurred before the sharp rise in equity and home values in the late 1990s. The paper examines the potential scope of a number of other explanations for the fall in aggregate saving, such as the drop in inflation, increased capital gains on wealth, and alternative treatments of consumer durables as investment. Lower rates of inflation do emerge as a possible cause of the drop in measured saving, but the other factors do not seem consistent with the observed timing of the decline.

The microeconomic section explores the feasibility of using information from successive Surveys of Consumer Finances (SCF) to follow the wealth accumulation of specific age cohorts over the period of most dramatic change in aggregate saving. For many components of wealth, the surveys are very similar to the corresponding aggregates of the flow of funds accounts (FFAs), but there are important discrepancies for corporate equities that become particularly large for the 2001 survey. The discrepancies in the nominal wealth are magnified when the two estimates are adjusted for capital gains, yielding substantially different estimates of household saving. The paper reports on some efforts to benchmark the SCF to the FFAs, using the distributional information of the SCF to provide an added dimension to the FFA data. The resulting microeconomic data indicate a widespread drop in saving that cannot be associated with any specific group of households.

WHY DON'T AMERICANS SAVE?

Introduction

The U.S. household saving rate has undergone an astonishing collapse over the past two decades, falling from an average of ten percent of disposable income in the first half of the 1980s to two percent in 2000-2003. The drop is particularly surprising when viewed in the context of the large cohort of baby-boomers who should be well into their peak saving years. The sources of the reduced rate of saving, including issues of measurement, have generated considerable interest in the research literature.[1] A variety of explanations have been put forth, with the most prominent being an emphasis on large capital gains on the ownership of corporate equities and real estate. In addition, the easy availability of mortgage financing may have encouraged households to borrow against their increased home equity.

The causes of the reduced saving are of particular interest when we look ahead to rising future costs for providing for the consumption needs of an aging population. If the fall in the saving rates can be traced to the recent rise in the wealth-income ratio, there might be little cause for concern. Households should be expected to consume a portion of such a large and unanticipated gain; and if the surge in wealth turns out to be transient, the saving rate should recover in future years. Other more permanent sources of decline would have more significant implications for future growth and the adequacy of retirement resources.

The objective of this paper is to use information on net asset purchases and wealth from the flow of funds accounts to provide a link between the measure of the flow of saving in the national accounts and wealth estimates obtained from the Survey of Consumer Finances. In the first section, data from the national accounts and the flow of funds accounts are used to disaggregate saving among a range of different contractual pension plans, Individual Retirement Accounts (IRAs), and more discretionary forms of

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[1] Some of the most recent articles are Gale and Sabelhaus (1999), Lusardi and others (2001), Maki and Palumbo (2001), Parker (1999), Peach and Steindel (2000), and Sabelhaus and Pence (2000). I have also made extensive use of the measurement discussion in Reinsdorf and Perozak (2002).

saving. This macroeconomic overview highlights some potential causes of the reduced rate of saving.

In the second section, data from the flow of funds are used to estimate capital gains within asset categories, and to shift from a focus on saving flows to wealth estimates that can be matched to the microeconomic perspective of the Survey of Consumer Finances (SCF). The SCF is conducted every three years and extends over the period of 1983 to 2001, an 18-year period that both predates the decline in saving and includes the years of most dramatic change. Because the wealth estimates of the SCF are believed to provide a relatively good match with the estimates of the flow of funds accounts, the repeated cross-section estimates can be used to explore some of the demographic characteristics of the change in aggregate saving. In particular, the analysis explores the potential usefulness of a synthetic cohort technique to examine changes in the wealth accumulation of specific age cohorts over the 18 years for which we have survey data.

Macroeconomic trends

The unprecedented magnitude of the saving decline is most evident in figure 1. The personal saving rate has fallen from an average of 10.4 percent of disposable income in the early 1980s to 1.4 percent in 2003. Prior to the 1980s, the saving rate had actually shown evidence of a modest upward trend with very limited annual fluctuations. The broader measure of private saving, which includes corporate retained earnings, indicates a very similar pattern except for the sharp rise of corporate earnings in 2002 and 2003. Retained earnings declined as a share of national income in the early 1980s, but they are not part of the decline of the past two decades. Thus, the subsequent analysis focuses on personal saving.

Retirement saving. The major role played by retirement saving accounts is highlighted in table 1 by using data from the flow of funds accounts to identify saving within employer-provided pension funds and individual retirement accounts. The capital income of these funds are generally exempt from income taxation, but they are subject to some restrictions on withdrawal prior to retirement. Both the national income and product accounts (NIPAs) and the flow of funds accounts (FFAs) classify net additions to

these funds as part of the saving of the household sector. Retirement saving was a slowly rising share of total household saving throughout the period of 1952 to 1985, and reached a peak equal to two-thirds of the total in the mid-1980s. There is some evidence of a substitution with other forms of saving which were a declining share of total saving in the late 1970s and early 1980s.[2]

The decline in the overall rate of personal saving appears to have begun in the last half of the 1980s, and it was initially evident only in the non-retirement components, which fell to zero and remained at that level throughout the 1990s. Over the past four years, saving outside of the retirement accounts has averaged -1.7 percent of disposable income. However, retirement saving also fell steadily throughout the 1990s as a share of disposable income; and in the 2000-2003 period, the percentage devoted to retirement account saving was less than half that of the 1980s. Saving within pension funds and IRAs accounts for 40 percent of the drop in the personal saving rate between its peak in the early 1980s and 2000-2003.

The changed rate of accumulation within the different types of retirement accounts is shown in the middle portion of table 1. A reduced rate of saving within employer-funded defined-benefit plans might be expected in the late 1990s as large capital gains on equities pushed many of the plans into an 'over-funded' status that prevented continued contributions. Surprisingly, however, saving also declined within state and local pension plans that are not bound by funding limits, and the reduced rate of accumulation within defined-contribution plans is as large as that for defined benefit plans.[3] There has been no decline in pension saving within life insurance companies, but many of those accounts are related to the transfer of funds from other pension plans to finance retirement annuities. Finally, there is some falloff in the rate of saving within IRAs relative to the peak accumulation of the mid-1980s. A large portion of the funds that flow into IRAs today are the result of the rollover of employer-provided pension

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[2] See, for example, Bosworth, Burtless, and Sabelhause (1991) and Bosworth and Burtless (2004).

[3] Separate information on private defined-benefit and defined-contribution plans are only available for the years after 1985. In addition, the data for 1985 may be distorted by an unusually large increase in accumulation for the total of all private pensions.

accounts occasioned by job terminations.[4] By the end of 1993, these IRA accounts accounted for $3 trillion in household wealth, compared to $9 trillion in formal pension accounts.

It is difficult to identify fully the sources of the falloff in pension saving. The data on pension accumulation are incomplete and subject to long reporting delays. The flow-of-funds estimates are computed by excluding capital gains from the change in wealth to obtain a net measure of the flow. The basic information is derived from tabulations of the Form 5500 filings of individual pension plans with the Internal Revenue Service, for which the last available report is for 1999. Thus, the current information requires considerable extrapolation using private-sector sources. Alternatively, saving within these accounts can be defined as contributions plus capital income (excluding capital gains) minus benefit payments. Information on employer contributions and benefit payments is provided in table 6.11 of the national accounts. However, no estimate is made of employee contributions to private pension plans, and the Bureau of Economic Analysis does not publish its estimates of the capital income of pension plans.

The data are relatively complete for government pensions, and the FFA and NIPA measures of pension saving are in close agreement. In that case, the fall in the saving rate can be traced to both a steady deterioration in the ratio of contributions to income dating back to the early 1990s, and a growth in benefits. In the expansion of Social Security to cover state and local government employees, some states have scaled back the size of their pension programs for new employees. Investment income has fluctuated in line with financial market developments, and has fallen as a share of disposable income in recent years.

For private plans, the change in net accumulation is due more to a large growth in benefit payments that most likely reflects the maturing of the defined-contribution plans. Although employer contributions as a share of income declined in the late 1980s, the ratio has been relatively constant over the past decade, and increased significantly in 2002 and 2003. As with government pensions, investment income has fallen in recent

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[4] Summaries of a extensive body of research on the disposition of lump -sum distributions is available in Burman and others(1999) and Moore and Muller (2002).

years. I would conclude that a large portion of the decline of saving within the pension accounts is relatively permanent and reflects a maturation of the overall retirement system. The proportion of workers with private pension programs has been constant for several decades, and the aging of the covered workforce is leading to significant increase in benefit outflows.

Other saving. If the falloff in saving is dated to begin in the mid-1980s, the largest drop is in non-retirement saving, which fell to zero in the late 1980s and turned sharply negative after 1999. The change since 1980-84 amounts to five percent of disposable income, and it would be even larger if measured against the 1952-79 period. It is notable that this component actually held quite steady over the 1990s when household incomes and wealth were rapidly rising. This result is quite surprising in view of all the speculation that the decline in household saving can be traced to increased spending due to the capital gains on equities and homeownership.

We can also be relatively confident that the saving decline is not just a statistical illusion. While the FFA measure of household saving is more volatile than that of the NIPAs, it shows a very similar pattern of deterioration. Because of a narrowing of the statistical discrepancy, the FFA measure actually indicates a larger drop in the rate of non-retirement saving, 6.4 versus 5.2 percentage points.

Alternative saving concepts. Over the years, many researchers have suggested alternative definitions of saving, and it is useful to inquire if they would alter the magnitude of decline shown by the standard measure.[5] A convenient recent summary is provided by Perozek and Reinsdorf (2002), who focus on (1) the treatment of consumer durables, (2) inflation, and (3) capital gains. Most economists would agree that the current line of demarcation between consumption and investment goods is somewhat arbitrary and that a case can be made for an expanded definition of investment (and thus saving) to include a broader group of expenditures. Like housing, consumer durables can be viewed as providing a stream of services in future period rather than representing current consumption.   The FFAs provide a measure of income and saving in which durable purchases are treated as an investment. However, as shown in the bottom panel

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[5] Some of the most cited references are Auerbach (1985), Bradford (1991), Eisner (1989), Gale and Sabelhaus (1999), Hendershott and Peek (1989) and Jump (1980).

of table 1, the inclusion of durables has only a small impact on the estimated magnitude of the long-term deterioration in the saving rate. Such purchases are highly volatile, even over 5-year periods, and there is no obvious trend.

Furthermore, it has long been recognized that, in periods of inflation, nominal interest payments include some prepayment of principle in order to maintain the real value of wealth. That is, an increase in inflation would raise the reported level of nominal income and saving of net creditors (households) without implying any increase in real wealth.[6] A measure of the inflation adjustment is reported in table 1. It is computed by multiplying the rate of inflation by an estimate of household net interest-bearing wealth.[7] The wealth is defined as deposits and credit market assets less credit market liabilities. The calculations include the interest-bearing assets and liabilities of noncorporate enterprises and assets held indirectly through pension plans, life insurance, personal trusts and mutual funds(Perozek and Reinsdorf, 2002).

The adjustment is quite large in the early 1980s, over three percentage points of income; and it declines to only 0.7 percentage points in 2000-2003. The decline is due both to lower rates of inflation and a much smaller level of interest-bearing wealth. Traditionally, the household sector has been a net creditor and the noncorporate sector a net debtor. But, beginning in 1999, the household sector becomes a net debtor in terms of directly-held interest-bearing assets and liabilities, reflecting the growing concentration of wealth in housing and equities on the one hand and the rise of mortgage debt on the other. The indirect holdings by the financial agents of households remain highly positive, but the overall net position falls as a proportion to disposable income from about unity in the early 1950s to one-fourth in 2003. Thus, lower inflation is a potential explanation for some of the decline in the reported saving rate.

The most controversial issue involves the treatment of capital gains. The focus of the system of national accounts is on the disposition of the current period's production of

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[6] The household sector is normally thought to be a net lender to the business and government sector. Thus, the inflation adjustment would be of little consequence to national income unless a country has large debts to the rest of the world. However, in recent years the household sector is a creditor only if retirement accounts are included and the United States does have a considerable foreign debt. Jump (1980) was one of the first to make the adjustment empirically.

[7] The inflation rate is measured by the year-over-year change in the average of the 4th and 1st quarter values of the personal consumption expenditure deflator of the national accounts.

real resources. Thus, under the NIPA definition, saving is the portion of the current period's production that is not consumed. The unconsumed portion of output is available for investment in productive assets, and those additional assets will enable an increase in future production and consumption. This definition of saving excludes the revaluation of existing assets.

On the other hand, net wealth accumulation – inclusive of capital gains and losses, but perhaps adjusted for general inflation – is more relevant for purposes of measuring changes in individuals' economic well-being. By enabling a person to make larger future consumption claims, an increase in wealth improves well-being, regardless of whether the increase in wealth reflects the future real income flows from additional capital investment or a transitory bubble associated with stock market exuberance. However, it has been argued that from the perspective of the aggregate of a closed economy the increased claim on current consumption can only be realized through a process that reduces the consumption of others.[8]

Even in the aggregate, an increase in wealth resulting from a technological breakthrough that increases the productivity of existing capital should be no different from that which is due to increased investment outlays. If all investors were forward looking and perfectly knowledgeable about the future, the changes in valuation would necessarily reflect changes in the productivity of capital. In practice, however, revaluations of the capital stock as reflected in the stock market seem much more random.[9]

The inclusion of capital gains results in an extraordinarily volatile measure of saving at the aggregate level, however, and valuation changes overwhelm any underlying variation in saving and investment flows. A simple measure of the nominal holding gains on market-valued assets (revaluations) is available in the FFAs and an inflation adjustment is computed as the rate of price inflation times the initial value of net worth. The resulting real capital gains, shown in table 1, suggest an astounding 44 percentage

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[8] Even the claim of no net gain might be questioned in the context of increasingly open global economy since the assets could be sold to foreigners.

[9] Hall (2000), for example, argued that the surge in the stock market in the late 1990s represented an increase in intangible capital that would contribute to future output, only to see the market reverse that valuation in subsequent years.

point addition to the saving rate over the last half of the 1990s, followed by a substantial negative correction in recent years.[10] Even over long periods of time, capital gains average in excess of 10 percent of disposable income. However, the focus on the household saving and wealth overstates the long-run role of capital gains because the contribution of reinvested corporate earnings is assigned to the capital gains term. In a comparison with the broader measure of private saving (inclusive of retained earnings), the role of capital gains is considerably smaller.

Furthermore, increased land prices are all allocated to capital gains. Some of the rise in land price is reflected in increased production, but much of it falls outside the boundaries of production as conventionally measured. For example, land prices have increased near the center of large metropolitan areas as individuals seek to minimize travel time, but the costs of commuting are included in the conventional measures of production. Furthermore, if capital gains were to be included as a component of saving, a similar change would be required in the definition of income. Yet, no one would suggest that the marginal propensity to consume out of wealth approaches that of other forms of income. Thus, it would continue to be necessary to distinguish between capital gains and other components of income and determinants of consumption.

For most purposes, the inclusion of capital gains does not yield a useful definition of either income or saving. Instead, it seems more reasonable to stick with the standard definitions of income and wealth, but to recognize that the change in wealth is a separate but important determinant of consumption. As shown in the last line of table 1 and in figure 2, the wealth-income ratio rose to unprecedented levels in the 1990s; in recent years it remains well above its historical average, despite the declines in equity prices in 2000-2002. The 2000-2003 average is 0.95 higher than the benchmark period of 1980-84. However, the figure also illustrates that housing wealth is as important as equities in accounting for the secular rise of the wealth-income ratio. If the marginal propensity to consume out of wealth is in the range of 0.03-0.05, as suggested by Poterba (2000), a wealth effect would account for 3-6 percentage points of the saving rate decline.

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[10] Peach and Steindel (2000) point out that the secular decline in the saving rate can be greatly reduced by including realized capital gains in saving. But the logic for focusing on realized gains is weak because most such gains are generated in the process of portfolio realignments, often by mutual fund agents. It is not clear why those gains would be more likely to lead to additional consumption.

Ludvigson and Steindel (1999) argue, however, that changes in equity wealth have no consistent predictive power in consumption regressions. They also point out that much of the decline in saving preceded the post-1995 rise in the wealth-income ratio; and, as we have shown, that is particularly true for saving outside the retirement accounts. Thus, the timing does not support a simple causal interpretation.

Housing Equity Withdrawal. An alternative explanation of the saving decline focuses on a presumed increase in the liquidity of the housing and mortgage markets. The cost of mortgage refinancing dropped substantially over the 1990s, from about two percent of the outstanding mortgage to less than 0.5 percent in recent years (Federal Housing Finance Board, 2004). With the decline in mortgage rates, many homeowners have sought to refinance their mortgage. In addition, data from Freddie Mac suggest that about one half of refinancings result in an increase in the mortgage amount in excess of 5 percent. It is argued that the increased liquidity of the housing market leads to the withdrawal of housing equity earlier in individuals' lifecycle than was the typical situation for older generations (Brady and others, 2002).[11]

On the basis of an examination of the housing market in ten countries, a recent OECD study (Catte and others, 2004) argued that there is significant link between the withdrawal of housing equity and consumption spending. They focus on the overall relationship between the mortgage market and housing, using the net change in the mortgage stock less new residential investment, rather than refinancings. As a result they exclude any rise in the value of existing homes. This is a different measure than that reported by Freddie Mac; it includes the sale of homes by older cohorts with a small remaining mortgage to younger households who finance the purchase with a large initial mortgage. For several countries, including the United States, they find a significant correlation between their measure of equity withdrawal and consumption. Perhaps more importantly, they illustrate a link between the 'completeness' of mortgage markets and the strength of the association between housing values and consumer expenditures.

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[11] However, the Brady and others study concluded that the magnitude of the effect on consumer spending was likely to be small.

Countries with highly developed mortgage markets display a larger impact of home value on consumption. [12]

The historical pattern of change in housing equity withdrawal is shown in figure 3 together with overall housing equity defined as the value of residential housing less mortgage liabilities. There is a substantial rise in the rate of equity withdrawal after 1995, but it only offsets a portion of the overall increase in homeowners' equity. Furthermore, in earlier years there is no evident correlation between the short-run fluctuations in this measure and changes in the saving rate. Finally, as shown at the bottom of table 1, mortgage equity withdrawal appears to be too small to account for a major portion of the saving decline. It represented about 1.7 percent of disposable income in the 2000-2003 period and it had the opposite sign through much of the 1990s.

Microeconomic Evidence

Given the stability of the saving rate in the decades prior to 1980 and the one-time nature of the recent decline, it is extremely difficult to account fully for the change based on the macroeconomic data alone. We lack the repeated events necessary to establish causation. Thus, this section explores some survey data of households to determine if the microeconomic analysis can provide any insight into the source of the decline.

An ideal data set would follow the behavior of a select panel of households continuously throughout the period. Unfortunately, no such data exists. There are four basic surveys that we might use. The Consumer Expenditure Survey (CES) has been conducted on a continuous basis since 1980, and individual households participate in quarterly interviews spread over a period of one year. Saving can be measured as income minus expenditures. However, as reported more fully in Garner and others (2003), there is a growing deterioration in the ratio of the survey measure of consumption expenditures to corresponding components of the national accounts. [13] As a result, the survey does not

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[12] An appealing argument of the article by Catte and others is that the development of the mortgage market, particularly for refinancing, increases the liquidity of housing wealth. However, the inclusion of their measure of equity withdrawal eliminates any significant role for housing wealth in the consumption regressions that they estimate for the United States.

[13] An extreme example is provided by noting that the weight of housing in the CPI, which is based on the CES, is nearly twice that in the NIPA consumption data. The discrepancy does not reflect any

even capture the deterioration in saving that is so evident in the aggregate data, and it is of doubtful value as a measure of household saving.

The Survey of Income and Program Participation (SIPP), the Panel Study of Income Dynamics (PSID) , and the Survey of Consumer Finances (SCF) all provide estimates of wealth over the relevant period, but they provide no direct information on saving. In addition, the SIPP captures only about half of the wealth reported in the SCF, presumably because of a failure to include high-income families (Czjaka and others, 2003). The PSID is potentially very useful because it does follow the same individuals over time and the estimates of wealth are much closer to those of the SCF than the SIPP.[14] However, this paper focuses on the SCF because it includes six individual surveys spanning the years 1983-2001, thus providing information on wealth holding over the period of decline in the saving rate.

I propose to use the wealth surveys to examine the change in saving at the microeconomic level by constructing measures of household wealth that are consistent with the definitions of the FFA, adjusting for capital gains and losses between survey years, and using a synthetic-cohort technique to examine the change in wealth for specific age cohorts over the two sub-periods of 1983-92 and 1992-2001. The household saving rate averaged 7.9 percent of disposable income in the first period and 3.7 percent in the second. Thus, these two periods encompass a large portion of the period of falling saving. However, it is important to note that the SCF does not include most retirement accounts. Thus, the focus is really on saving outside the defined contribution plans for which the decline was less dramatic.

Prior research. Several recent studies have undertaken similar analyses. Maki and Palumbo (2001) use the relationship between comparable components of wealth in the SCF and FFAs to impute the FFA measures of wealth and saving to groups of households in the SCF. That is, they allocated each asset and liability category of the FFAs to groups of households using the distribution of the asset category reported in the SCF. They defined their groups on the basis of income and educational attainment. A

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disagreement over the magnitude of housing expenditures, but the CES finds only about half of the other expenditures.

[14] Hurst and others (1998) used the PSID to examine wealth changes over the 1984-94 period.

more controversial aspect of their procedure is the assumption that they could use the asset allocation to distribute FFA saving (flows) across the same groups. In affect, they assume that net purchases are proportionate to the holdings of the specific asset/liability in the cross-section of households.

Maki and Palumbo concluded that the decline in saving has been concentrated among the highest-income and best-educated families. However, that may be a direct result of their assigning a predominate portion of equities to those same groups. Equities are the major FFA category for which household net purchases are consistently negative. While those were the groups that benefited most from the rise in equity prices, the negative net accumulation was common both before and after the run up of prices: the ownership of equities has steadily shifted from households to the pension funds and off-shore investors.

Sabelhaus and Pence (1999) used the SCFs of 1989, 1992, and 1995 to measure the wealth accumulation of specific age cohorts over the 1989-1995 period. They employed the level and flow data of the FFAs to separate the change in wealth holdings within broad asset groups between capital gains and net purchases. These aggregate rates of capital gains are then applied to the comparable asset categories for the SCF. They used the adjusted SCF measures to track the change in wealth due to net investment and capital gains for broad age cohorts. Thus, they could observe each age cohort's wealth accumulation over a 6-year period – for example, as they aged from 34-43 in 1989 to 40-49 in 1995. They also include adjustments for mortality and bequests.

Sabelhaus and Pence find a much stronger life-cycle impact on saving than is typical in other studies, with very large rates of dissaving among the oldest cohorts even after adjusting for bequests. They attribute this result to the better representation of high-wealth families in the SCF. Of more relevance to the current study, their adjustment of the SCF for capital gains does not imply a decline in the rate of saving over the period. In fact, the rate of active wealth accumulation (excluding capital gains) is higher in 1992-95 than in 1989-92.

One other research report is of particular relevance to the methodology of this study. Hildebrand (2001) used the wealth estimates for eight SIPP surveys to undertake a synthetic-cohort analysis of the age pattern of wealth accumulation. Even though the

SIPP may not capture large portions of aggregate household wealth, the Hildebrand study is interesting in highlighting the usefulness of the cohort perspective. In particular, he shows a strong hump-shaped age distribution of wealth in the cross section that vanishes in the cohort analysis. Older households have less wealth than younger households at a point in time not because they dissave, but because they had lower lifetime earnings. On the other hand, the study does not adjust for capital gains, which may be more important for older households. During the period covering by the study, the price of both equities and homes rose dramatically.

SCF Versus FFA Wealth. The first step is to compute measures of household wealth and it components in each survey that are comparable to those of the FFA. The procedures for grouping survey responses rely heavily on the methodology of Antoniewicz (2000). The results are summarized in table 2. The estimates for the 1989 through 1998 surveys agree closely with the values published by Antoniewicz and we extended her methodology to the 1983 and 2001 surveys. We also can compare our result for 1983 to a study by Avery and others (1998).

Some wealth items that are part of the FFA, such as defined-benefit pension accounts and life insurance reserves, are not included within the SCF. However, the coverage of matching categories accounts for 70-80 percent of the total with the difference being largely due to the exclusion of pensions. In most years, the SCF is a fairly good match to the FFAs for corresponding components of net worth, ranging from 94 to 99 percent in the 1983-98 surveys, but there is a large 20 percent overestimate in 2001.

With respect to individual components, the FFA estimate of deposits consistently exceeds that of the SCF.[15] Also, there are significant problems with corporate equities that appear to be associated with the measure of the value of closely-held corporations. Avery and others (1988) in their analysis of the 1983 data argued that the FFAs did not capture many of these holdings, and they simply excluded the category from their comparison. In later years, Antoniewicz (2000) distinguishes between closely-held and other equities, but the SCF estimate is consistently larger than the FFA value in all years.

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[15] We did not follow Antoniewicz in deducting rest-of-world deposits and currency from total currency because it resulted in a negative residual in 2001. Our estimates make no deduction for currency even though it is not captured in the SCF.

The discrepancy between the two sources is also quite large for noncorporate equity in 1983. There is a surprisingly close alignment of the valuation of residential real estate in all years, and a relatively good agreement on financial liabilities.

Capital gains adjustment. The FFAs provide estimates of both the net accumulation of specific assets and liabilities (exclusive of valuation changes) and end of period estimates of net wealth based on current market values. Thus, the capital gain can be computed as the change in the level of wealth minus the flow accumulation. In this analysis, capital gains are removed by computing the ratio of the asset value, excluding capital gains, to the total market value and applying those ratios to the corresponding categories of the SCF. For the data shown in table 2, capital gains adjustment are made for all the categories except deposits, credit market instruments and financial liabilities. Both the FFAs and the SCF record bond holdings at book value, eliminating the need to adjust any of the credit market instruments.

Measures of the change in wealth over the periods of 1983-92 and 1992-2001 are shown in table 3. The top panel shows the total change in wealth inclusive of capital gains and bottom panel reports net of saving. Several features stand out. First, the magnitude of capital gain overwhelms the estimated rate of active saving. In 1983-92, the increase on net worth inclusive of capital gains exceeds $9.5 trillion, compared with $3.3 trillion for active saving (exclusive of capital gains). The differences are even larger in 1992-2001, $16.1 trillion versus $2.2 trillion. It is evident that we can say nothing about active saving behavior without devising a means of adjusting for capital gains.

Second, despite a fairly close correspondence between the SCF and the FFAs for the nominal value of wealth in the individual years, the differences are large enough to yield much different estimates of both the gross change in net worth and the net rate of saving. The SCF measure of the change in net worth actually rises substantially in the second period (because of the large discrepancy between the SCF and the FFAs in 2003). It also suggests a doubling of the net saving rate between the two periods. In contrast, the FFAs measure of saving slows substantially in the second period, and the decline is particularly pronounced for those components that can be matched with the SCF.

Benchmark Adjustments. There is nothing in the aggregate data that would support the conclusion from the SCF that the rate of household net saving has increased

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over the past two decades. Thus, error in the respondents' estimate of the value of their asset holdings is the most plausible explanation for the difference between the two wealth estimates. That premise is also supported by noting that the discrepancies in table 2 are largest for the asset categories with the most volatile prices. In particular, it does not seem surprising that investors were relatively unsure of the value of their equity holdings in 2001.

If the errors in valuation are distributed relatively randomly across respondents, it would still be true that the SCF would provide useful information on the distribution of wealth, even if not on the total amount. That suggests that the SCF might still provide valuable information on the composition of the change in wealth across various demographic and social groups. Therefore, the ratio of the nominal values of the FFAs to the SCF values within each asset category was used to adjust the SCF data at the level of individual respondents for each survey year and asset category shown in table 2. Second, the capital gains adjustment, explained above, was applied to the same years and categories.

Both of these adjustments might seem extreme. It is unlikely that each household would make the same proportionate error in reporting its assets or that the composition of assets within each category would be so similar as to yield the same rate of capital gain. However, if the objective is to compute averages for relatively large groups, it might be reasonable to assume that the errors are randomly distributed within each group.

Age distribution of wealth changes. Some preliminary results are reported in table 4. The upper panel shows the change in nominal wealth, by age group on the left and by age cohort on the right, over the two sub-periods of 1983-92 and 1992-2001.[16] The second panel displays the same measures for the SCF data after the benchmarking to the flow of funds, and the third panel excludes the capital gains to provide an age distribution of active saving. The benchmarking of the data to the flow of funds results in small changes in the data for the first period, but the revisions are very large in 1992-2001 and they vary substantially across the age groups. The age distribution of the change in wealth is also altered substantially by the exclusion of capital gains. As we

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[16] The age cohorts are categorized based on their age in 1983. Thus, the group aged 30-39 ranges in age from 48 to 57 in 2001.

would expect, the capital gains are largest for individuals in the older age groups of 40 to 70. The combination of benchmarking and the exclusion of capital gains provides much more evidence of reduced saving throughout the age distribution.

The most striking aspect of the table is the sharp alteration in the age distribution of wealth changes when we switch from a comparison based on fixed points in the age distribution to follow individual cohorts. The cohort classification shows much stronger evidence of a life cycle pattern of saving: saving is highly positive for the middle-aged and turns negative after age 60. The decline in aggregate saving between the two sub-periods also appears to be spread across all age groups.

However, there are also significant problems with the interpretation of the cohort data. First, we have no real information on the saving of families whose head was less than 30 years of age in 1983. The basic economic unit in the SCF is the family, which consists of couples and single individuals. For couples, the family is classified by the age of the male. Since individuals under age 30 frequently live with their parents or in shared living arrangements, the number of households within an age cohort grows substantially as the cohort ages up to about 30 years of age. Second, beyond about age 70, the number of households within a cohort begins to decline rapidly due to deaths. Thus, what appears to be a decline in saving in the older ages may simply reflect mortality.

The problem of variations in the number of families within a cohort is illustrated in figure 4. It shows the number of families in 1992 and 2001, classified by their age in 1983, as a percentage of the number of families in the age cohort in 1983. The number of male-headed households who were under age 30 in 1983 increases dramatically in 1992 and 2001. The ratio remains quite stable for those who were age 30-50 in 1983 and then begins to reflect the effects of mortality. The number of female-headed households shows less variability in the younger ages because of the practice of classifying couples in the SCF by the age of the male. However, there are substantial increases in female-headed households in later years due to divorce and the death of the male head.

The instability in the size of the cohort at the younger ages can be controlled by focusing on cohorts that were older than 30 in 1983. However, while only two percent of 1983 wealth was held in households whose head was less than 30 in 1983, the percentage of total wealth held by that cohort rises to 10 percent in 1992 and 22 percent by 2001. In

the 1983 survey, 14 percent of household had a head who was under age 30 in 1983. By 2001 the percentage had increased to 52 percent. Thus, the exclusion of the youngest cohorts over the 18-year span eliminates a significant portion of the wealth and a large proportion of the households in the later years.

At the other end of the age spectrum, the number of households who were aged 60-69 in 1983 declines by half by 2001. Less than 20 percent of those aged 70-79 and no one from the over age 80 group are projected to survive to 2001.[17] Some of the wealth held by these households is passed to younger households, but the SCF has only limited accounting for inheritance. Thus in the cohort measures, deaths are treated as negative saving, and inheritances are treated as active saving by those who receive them.

The last panel of table 4 reports on a partial correction for mortality. The decline in the number of families can be incorporated by reporting the net worth on a per family basis. This assumes that the average wealth of those who survive is that same as those die at younger ages. If wealthier people live consistently longer (as the evidence suggests, Attanasio and Hoynes, 2000), the change in wealth per capita will understate the amount of dissaving at older ages. It is evident in the table that adjusting for changes in the number of families does have a substantial effect on the cohort measures of saving, removing much of the prior evidence of substantial wealth decumulation among the older cohorts. It also yields very ambiguous evidence on the role of different age groups in the decline of saving between the two sub-periods: saving declines for households aged 40-49 in 1983, and rises for those in the 30-39 and 50-59 age groups. The baby-boom generation, for example, is in the age cohorts that were below age 40 in 1983.

It would be very useful to be able to examine the wealth changes along other dimensions than age. Many observers have speculated, for example, that the decline in saving is likely to be concentrated among households with the substantial wealth in corporate equities and homeownership because those are the categories with the largest capital gains. Yet, the composition of these groups changes substantially over time. The cohort approach to deriving a measure of wealth change is limited groups that remain relatively unchanged.

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[17] These percentages are based on population weights; but in the 2001 survey, there are only 215 cases for the cohort that was age 70+ in 1983 and 1100 cases for the 60-69 cohort.

Education is one characteristic that is reasonably constant after age 30 and might be a good predictor of future income. Thus, each cohort group was further divided among those with a high school degree or less and those with some tertiary education.[18] The tabulations suggested that the more educated families in each cohort do account for a higher portion of the saving in their working years and more dissaving in the retirement years. However, there is no consistent difference between the saving of those with high and low educational attainment in the shift to lower rates of saving after 1992. Additional tabulations used homeownership and income (above and below the cohort median) as the distinguishing characteristics. They were even less successful in yielding little or no differentiation of saving behavior, perhaps because they are less likely to define a stable group over time. These results can be contrasted with those obtained by Maki and Palumbo who assumed that the distribution of the flows would be the same as that of the sticks of individual assets.

In summary, the cohort analysis, even though it is preliminary, suggests the decline in aggregate saving has been a relatively widespread phenomena that cannot be attributed to any limited category of households. Additional research can explore other aspects of the data, but the use of cohort comparisons to construct measures of saving from successive cross-sections of the population of wealth holders is limited. The classification of wealth by the age cohort of the families that hold it must deal with considerable movements among the cohort groups due to marriage, divorce and death. In addition, the large magnitude of capital gains indicates the importance of getting that adjustment right in any effort to infer the underlying saving behavior. Synthetic cohorts are a poor substitute for true panel data of household wealth holdings at successive points in time.

Conclusion

The decline in household that extends over the past two decades is evident in a wide range of different data sets, including the national accounts, flow of funds, and the Survey of Consumer Finances. We can conclude that it is not a statistical artifact. We can also account for a substantial portion of the reduction.

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[18] Even a two-way division of a cohort begins to encounter small sample problems in the SCF.

A major portion of the refall in saving can be traced to lower rates of growth of private pension plans. Savings within the pension plans has slowed as the programs become more mature and benefits rise relative to new contributions. This is particularly evident for private defined-benefit plans whose financial difficulties and aging contributor base has been widely publicized. However, there is also a substantial reduction of saving within the public pension programs and the newer defined-contribution plans. We might look forward to a modest recovery of pension saving in the short run as recent losses in the equity markets will require larger employer contributions. Nonetheless, it seems evident that pension saving will remain below past peaks because the existing plans are reaching maturity and the pension system is not expanding to cover a larger portion of the workforce.

There has also been a significant reduction in saving outside of formal retirement accounts. The drop in this component occurred largely during the 1980s, held steady during much of the 1990s, and fell again in 2000-2003. The fall in inflation since the early 1980s is a possible contributing factor because the misreporting of the inflation component of interest payments as current income and saving has declined in importance. Finally, the saving decline preceded much of the rise of prices in equity and housing markets. Thus, it is not straight-forward to relate reduced saving to the rise in the wealth-income ratio.

The paper also reports on a preliminary exploration of data from the SCF. A comparison of information on wealth holding between the SCF and the FFA indicates that the architects of the SCF have made considerable progress in developing a sample that is truly representative of the total national wealth holding. In general, the SCF can be used to provide considerable detail on the distribution of aggregate wealth. However, each new survey (3-year interval) of wealth provides limited additional information because the distribution of wealth changes very slowly over time.

Most importantly, the SCF lacks a panel dimension that would allow us to explore the sources of change in wealth holdings. In this study, I have attempted to construct synthetic panel results by organizing the wealth data by age cohorts. The cohort-based perspective does suggest a strong lifecycle pattern of saving with accumulation during the working years and decumulation in retirement. However, there are few family

characteristics, beyond the age and education of the head, which remain stable over time. Thus, the synthetic cohort technique provides only limited additional insights into the factors behind the decline in saving. It is evident that the next big step would be to extend the SCF to have a panel dimension as was originally proposed in the 1980s.

References

Antoniewicz, Rochelle L. 2000. "A Comparison of the Household Sector From the Flow of Funds Accounts and the Survey of Consumer Finances," SCF Working Paper, Board of Governors of the Federal Reserve.

Attanaso, Orazio P. and Hilary W. Hoynes. 2000. "Differential Mortality and Wealth Accumulation." *Journal of Human Resources* 35(1): 1-29.

Auerbach, Alan. 1985. " Saving in the U.S. Some Conceptual Issues." In The Level and Composition of Household Saving, edited by Patric H. Hendershott. Cambridge Mass.: Harper and Row, Ballinger: 15-38.

Avery, Robert B., Gregory E Elliehausen, and Arthur Kennickell. 1988. "Measuring Wealth With Survey Data: An Evaluation of the 1983 Survey of Consumer Finances," *Review of Income and Wealth* 34, No. 4 (December 1988): 339-369.

Bosworth, Barry, and Gary Burtless. 2004. "Pension Reform and Saving," forthcoming in the *National Tax Journal*, (Spring Symposium).

Bosworth, Barry P., Gary Burtless, and John Sabelhaus. 1991. "The Decline in Saving: Some Microeconomic Evidence," *Brookings Papers on Economic Activity*, 1:1991:183-256.

Bradford, David. 1991. "Market Value and Financial Accounting Measures of National Saving." In *National Saving and Economic Performance*, edited by B. Douglas Bernheim and John B. Shoven. University of Chicago Press.

Brady, Peter J., Glenn B. Canner, and Dean M. Maki. 2002. "The Effects of Recent Mortgage Refinancing," *Federal Reserve Bulletin*, (July): 441-50.

Burman, Leonard E., Norma B. Coe, and William G. Gale. 1999. "Lump-Sum Distributions from Pension Plans: Recent Evidence and Issues for Policy and Research." *National Tax Journal* 52 No. 3 (September), 553-62.

Catte, Pietro, Nathalie Girouard, Robert Price, and Christophe André. 2004. "Housing Markets, Wealth and the Business Cycle," Economics Department Working Papers No. 394 (June), Paris: OECD.

Czajka, John L., Jonathan E. Jacobson, and Scott Cody. 2003. "Survey Estimates of Wealth: A Comparative Analysis and Review of the Survey of Income and Program Participation," report to Social Security Administration, Office of Research, Evaluation and Statistics (August).

Eisner, Robert. 1989, *The Total Incomes System of Accounts,* Chicago and London: University of Chicago Press.

Federal Housing Finance Board. 2004. " Monthly Interest Rate Survey, Annual Historical Data," available at: http://www.fhfb.gov/MIRS/MIRS_downloads.htm.

Gale, Willian G., and John Sabelhaus. 1999, "Perspectives on the Household Saving Rate," *Brookings Papers on Economic Activity 1:1999,* 181-223.

Garner, Thesia I. George Janini, William Passero, Laura Paszkiewicz, and Mark Vendemia. 2003. "The Consumer Expenditure Survey in Comparison: With a Focus on Personal Consumption Expenditures," paper presented at the Federal Economic Statistics Advisory Committee Meeting (March 21, 2003).

Hall, Robert. 2000. "E –Capital: The Link Between the Stock Market and the Labor Market in the 1990s," *Brooking Papers on Economic Activity, 2: 2000*: 73-102.

Hendershott, Patric H., and Joe Peek. 1989. "Aggregate U.S. Private Saving: Conceptual Measures." In *The Measurement of Saving, Investment, and Wealth.* Studies in Income and Wealth, vol. 52, edited by Robert E. Lipsey and Helen Stone Tice, 185-223. Chicago: University of Chicago Press.

Hildebrand, Vincent A. 2001. " Wealth Accumulation of U.S. Household: What Do We Learn From the SIPP Data?" IRISS Working Paper Series No 2001-01. Luxembourg: CEPS/Instead.

Hurst, Erik, Ming C. Luoh, and Frank P. Stafford, "The Wealth Dynamics of American Families: 1984-94," *Brookings Papers on Economic Activity,* 1, 1998: 267-338.

Jump, Gregory V. 1980, "Interest Rates, Inflation Expectations, and Spurious Elements in Measured Real Income and Saving," *American Economic Review,* 70, 990-1004.

Kennickell, Arthur B. 2003. "A Rolling Tide: Changes in the Distribution of Wealth in the U.S., 1989-2001." Survey of Consumer Finances Working Paper. Washington: The Federal Reserve Board.

Ludvigson, Sydney, and Charles Steindel. 1999. "How Important is the Stock Market Effect on Consumption?," *Federal Reserve Bank of New York Economic Policy Review* 5, no. 2 (July), pp. 29-52.

Lusardi, Annamaria, Jonathon Skinner, and Steven Venti. 2001. "Saving Puzzles and Saving Policies in the United States." Working paper no. 8237. Cambridge, MA: National Bureau of Economic Research.

Maki, Dean M. and Michael Palumbo. 2001. "Disentangling the Wealth Effect: A Cohort Analysis of Household Saving in the 1990s," Finance and Economics Discussion Series 2001-21. Washington: Board of Governors of the Federal Reserve System.

Moore. James H. and Leslie A. Muller. 2002. "Analysis of Lump-sum Pension Distributions Recipients," *Monthly Labor Review* (May) :29-46.

Parker, Jonathan A. 1999. "Spendthrift in America? On Two Decades of a Decline in the U.S. Saving Rate," *NBER Macroeconomics Annual, 1999.* Edited by Ben S. Bernanke and Julio J. Rotemberg. Cambridge: MIT Press.

Peach, Richard, and Charles Steindel. 2000, "A Nation of Spendthrifts? An Analysis of Trends in Personal and Gross Saving," *Current Issues in Economics and Finance* (Federal Reserve Bank of New York), 6, no. 2, 1-6.

Poterba, James M. 2000. "Stock Market Wealth and Consumption." *Journal of Economic Perspectives* 14, no. 2 (Spring): 99-118.

Poterba, James M., Steven F. Venti, and David A. Wise. 2001. "The Transition to Personal Accounts and Increasing Retirement Wealth: Macro and Micro Evidence." Working paper no. 8610. Cambridge, MA: National Bureau of Economic Research, November.

Reinsdorf, Marshall, and Maria Perozek. 2002, "Alternative Measures of Personal Saving," *Survey of Current Business* (April):13-24.

Sabelhaus, John, and Karen Pence. 1999. "Household Saving in the '90s: Evidence From Cross-Sectional Wealth Surveys," *Review of Income and Wealth,* vol. 45 (December), pp. 435-53.

United States Treasury Department. 2002. "Capital Gains and Taxes Paid on Capital Gains for Returns with Positive Net Capital Gains, 1954-2000," obtained from the Treasury web site at: http://www.treas.gov/offices/tax-policy/library/

Figure 1. Private and Personal Saving, 1950-2003
percent of income
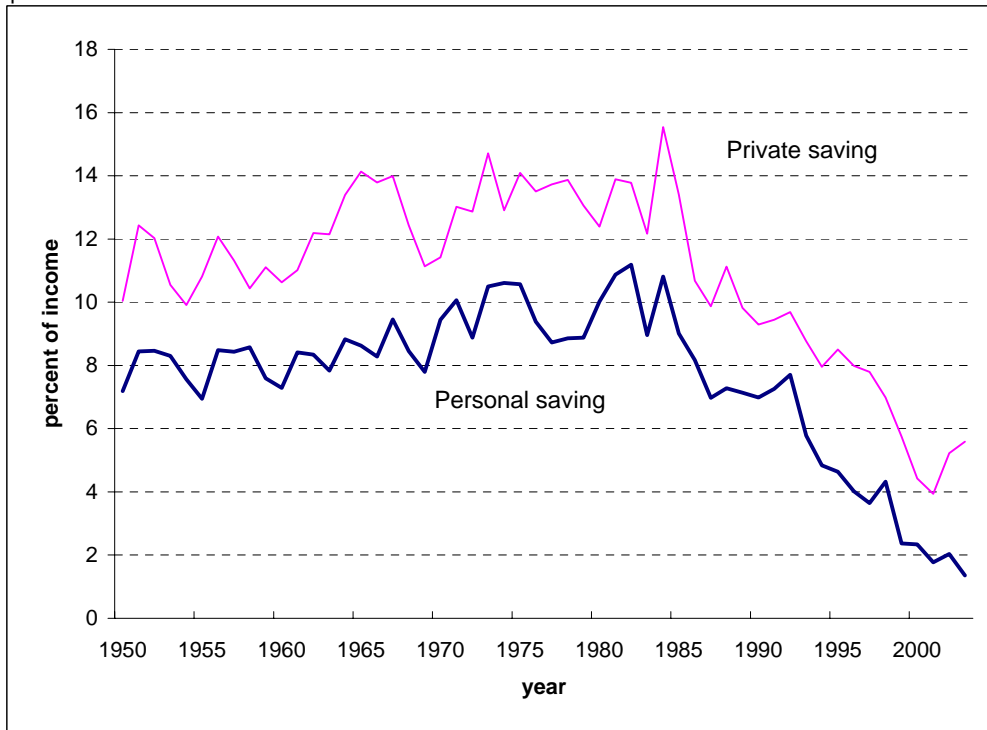
Source National Income and Product Accounts (July release), Flow of Funds Accounts (June release), and author's estimates.
Personal saving is measured as a percent of disposable income
Private saving is measured as a percent of national income.

Table 1. Components of Personal Saving, 1952-2003

| Component	Period						Change
	1952-79	1980-84	1985-89	1990-94	1995-1999	2000-2003	
	(1)	(2)	(3)	(4)	(5)	(6)	(6)-(2)
Household saving	8.7	10.4	7.7	6.5	3.8	1.9	-8.5
Pension saving	3.1	5.8	6.2	5.0	2.8	2.6	-3.2
Individual retirement accounts	0.1	1.0	1.6	1.2	0.8	0.9	-0.1
Other saving	5.6	3.5	-0.1	0.3	0.1	-1.7	-5.2
NIPA-FFA (discrepancy)[a]	-2.2	-1.8	-2.1	-1.9	-1.4	-0.5	1.3
FFA other	7.8	5.3	2.0	2.3	1.5	-1.2	-6.4
Pension fund reserve accumulation	3.1	5.8	6.2	5.0	2.8	2.6	-3.2
State and local gov't retirement funds	0.7	1.3	1.7	1.2	1.1	0.4	-0.9
Federal government retirement funds	0.3	0.5	1.0	0.9	0.8	0.6	0.1
Life insurance companies	0.6	1.4	1.6	1.3	1.2	1.8	0.4
Private pension funds	1.5	2.6	1.9	1.6	-0.2	-0.3	-2.8
Defined benefit			0.3	0.5	-0.8	-0.5	
Defined contribution			1.0	1.0	0.6	0.2	
Addenda:							
Percent of disposable income:							
Consumer durables	2.3	1.2	2.6	1.4	2.3	2.7	1.5
Inflation adjustment	2.4	3.1	2.4	2.0	1.0	0.7	-2.4
Realized capital gains	3.5	4.1	5.6	2.8	5.9	5.1	1.0
Real capital gains	10.0	6.9	15.0	0.4	43.4	-5.2	-12.1
net equity withdrawal	-1.9	-0.9	0.4	-0.5	-0.9	1.7	2.7
Wealth-income ratio (excl. cons. durables)	4.3	4.1	4.4	4.4	5.2	5.1	1.0

Source: National Income and Product Accounts (July release), Flow of Funds Accounts (June release), and author's estimates. The estimates of realized capital gains were obtained from U.S. Treasury (2002), and updated with information from the Congressional Budget Office.

Figure 2. Household Wealth-Income Ratio, 1952-2003
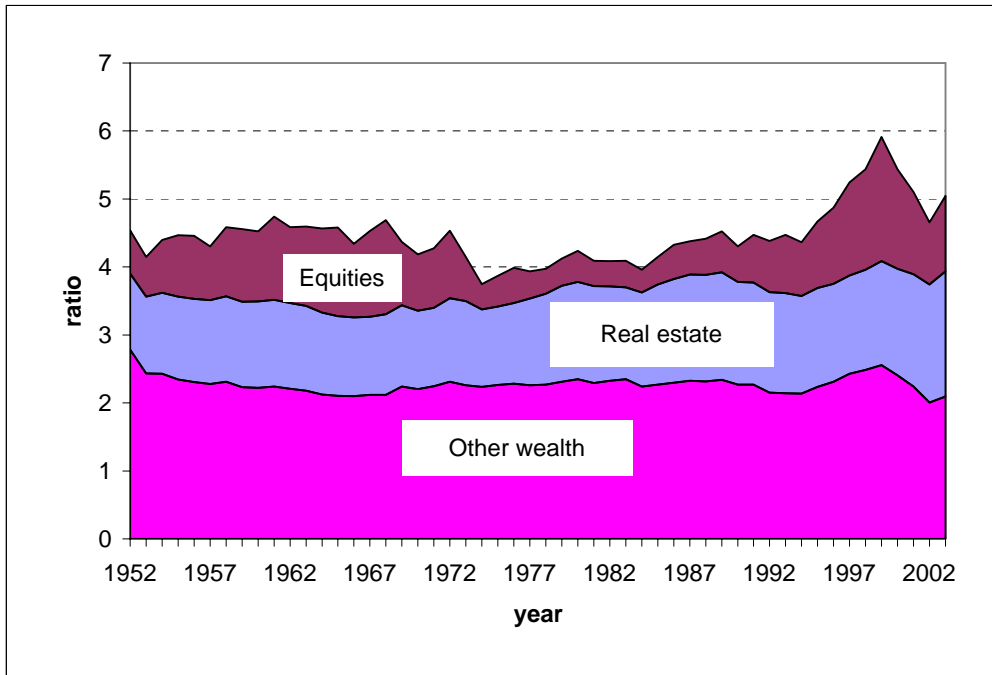
Source: flow of Funds Accounts (June release).

Figure 3. Housing Equity Withdrawal, 1953-2003
Ratio to disposable income
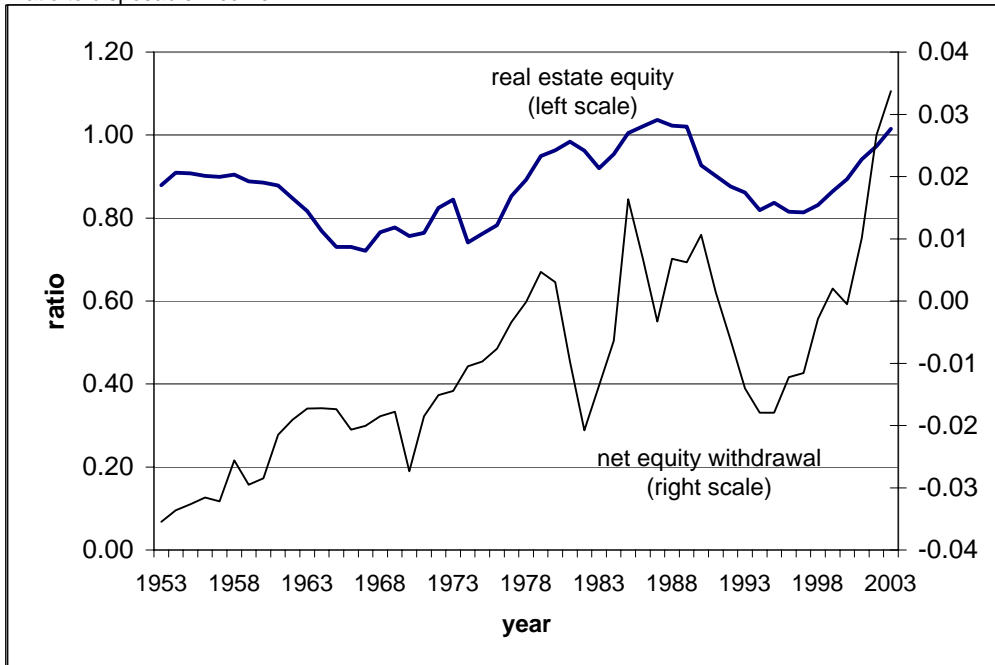
Source: Flow of Funds Accounts (June release) and author's estimates. Real estate equity is defined as the value of residential real estate less motgage debt as a percent of disposable income. Net equity withdrawal is the change in the net mortgage stock less residential investment as a percent of disposable income.

Table 2. Comparison of SCF Asset and Liability Categories With Flow of Funds Estimates, 1983-2001
Billions of dollars

Components	SCF	1983 FFA	Difference	SCF	1989 FFA	Difference	SCF	1992 FFA	Difference	SCF	1995 FFA	Difference	SCF	1998 FFA	Difference	SCF	2001 FFA	Difference
Assets -matching components	**8842**	**9276**	**-433**	**15575**	**15613**	**-39**	**16780**	**18081**	**-1301**	**19689**	**21044**	**-1355**	**27569**	**28364**	**-795**	**38374**	**33874**	**4500**
Deposits	1089	1933	-844	2031	3083	-1052	2076	3135	-1059	2065	3108	-1043	2727	3621	-894	3740	4398	-657
Credit market instruments	493	417	76	850	935	-85	774	1274	-501	797	1502	-705	785	1644	-859	1158	1836	-678
Mutual funds	134	78	56	491	466	24	809	704	105	1679	1173	506	2897	2288	609	4334	3056	1278
Corporate equity	1863	788	1075	2386	1540	846	2658	2393	265	3456	3127	329	6118	5813	304	8314	6003	2311
Publicly Traded	931	542	389	944	1050	-106	1087	1599	-512	1420	2040	-620	3130	4319	-1189	4360	4349	11
Closely Held	931	245	686	1442	490	952	1571	794	778	2036	1087	949	2987	1494	1493	3954	1655	2300
Noncorporate business equity	1354	2436	-1082	2951	3001	-50	3084	3107	-24	3097	3468	-370	3995	4153	-158	5433	4786	647
Pension assets (DC only)	171	261	-90	723	650	73	852	917	-64	1434	1293	141	1836	2081	-245	2629	2332	297
Real estate	3738	3363	376	6144	5939	205	6526	6551	-25	7160	7373	-213	9210	8764	447	12766	11463	1302
Liabilities - matching components	**1525**	**1503**	**22**	**3573**	**2947**	**626**	**3577**	**3604**	**-27**	**4040**	**4388**	**-348**	**5122**	**5398**	**-276**	**6111**	**6992**	**-881**
Home mortgages	1189	1080	109	2436	2162	275	2711	2772	-61	3068	3272	-204	3901	3983	-82	4750	5144	-394
Consumer credit	319	423	-104	1081	785	295	793	832	-39	869	1117	-247	1042	1415	-374	1225	1848	-623
Other	17	0	17	56	0	56	73	0	73	103	0	103	180	0	180	136	0	136
Net worth - matching components	**7317**	**7773**	**-455**	**12002**	**12666**	**-665**	**13203**	**14477**	**-1274**	**15649**	**16656**	**-1007**	**22447**	**22966**	**-519**	**32263**	**26882**	**5382**
	0.9414			0.9475			0.9120			0.9395			0.9774			1.2002		
Flow of Funds																		
Total Flow of Funds Assets		11723			20228			23464			28452			38289			43352	
Matching Components	0.75	0.79		0.77	0.77		0.72	0.77		0.69	0.74		0.72	0.74		0.89	0.78	
(Pecent of FFA total)																		
Total Flow of Funds Liabilities		1702			3226			3856			4761			5907			7609	
Matching Components	0.90	0.88		1.11	0.91		0.93	0.93		0.85	0.92		0.87	0.91		0.80	0.92	
(Pecent of FFA total)																		
Total Flow of Funds Net Worth		10021			17002			19608			23691			32381			35743	
Matching Components	0.73	0.78		0.71	0.74		0.67	0.74		0.66	0.70		0.69	0.71		0.90	0.75	
(Pecent of FFA total)																		

Source: 1983-2001 Surveys of Consumer Finances, Flow of Funds Accounts (March 2004 Release), Antoniewicz (2000), and author's estimates.
Notes: All FFA estimates ending-year data.
The flow of funds data exclude consumer durables and the assets and liabilities of nonprofit institutions.

Table 3. Decomposition of Wealth Change in the FFA and SCF, 1983 to 1992 and 1992 to 2001
billions of dollars

Components	1983-1992		1992-2001	
	SCF	FFA	SCF	FFA
Nominal Wealth Change				
Assets -matching components	7937	8805	21595	15793
Liabilities - matching components	2052	2101	2534	3388
Net worth - matching components	5885	6704	19061	12405
Total net worth		9587		16135
Wealth Change Net of Capital Gains				
Assets -matching components	2398	3392	4959	3409
Liabilities - matching components	2052	2101	2534	3388
Net worth - matching components	346	1291	2425	21
Total net worth		3270		2229

Source: Table 2.

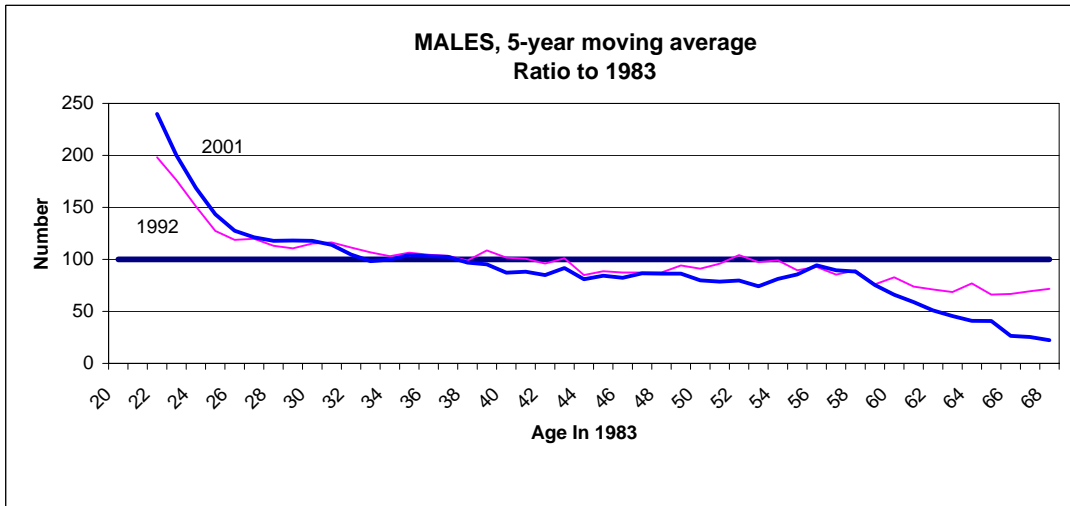**Table 4. Changes in Net Worth by Age and Cohort, 1983-92 and 1993-2001**
Billions of Dollars

Age Group	By Age Group			By 1983 Age Cohort		
	1983-1992	1992-2001	Change	1983-1992	1992-2001	Change
Survey of Consumer Finances						
Nominal Wealth Change						
Under 30	47	321	274	1140	6929	5789
30-39	471	946	475	1791	5895	4104
40-49	1528	4284	2756	1829	4272	2443
50-59	1320	6218	4898	1341	2591	1250
60-69	993	3374	2381	177	-9	-185
70-79	1105	2986	1881	-190	-537	-347
80 and over	420	932	512	-203	-80	122
Total	5885	19062	13176	5885	19062	13176
Survey of Consumer Finances, Benchmarked to Flow of Funds						
Nominal Wealth Change						
Under 30	35	98	63	1165	4696	3532
30-39	440	177	-263	1805	4379	2573
40-49	1585	2599	1014	2052	2857	805
50-59	1552	4378	2826	1562	1803	241
60-69	1171	2222	1051	436	-488	-924
70-79	1376	2229	853	-84	-744	-659
80 and over	545	701	155	-231	-99	132
Total	6705	12405	5700	6705	12405	5700
Survey of Consumer Finances, Benchmarked to Flow of Funds						
Active Saving (Excludes Capital Gains)						
Under 30	-88	-275	-187	373	7	-366
30-39	-292	-799	-507	616	927	312
40-49	335	-172	-507	730	293	-437
50-59	290	633	343	403	315	-88
60-69	42	19	-23	-230	-850	-620
70-79	725	435	-290	-333	-617	-284
80 and over	280	180	-100	-266	na	na
Total	1292	21	-1271	1292	21	-1271
Survey of Consumer Finances, Benchmarked to Flow of Funds						
Active Saving (Excludes Capital Gains)						
Thousands of dollars per family						
Under 30	-4.3	-19.2	-14.9	5.6	-6.1	-11.7
30-39	-22.6	-36.8	-14.2	27.7	47.0	19.3
40-49	-4.4	-27.9	-23.5	58.9	32.5	-26.4
50-59	19.0	-5.4	-24.4	26.4	44.3	18.0
60-69	-13.0	15.5	28.5	4.5	-12.4	-16.8
70-79	41.1	21.7	-19.5	4.8	-57.2	-62.0
80 and over	17.5	14.7	-2.9	11.7	na	na
Total	2.4	-8.9	-11.2	2.4	-8.9	-11.2

Source: Author's calculations as explained in text.
n.a. indicates zero a cell size too small to yield reliable estimates.

Figure 4. Distribution of Family Heads by Age and Gender, 1983-2001

MALES, 5-year moving average
Ratio to 1983

Number

2001

1992

Age In 1983

Females, 5-year moving average
Ratio to 1983

Number

2000

1992

Age In 1983

Both sexes, 5-year moving average
Ratio to 1983

Number

2001

Age In 1983

Souce: Tablulations from the Survey of Consumer Finances

All working papers are available on the Center for Retirement Research website (http://www.bc.edu/crr) and can be requested by e-mail (crr@bc.edu) or phone (617-552-1762).