

Tapping Assets in Retirement: Which Assets, How, and When?

by

James Poterba
MIT and NBER

Steven Venti
Dartmouth College and NBER

David A. Wise
Harvard University and NBER

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Just two or three decades ago retirement saving in the United States was based heavily on employer-provided defined benefit plans. Benefits after retirement were typically received in the form of lifetime annuities. Now personal retirement accounts—401(k), IRA, Keogh, and others plans—have become the primary form of saving for retirement. In 2007, private sector defined contribution assets totaled \$9.2 trillion and assets in traditional defined benefit programs were \$2.4 trillion (ICI 2008). At the time of retirement, the participant has sole control of the accumulated assets in these plans and must determine when to withdraw assets from the plans. To date, assets held in personal retirement accounts have rarely been annuitized. This has raised concern that some participants will draw down assets precipitously and run the danger of outliving their assets. In this paper, we consider the drawdown of assets after retirement, in particular the drawdown of 401(k)-like assets.

Venti and Wise (2001, 2004) considered the drawdown of home equity in retirement. They found that home equity was typically not used to support general consumption in retirement. But rather that home equity tended to be used in the event of shocks to family status, like death of a spouse or entry into a nursing home. Megbolugbe, Sa-Aadu, and Shilling (1997) and Banks, Blundell, Oldfield and Smith (2007) also found similar results. Davidoff (2007) concludes that households may preserve their home equity to finance potentially large health expenses, thus crowding out long-term care insurance. Venti and Wise concluded that home equity, which is the primary asset of a large fraction of families, was conserved for a “rainy day.” Now, as personal retirement plan assets are becoming a major component of wealth in retirement, we seek to determine how these assets are spent. Are these assets spent to finance day-to-day consumption expenditures or, as is the case with home equity, do households conserve these assets to meet extraordinary expenses associated with changes in health or family status?

Our analysis is based on data from two surveys, the Health and Retirement Study (HRS) and the Survey of Income and Program Participation (SIPP). Because the HRS survey does not allow a complete accounting of 401(k) assets or withdrawals for persons no longer employed, we rely more heavily on the SIPP data to focus on the accumulation of retirement assets.

We find that personal retirement assets tend to be conserved, much as home equity is conserved. Indeed, the personal account assets of continuing two-person families tend to increase throughout the age range we consider, through age 85. The retirement assets of continuing one-person families, although much lower than the assets of continuing two-person families, also tend to increase throughout the age range we consider. Personal retirement assets do decline, sometimes precipitously, when two-person families become one-person families through the death of a spouse, divorce, or separation. A striking feature of the data is the prior low level of assets accumulated by households who will make the transition from a two-person to a one-person household,

compared to continuing two-person households. We find essentially the same pattern of drawdown when we consider total assets as we find for retirement assets.

In section 1, we consider the proportion of personal retirement plan participants that make withdrawals at each age and the proportion of assets that are withdrawn. In section 2, we begin by considering how total assets—including financial assets and housing as well as retirement plan assets—change after retirement. We focus on how asset accumulation differs by family status—continuing two-person families, families that transition from two- to one-person families, and continuing one-person families. The question asked in section 2 is of course related to a large number of papers on the evolution of wealth after retirement although our focus is on how the drawdown of wealth is related to changes in family status. Hurd (2002) finds that most components of the portfolios of the elderly grow after retirement. The exception, he notes, is that there is, on average, a decline in the probability of owning a home after age 80. In a recent paper, Hurd and Rohwedder (2008) consider the adequacy of resources after retirement, with a focus on consumption. They distinguish education groups and conclude that persons with low education may not be adequately prepared for retirement. Coile and Milligan (2006) find that holdings of housing and vehicles decline with age but holdings of financial assets increase. They also find that shocks, particularly widowhood, are a major source of asset drawdown, particularly for home ownership. However, their estimates do not reveal what the age profile of housing and vehicle ownership is in the absence of shocks to health and family status.

In section 3, we emphasize changes in personal retirement assets. In section 4, we show that persons who experience a shock to family status at some time during the period we study had lower assets prior to the shock than persons who did not experience a shock to family status. In section 5, we present cohort versions of the data that allow us to easily compare results from HRS (the initial HRS cohort and the initial AHEAD cohort) and SIPP.

1. Withdrawal of Personal Retirement Account Assets

We first consider in this section the likelihood that the holders of personal account balances will make a withdrawal at given ages and the proportion of account balances that are withdrawn. In the next section we consider the accumulation of asset balances.

We rely primarily on data from the Survey of Income and Program Participation (SIPP). For comparison we also present partial data from the Health and Retirement Study for 2004. Unlike the SIPP data, however, the HRS provides reliable information on balances and withdrawals from IRA and Keogh plans only but not on 401(k) accounts, the most important component of personal retirement saving. A large proportion of IRA balances represent rollovers from

401(k) plans, however. But the information on directly held 401(k) balances in the HRS is incomplete and not used in this analysis.

We use data from the SIPP to calculate withdrawals from all personal retirement accounts. Respondents are asked to provide balances in IRA, Keogh, 401(k), and Thrift plans at six different points in time between 1997 and 2004. Respondents are also asked to provide the amount received from a draw on an IRA, Keogh, 401(k) or Thrift Plan in each month during the 1997 to 2004 period. We use the asset balance at the beginning of the year and withdrawals made in the subsequent 12 months to calculate the withdrawal rate. This procedure yields panel data on changes in asset balances, withdrawals, and withdrawal rates for the years 1997 to 1998, 1998 to 1999, 1999 to 2000 from the 1996 panel of the SIPP; for 2001 to 2002, and 2002 to 2003, from the 2001 panel of the SIPP; and 2004 to 2005 from the 2004 panel of the SIPP.

There are three data restrictions and conventions. First, we restrict the sample to respondents that remain in the sample and report withdrawals for all twelve months following the report of the initial retirement plan balance. Second, for about two percent of the sample the sum of monthly withdrawals exceeds the initial asset balance. Typically the household reports a zero initial retirement plan balance, but positive subsequent withdrawals. We have excluded these cases from the analysis. Third, the unit of observation in the SIPP is the individual, but we present results at the household-level by grouping persons, treating unmarried persons as single-person households and matching spouses to create two-person households.

For some analyses we rearrange the SIPP data to show withdrawal profiles by cohort. For example, we can obtain data for households age 60 in 1997, 61 in 1998 and so forth through age 67 in 2004. We identify each cohort by the age in 1997, so the cohort "C60" refers to the cohort that was age 60 in 1997. Note that these cohort data are in part a true panel (the same sample of persons responds in 1997, 1998, and 1999; another sample responds in 2001 and 2002, and in part a "synthetic cohort," because the six year of data are obtained from three different panels.

We begin with the data from the SIPP arranged by cohort in Figure 1-1. The figure shows the percent of households that have positive balances in retirement saving plans for selected cohorts between the ages of 60 and 84 in 1997. The key feature of this figure is the large "cohort effects." Cohorts that reach a given age in a later year (younger cohorts) are more likely to have a retirement saving plan than cohorts attaining the same age in an earlier year (older cohorts). For example, 30.8 percent of households age 64 in 1997 (labeled C64) had a positive balance, but only 45.5 percent of households that attained age 64 in 2004 (labeled C57) had a positive balance, as highlighted by the circles in the figure. Looking over the whole range of the data, 54.2 percent of persons in the C53 cohort (who were age 60 in 2004) had a positive balance in

2004 while only 3.5 percent of persons in the C84 cohort (who were age 84 in 1997) had a positive balance in 1997. The presence of substantial cohort effects is not surprising given the recent growth of retirement saving plans. IRAs and 401(k) plans were first allowed by law in 1982 and were not adopted at many firms until much later. Thus workers who reach age 64 in 1997 were age 49 when retirement saving plans first became available in 1982; workers age 64 in 2004 were age 42 in 1982 are much more likely to have been able to participate in a retirement saving plan at some time before their retirement.

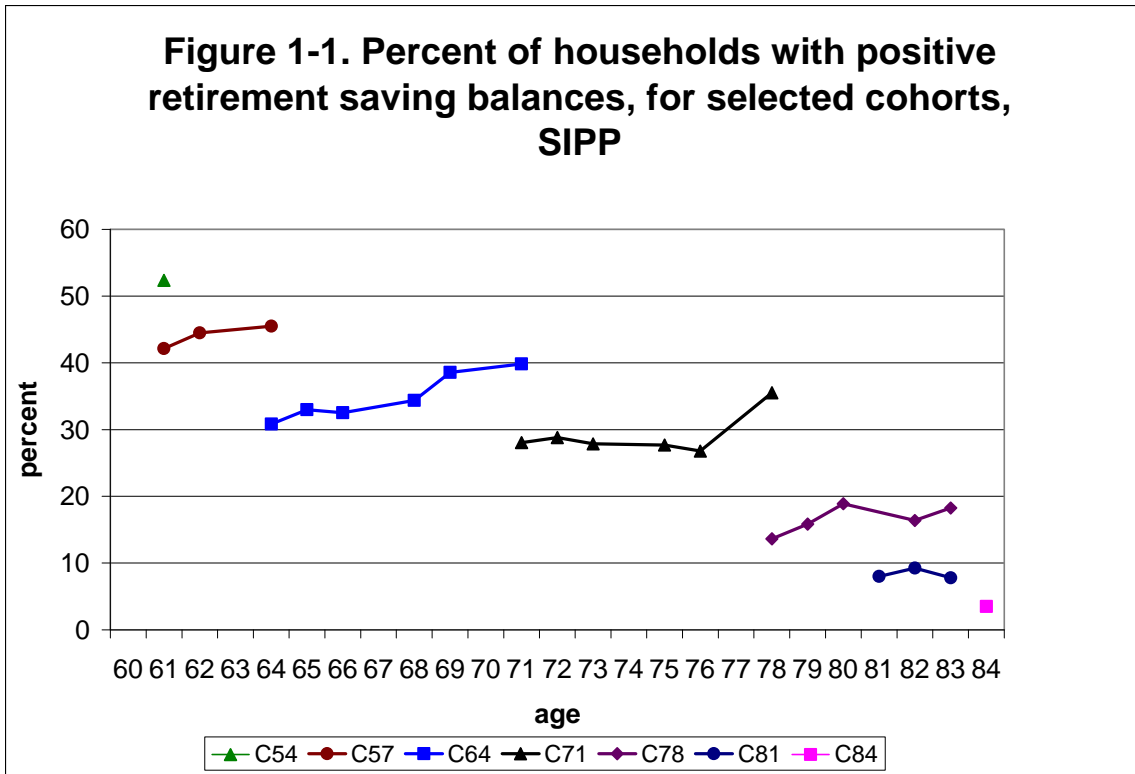


Figure 1-2 shows the percent of households that made withdrawals from personal accounts. This figure was calculated from cohort data on withdrawals. For each age, we have cohort data for six different cohorts (e.g. age 64 in 1997, age 64 in 1998, etc.). The figure is based on the average of the percents for the three youngest cohorts at each age. On average, the percents are somewhat higher for the oldest three cohorts. The percent of households making a withdrawal grows slowly from about 10 percent at age 60 to age 69, when just over 20 percent of households withdrew funds. Between age 69 and age 71, however, the percent increased to about 65 percent. The figure suggests that most households were conserving personal retirement assets and only began withdrawals when required minimum distributions forced many households to begin withdrawals. The percent of households making withdrawals is less than 100 percent, in part, because holders of Roth IRAs are not subject to required minimum distributions, which apply to traditional or rollover IRA balances. In

addition, a holder of an account in the household may be younger than the head of the household (the household age reported in the figure).

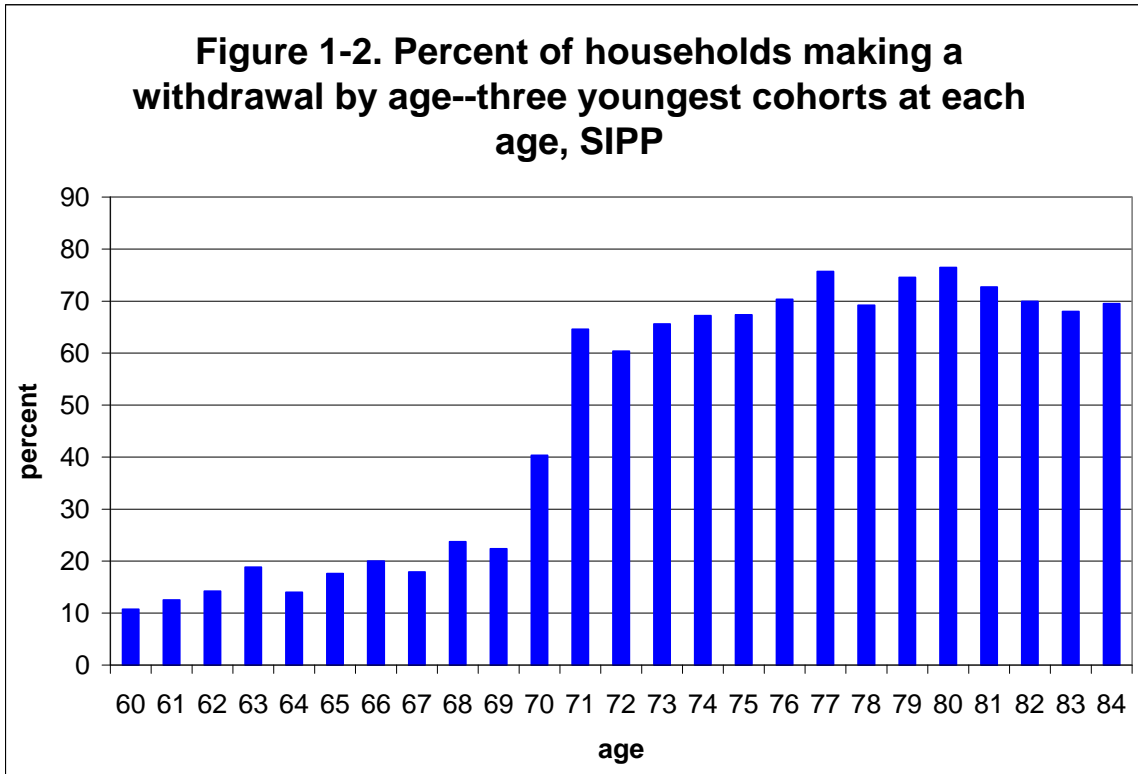
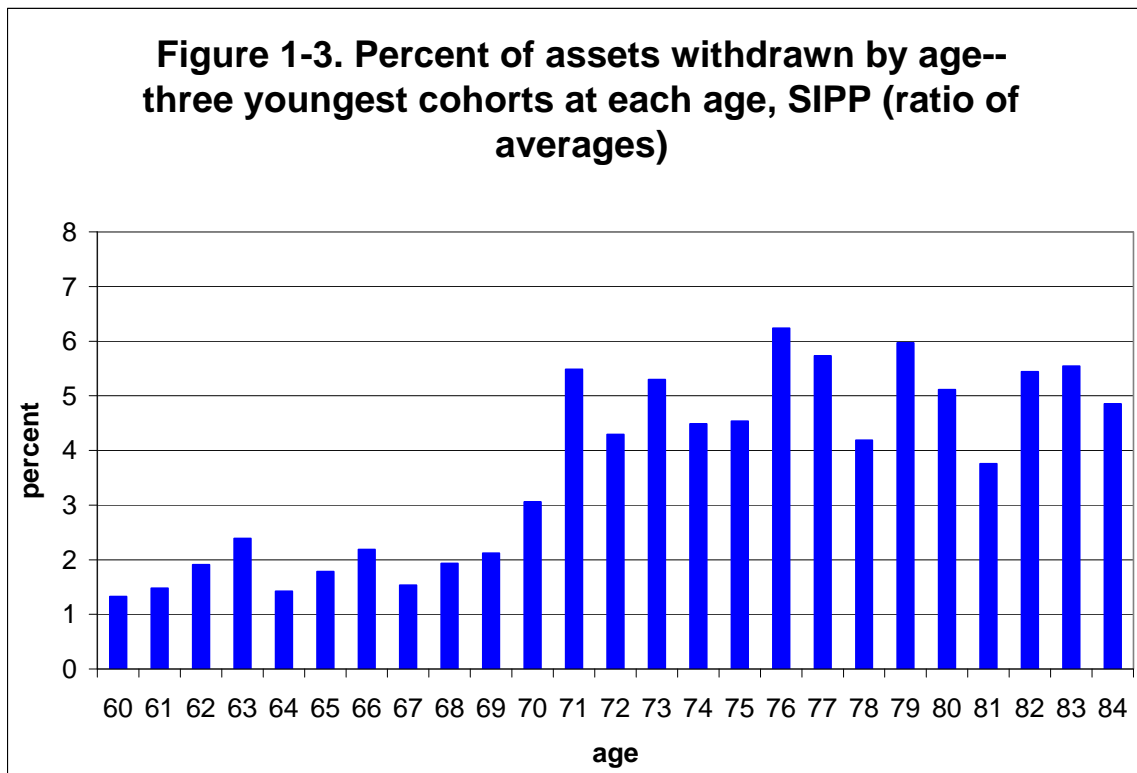


Figure 1-3 shows the percent of balances withdrawn in a year. The percent is the ratio of average withdrawals to the average initial asset balance--equivalent to the sum of withdrawals over all persons divided by the sum of initial balances. (We do not show the average of ratios because this calculation is very sensitive to low reported asset balances.) Before age 70, the overall rate of withdrawal is typically less than 2 percent. As mandatory withdrawals begin the rate rises to between 4 and 6 percent. The average between 72 and 84 is 5.03 percent. These rates are very likely to be less than the average rate of return on asset balances, so that it is likely that personal retirement account balances continued to grow over the entire age range. Again, we present the average for the youngest three cohorts observed at each age. Before age 70, the percent was below 3 percent at most ages. Two percent would typically be below the average rate of return earned on personal retirement assets and thus the balance would continue to grow. A person who was age 71 in 2004 would have been subject to the required minimum distribution (applicable to traditional but not Roth IRAs) beginning at age 71 and $\frac{1}{2}$. The required minimum distribution is obtained by dividing the IRA balance by an applicable distribution period taken from the Uniform Lifetime Table published by the IRS. For example, for an unmarried person age 72 or for a married person age 72 whose spouse is not

more than 10 years younger, the distribution period was 25.6 years in 2006. Thus the required minimum distribution is $1/25.6 = 3.9$ percent of the IRA balance in that year. By age 80 the required minimum distribution is 5.3 percent and at age 90 it is 8.8 percent. The withdrawal percents in Figure 1-3 range between 4 and 6 percent between ages 71 and 80. The average is 5.13 percent. As required by the distribution rules, the percent withdrawn increases with age after age 70. Even at these older ages, the average balance may continue to increase even though withdrawals are increasing. We provide direct evidence of this in the next section.

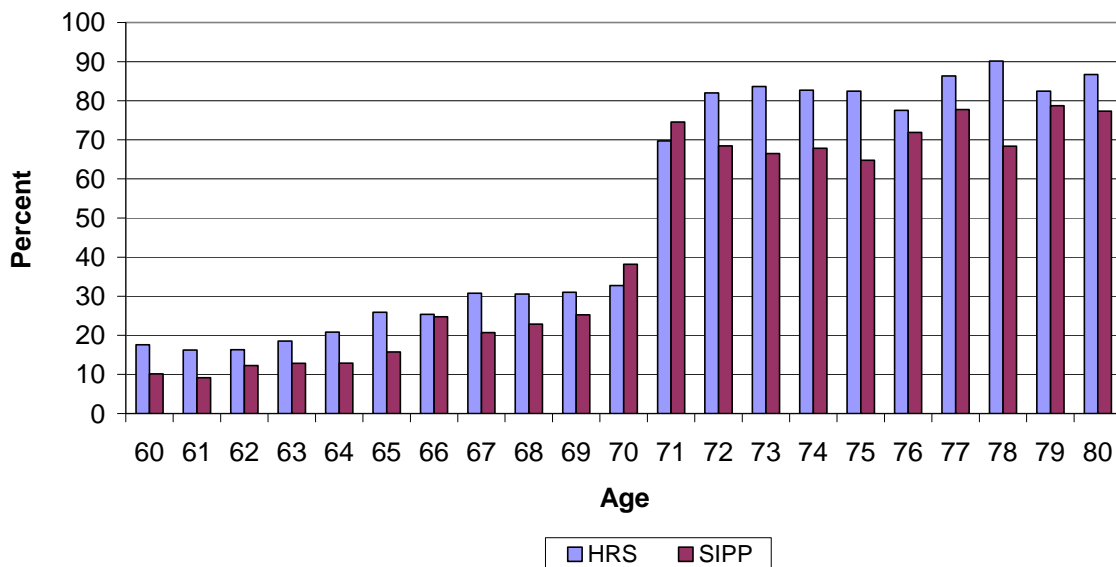


Thus contrary to commonly expressed concerns, most households do not withdraw personal retirement account balances until the required minimum distribution age is attained, and even at this age the average withdrawal percent seems unlikely to lead to a large reduction in account balances. These low rates of withdrawal suggest that balances held in retirement saving accounts almost surely continue to grow with age. Thus both the percent of households making withdrawals and the amount of the withdrawals suggest that households continue to accumulate retirement assets long after they retire.

We can make some comparisons with HRS data. As noted above, however, the HRS data only contain complete information on balances in IRA and Keogh plans. Figure 1-4 shows the percent of HRS respondents that make

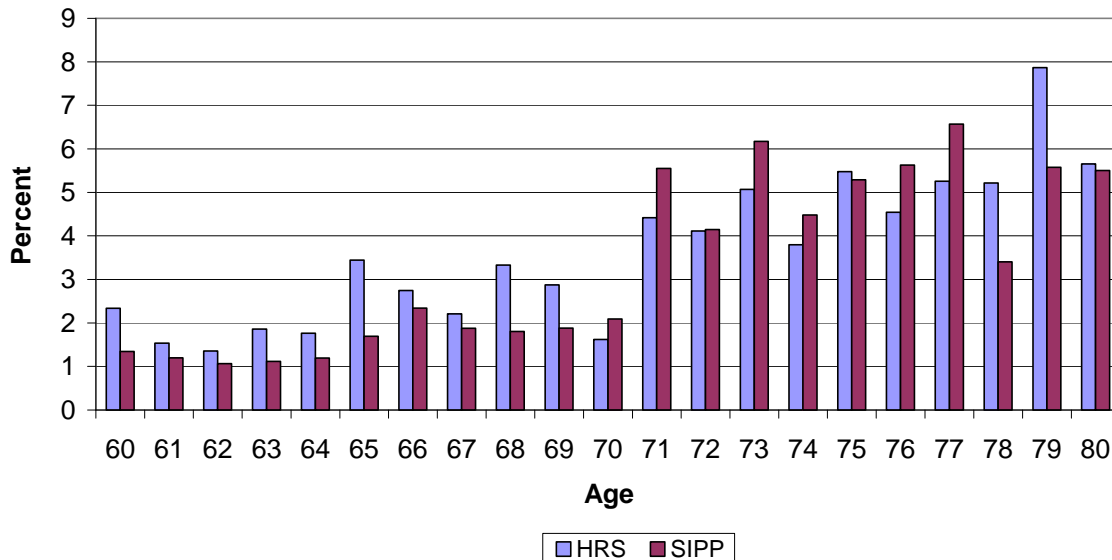
withdrawals from IRA and Keogh accounts in 2004, together with the SIPP data for the same year. The HRS data used here includes data from all cohorts-- HRS: CODA, AHEAD, War Babies, etc. Below we often present results based on the initial HRS data and, separately, results based on the initial AHEAD data.] The HRS data pertain to households with an IRA and or a Keogh account who had withdrawn funds from the account over a two year period. The SIPP data pertain to households with IRA, Keogh, 401(k), or Thrift accounts who withdrew funds over a one-year period. The general pattern for the two surveys is the same, although the SIPP percents are typically lower than the HRS/AHEAD percents both before and after the age of required minimum distributions.

Figure 1-4. Percent of households in 2004 that made a withdrawal during previous two years (HRS) or previous year (SIPP)



Figures 1-5 compares the percent of assets withdrawn in the two surveys, based on the average of withdrawals over the average of balances. The two series show a similar pattern, although prior to age 70 the HRS reported withdrawals are higher than those reported in SIPP—2.28 versus 1.60 percent. After age 70 the averages are about the same—5.14 versus 5.23 percent. Thus the key conclusion from the two data sets is the same. Households on average tend to conserve personal account assets and many don't withdraw assets until forced to make withdrawals by the minimum distribution requirements.

Figure 1-5. The percent of personal retirement saving balances withdrawn on an annual basis, HRS and SIPP (ratio of averages), 2004



2. Asset Accumulation

We use data from the SIPP and the HRS (both the original HRS cohort and the AHEAD cohort) to determine the change in assets as households age. In particular we aim to understand how a change in family status affects the accumulation of assets. We focus first on total assets and then on assets in personal retirement accounts. We first explain the data that we use and how we organize the data for analysis. For this analysis the unit of observation is the person rather than the household. We have panel data from three different sources. From the HRS we follow persons first surveyed in 1992 when they were age 51 to 61 and subsequently resurveyed every other year through 2006 (when they were age 65 to 75). We look at asset growth over the two-year intervals between the seven survey waves, from 1992 to 1994, 1994 to 1998 and so forth through 2004 to 2006. From the original Asset and Health Dynamics Among the Oldest Old (AHEAD) survey (now part of the HRS), we follow persons age 70 or over first surveyed in 1993 and then resurveyed in 1995, 1998, 2000, 2002, 2004, and 2006. For these persons we consider changes from 1993 to 1995, 1995 to 1998, 1998 to 2000, 2000 to 2002, 2002 to 2004, and 2004 to 2006.

Finally we have data from three panels of the SIPP. From the 1996 panel of the SIPP, we have data for 1997, 1998, 1999 and 2000 and thus we calculate asset changes from 1997 to 1998, 1998 to 1999, and 1999 to 2000. From the

2001 panel of the SIPP we have data for 2001, 2002, and 2003, and thus changes from 2001 to 2002, 2002 to 2003, and 2003 to 2004. From the 2004 panel of SIPP we have data for 2004 and 2005, and thus the change from 2004 to 2005. Altogether we have six year to year changes in SIPP, from 1997 to 1998, 1997 to 1998, and so forth to 2004 to 2005. The SIPP data differs in one important way from the HRS data. The SIPP collects data for all respondents age 15 and older (but top-codes age at 85). Thus it is possible to choose a sample from the SIPP that "matches" as closely as possible the age ranges in the two HRS samples.

For each of the three data sources we consider assets at the beginning and end of each interval, although the width of the intervals differ—one year in the SIPP and, with one exception, two years in the HRS and the AHEAD data.

For each person in each survey we categorize family status at the beginning of the interval as belonging to either a one-person (1P) household or to a two-person (2P) household. Over the interval between surveys a person initially in a 1P household may remain in a 1P household. We designate the "change" in family status for this person as "fs11" indicating that the person is in a one-person household in both years. If this person remarried (or partnered) during the two year interval then the person is classified as "fs12". Similarly, we classify persons initially in two-person households as "fs22" if the person remains in a two-person household, "fs21(div)" if the person divorces or separates by the end of the interval and "fs21(wid)" if the spouse dies by the end of the interval. The sample sizes for persons classified as fs12 are quite small so this group has been excluded from many of the figures presented below.

To illustrate this organization of the data, we show HRS assets by family status in 1992, the level of assets in 1994, and the change in assets between the two years. Table 2-1 shows these data for persons age 51 to 61 in 1992. Total assets include equity in owner-occupied housing, IRA and Keogh balances, other financial assets, and the value of vehicles, less debt. The value of business assets and other real estate are excluded. Balances in 401(k) plans are excluded from the HRS and the AHEAD data because a complete 401(k) series cannot be obtained from these sources, but 401(k) assets are included in the SIPP data. We present both medians and means because the latter statistic is sensitive to a few large outliers.

Table 2-1. Median and mean total wealth in 1992 and 1994 for HRS respondents age 51 to 61 in 1992 by family status					
MEDIANS	family status type	wealth in 1992	wealth in 1994	change	<i>percent change</i>
	fs11	29,127	33,059	3,932	13.5
	fs12	39,367	76,890	37,523	95.3
	fs21(wid)	67,207	69,004	1,797	2.7
	fs21(div)	64,999	31,313	-33,686	-51.8
	fs22	123,560	135,689	12,129	9.8
MEANS					
	fs11	81,210	90,671	9,461	11.7
	fs12	108,579	159,432	50,853	46.8
	fs21(wid)	141,233	141,198	-35	0.0
	fs21(div)	139,148	96,500	-42,648	-30.6
	fs22	206,571	230,878	24,307	11.8

The table shows the organization of one of many changes that can be obtained from the HRS, AHEAD, and SIPP surveys. The key results we present are based on graphical descriptions of the changes by family status for each of the intervals and for each of the data files. In most instances we report changes in medians, although we report means in some cases. In either case, reporting errors can have an important effect on the changes between the beginning and the end of an interval. Although we have experimented with different ways to address the data errors, the results presented in this paper are based on the raw data without “corrections” for outliers or apparent misreporting.

Before looking at the results, we show sample sizes by interval. The reason for doing this is to draw attention to the selection issues that are inherent in the change in assets within and between intervals. For example, consider the change in assets of fs22 families in Table 2-1, in the 1992-1994 interval. Below we report changes in later intervals as well. Persons will only appear in the fs22 data for the next interval, 1994-1996, if they remain in the two-person group for the next two years. Those who will lose a spouse in the next two years will be in the fs21 group in the next interval. Those who remain will not lose a spouse for two more years. This is the selection issue. Those who will lose a spouse tend to have lower assets than those who will not. The numbers in the Table 2-2 only give a general indication of the extent of selection, but do not detail the specifics. For example, consider the decline in the number of persons in the fs22 group in

the HRS sample between the 1992-1994 and the 1994-1996 intervals (6,365 to 5,732). Part of the decline occurs because some of the fs22 group is in one of the fs21 groups the next interval. This is the key selection issue. Persons in the fs21 group have lower assets than persons in the fs22 group. But part of the decline is also due to attrition from the sample. In addition, persons in the fs12 group are in the fs22 group the next period if they remain married for the next two years. Persons who continue in the fs11 group also tend to have greater assets than those who leave the sample because of death.

Table 2-2. Number of persons in each interval by change in family status							
HRS persons age 51 to 61 in 1992							
type	1992-1994	1994-1996	1996-1998	1998-2000	2000-2002	2002-2004	2004-2006
fs22	6,365	5,732	5,344	4,978	4,614	4,382	4,017
fs21(wid)	108	111	133	131	127	118	153
fs21(div)	121	69	64	41	38	32	40
fs12	88	96	71	65	58	65	44
fs11	1,598	1,559	1,535	1,554	1,554	1,630	1,634
total	1,686	1,655	1,606	1,619	1,612	1,695	1,678
AHEAD persons age 70 to 80 in 1993							
type	1993-1995	1995-1998	1998-2000	2000-2002	2002-2004	2004-2006	
fs22	2,371	1,813	1,412	1,043	771	551	
fs21(wid)	187	213	181	142	118	86	
fs21(div)	7	19	7	4	3		
fs12	29	29	13	15	12	10	
fs11	1,778	1,613	1,601	1,468	1,318	1,138	
total	223	261	201	161	133	96	

We now summarize the asset changes from each of the surveys. Figure 2-1 summarizes wave-to-wave total wealth profiles for HRS respondents age 51 to 61 in 1992. Several features of these data stand out: First the assets of persons who remain in the fs22 group over an interval increase during each interval (all in year 2000 dollars). In 1992 the median of assets of fs22 persons was \$123,560; by 2006 the average of assets of persons who remain in the fs22 group was \$217,801.

Second the assets of persons in the fs11 group also increase in most intervals; the last interval is the only exception. Third, the assets of fs11 families are much lower than the assets of fs22 families, but grew at about the same rate over the 14-year period. The ratio of assets of the fs22 to the fs11 group varies from over 4 in 1992 to less than 3.5 in some years. Overall, the ratio was about the same in 2006 as in 1992.

Fourth, the assets of two-person households that will become one-person households (fs21) during an interval are much lower at the beginning of an interval than the assets of continuing two-person households (fs22). The difference is especially large between continuing fs22 and fs21 (divorce) families. Averaged across all intervals, at the beginning of each interval the median assets of fs22 households are a little over 2 ½ times as large as the median assets of fs21 households. Fifth, within each interval there is also a large drop in the median assets of fs21 (divorce) families. The average (over all intervals) of the percent change in median assets for fs21 (divorce) families is -51.1 percent. The average change in median assets for fs22 families is 5.9 percent and for fs21 families is 3.0 percent.

Figure 2-2 shows assets changes for families that were age 70 to 80 in 1993. They are followed for six waves until 2006, when they were age 83 to 93. Recall that households in the original HRS cohort (used in Figure 3-1) were age 51 to 61 in 1992 and age 75 to 85 in 2006. Persons in this older AHEAD cohort were 70 to 80 in 1993 and 83 to 93 in 2006. Thus there is some age overlap between the two cohorts, for example, the original HRS cohort contains households age 75 in 2006 and the AHEAD cohort contains households age 75 in 1993. A comparison of the two cohorts reveals that the assets of continuing two-person (fs22) AHEAD families that were 70 to 80 in 1993 are much lower than the continuing two-person HRS families who were 75 to 85 thirteen years later in 2006. The differences between the cohorts for fs11 and fs21 households, however, are not very large.

The assets of continuing two-person AHEAD households increase, on average, as they age. The average change over the six intervals is 0.6 percent; the average excluding the last interval is 3.1 percent. The assets of continuing fs11 persons decline on average, however. The average decline is -10.6 percent. As with the younger HRS cohort, the beginning of interval assets of fs21 (divorced) households are much lower than the beginning of interval assets of fs22 households and there is a large drop in the assets of fs21 (divorced) persons. The change in assets of fs21 (widowed) persons is also smaller on average than the change for fs22 persons. Again, perhaps most important, the initial assets for both fs21 groups are much lower than the initial assets of fs22 persons.

The reason for the lower wealth of the fs21 families is an open question. There is evidence that families in which a spouse died in an interval had poorer health than the continuing two-person families prior to the interval in which the spouse died, as well as much lower assets (as detailed below). This is one dimension of the health-wealth correspondence. Two person families who would be divorced or separated in an interval also had lower assets prior to the divorce or separation. A deeper understanding of these findings will have to await further analysis.

Figure 2-1. Change in median of total assets between years, by family status, for persons 51 to 61 in 1992--HRS

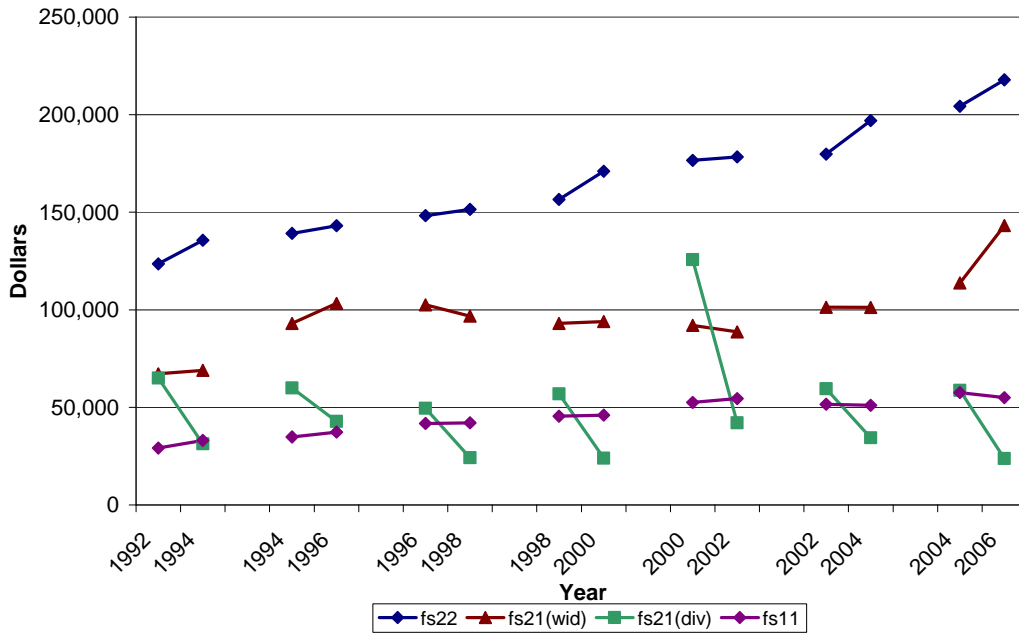
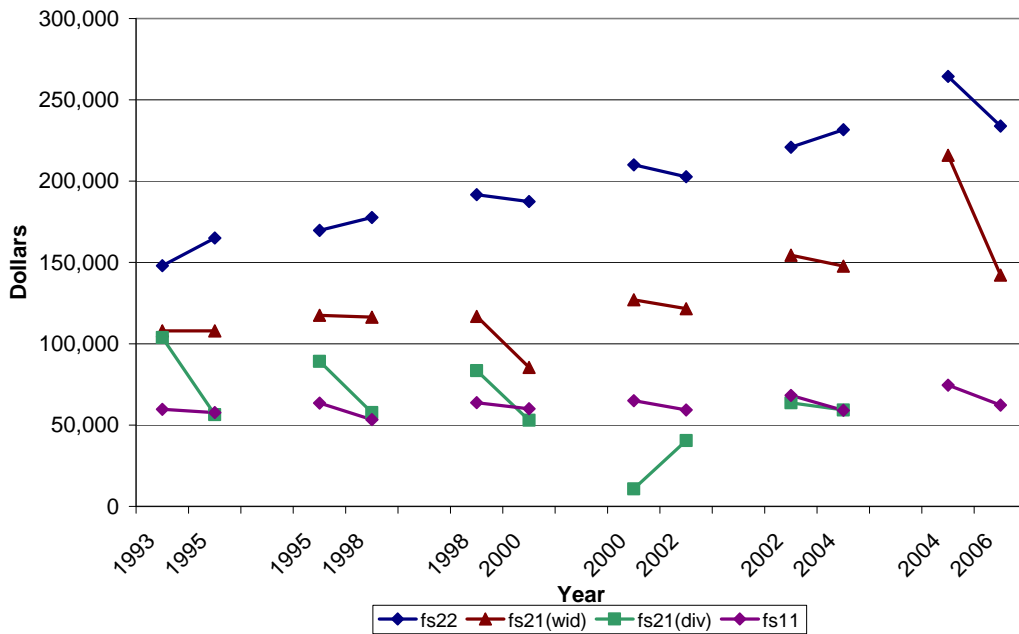


Figure 2-2. Change in median of total assets between years, by family status, for persons 70 to 80 in 1993--AHEAD



The SIPP data show a pattern of asset change that is very similar to the pattern based on the original HRS and AHEAD cohorts. Because the SIPP surveys persons across the whole age range in each wave, these data can be “matched” to the age groups surveyed in the original HRS and AHEAD cohorts. The intervals that we show based on the SIPP do not coincide exactly with the HRS and AHEAD intervals, however. Figure 2-3 shows SIPP results for six one-year intervals, beginning in 1997-1998, for persons 51 to 61 in 1992. The first SIPP interval, 1997-1998, overlaps with the HRS 1996-1998 interval. The asset levels of the two surveys in these intervals are similar. The assets for fs11 households are somewhat larger in SIPP and the assets of fs22 households are somewhat lower. The pattern of change in the two surveys is very similar. The assets of continuing two-person families increase in each interval and the assets of fs11 persons typically increases as well. Because we observe households over a one-year interval in the SIPP, the sample size is not large enough to distinguish between fs21(widowed) and fs21(divorced), however. The combined fs21 transition is associated with an average drop of -6.6 percent in median assets. Based on the HRS data, it seems reasonable to assume that the bulk of the decline arises from divorce.

Figure 2-4 shows asset changes for annual intervals based on SIPP data for persons 70 to 80 in 1993. The first SIPP interval, 1997-1998, overlaps with the AHEAD interval 1995-1998. In these intervals the initial asset level for fs11 and fs21 persons is about the same in the two surveys, but the asset level for fs22 persons is higher in the HRS than in the SIPP survey. The assets of fs22 persons in the last intervals in the two surveys differ substantially and are substantially lower in the SIPP. The pattern over time is very similar in the two surveys, however. The SIPP data, like the AHEAD data, shows an increase in the assets of fs22 persons in most intervals. The SIPP data show an increase in the assets of fs11 households in most intervals as well, while the AHEAD data show a small decrease in the assets of fs11 households in all intervals. The fs21 transition—including both fs21(widowed) and fs21(divorced)—in the SIPP data shows a large decline in assets in all but one interval.

Figure 2-3. Change in median of total assets between years, by family status, for persons 51 to 61 in 1992--SIPP

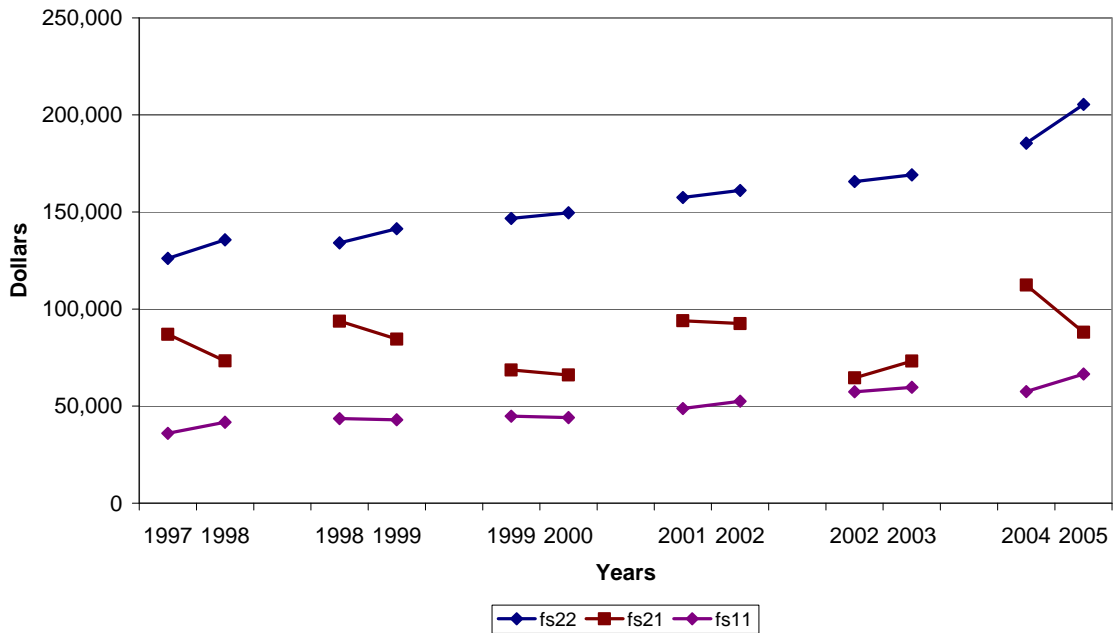
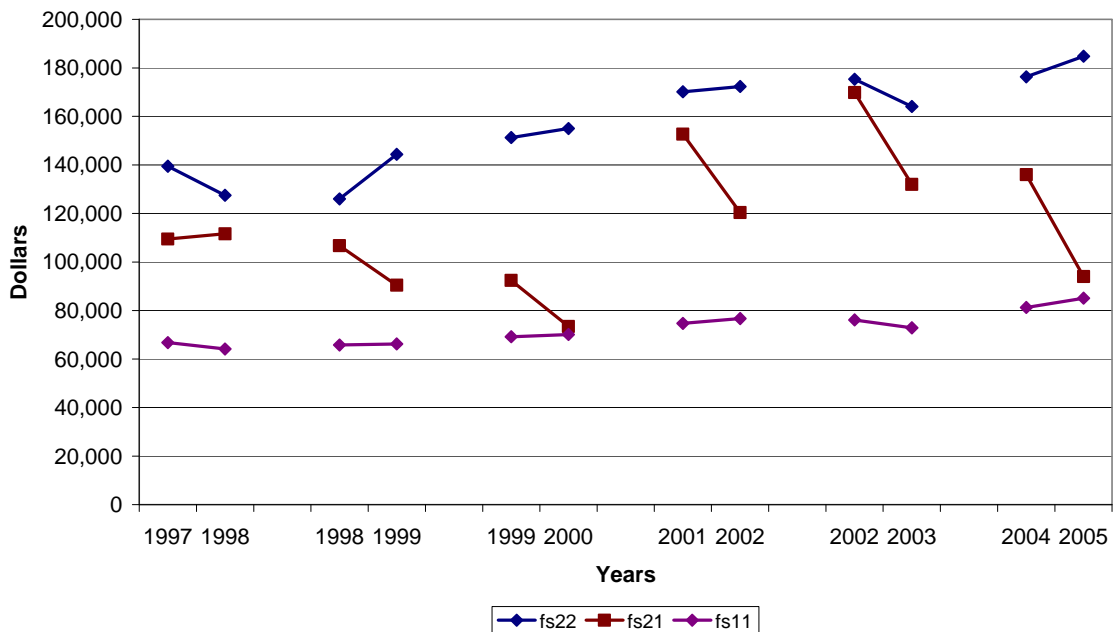


Figure 2-4. Change in median of total assets between years, by family status, for persons 70 to 80 in 1993--SIPP



For comparison, Figures 2-5 and 2-6 are analogous to Figures 2-1 and 2-2 and show means instead of medians for the HRS and the AHEAD samples

respectively. The general pattern of the results is much the same as the pattern revealed by the medians, although the levels are much greater.

Figure 2-5. Change in mean of total assets between years, by family status, for persons 51 to 61 in 1992--HRS

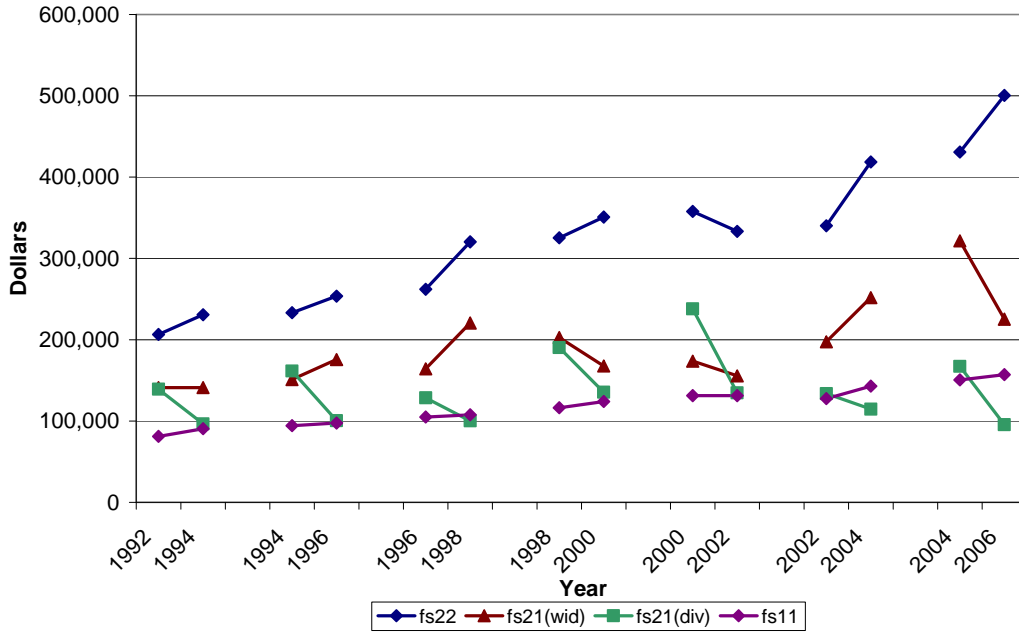
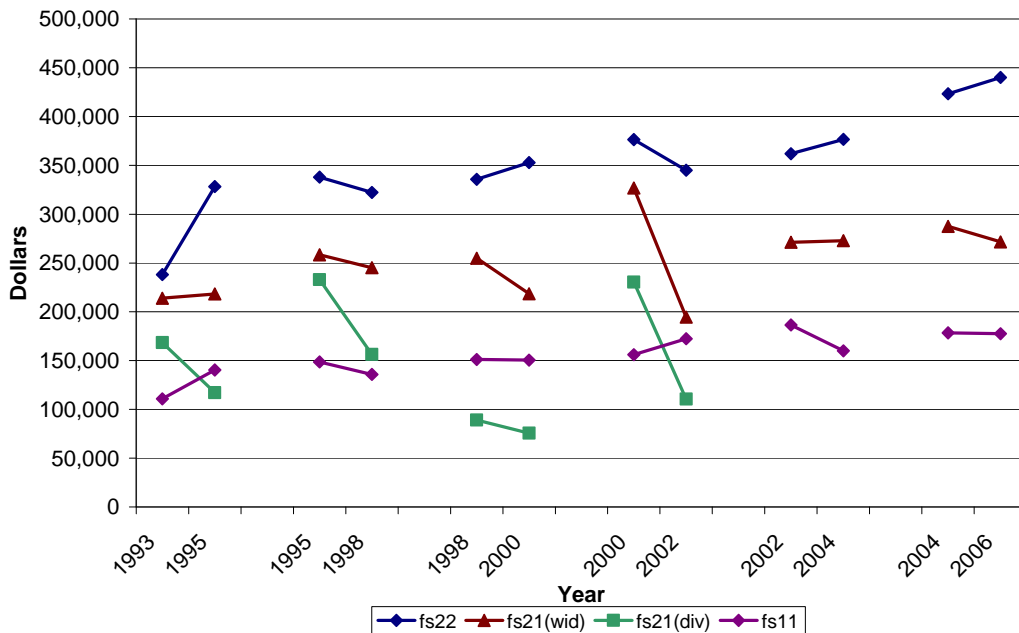


Figure 2-6. Change in mean of total assets between years, by family status, for persons 70 to 80 in 1993--AHEAD



3. Retirement Asset Accumulation

The previous section shows that total assets tend to accumulate for fs22 and fs11 persons as they age, even at older ages. Assets tend to decline with fs21 transitions, at least when the transition is associated with divorce. Whether due to divorce or widowhood, the change in assets associated with the fs21 transition is lower on average than the change associated with the fs22 transition. Now we consider whether this pattern is true for personal retirement assets as well. The median retirement asset level is zero for many age groups, however, so we show means. We report results based on SIPP data only. As noted above, reliable estimates of 401(k) assets are not available in the HRS or AHEAD data.

Figure 3-1 shows data for persons who were 51 to 61 in 1992 and are 64 to 74 in 2005, the last year for which data are reported in this figure. Asset changes for six yearly intervals are reported; the first for the 1997-1998 interval when the respondents were 56 to 66. The retirement assets of fs22 persons increased in all but one of the intervals. The average increase was 6.9 percent. The retirement assets of fs11 persons also increased in all but one of the intervals and the average increase was 7.4 percent. For fs21 persons the data show a large decline in assets for four of the six intervals and little change for two of the intervals. On average the assets of fs21 persons declined by -24.5 percent.

Figure 3-2 shows data for persons who were age 70 to 80 in 1993. They were age 74 to 84 in the year of the first interval (1997-1998) and age 84 to 94 in 2005. Even at these older ages, the assets of fs22 persons increase in the first four intervals, but declined in the last two. The average increase was 6.9 percent. The retirement assets of fs11 persons increased in all but one of the intervals and the average increase was 8.9 percent. Again, there was a large decline in the assets of fs21 persons in each of the intervals. The average decline was -43.6 percent.

In short, consistent with the data on asset withdrawals shown in section 1, these data show that retirement assets are preserved even through ages as old as 84 to 94. There is, however, a sharp drop in retirement assets at the time of a change in family status. The data suggest to us that retirement assets are preserved to use in the event of a shock to family status. This finding is consistent with the preservation of housing equity for use at the time of a shock to family status, as reported in Venti and Wise (2004). Indeed, the evidence reported in section 2 shows that all assets tend to be conserved for use in the event of a shock to family status. The evidence seems to suggest that persons are self-insuring against future shocks.

Figure 3-1. Change in mean of retirement assets between years, by family status, for persons 51 to 61 in 1992--SIPP

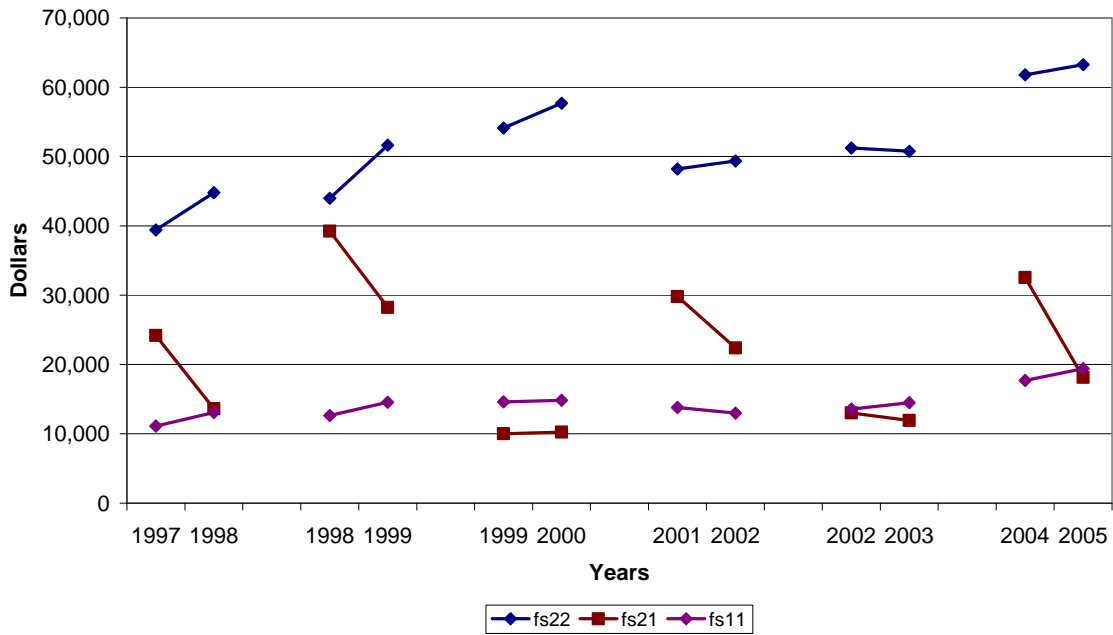
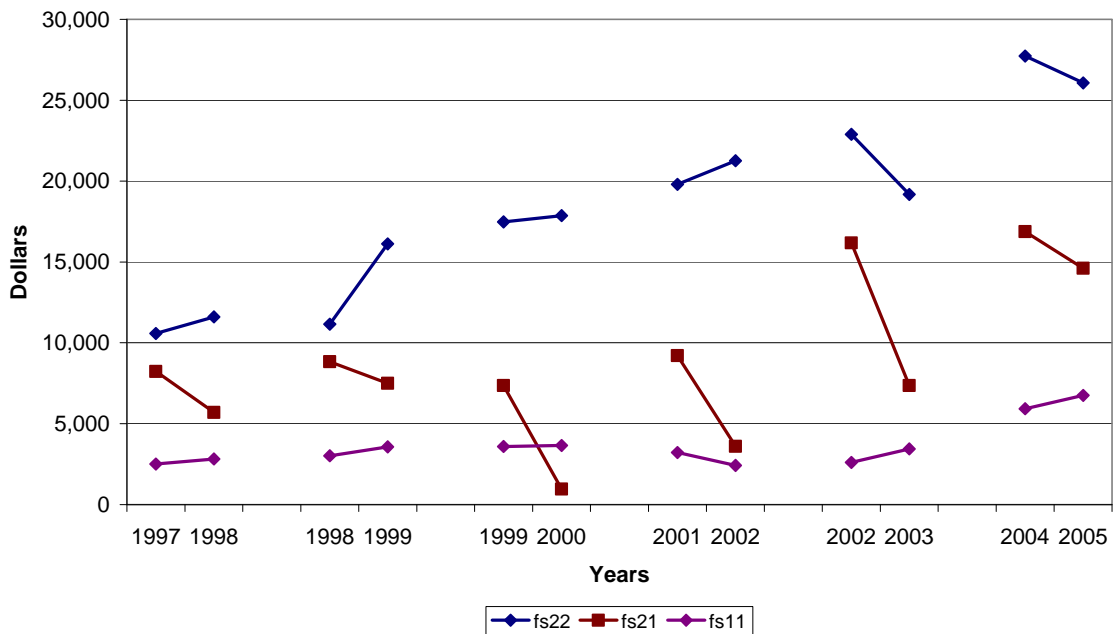


Figure 3-2. Change in mean of retirement assets between years, by family status, for persons 70 to 80 in 1993--SIPP



4. Past and Future Assets

The results reported above show the change in total assets and the change in retirement assets that is coincident with a change in family status. We consider, for example, the asset change over a two-year interval of persons who will continue in two- or one-person families over the interval, or who will transition from a two- to a one-person family during the interval. These data, however, do not consider the assets of these persons before or after the change in family status. Here we want to consider the past and future assets of persons who experience given transitions within a particular interval. What was the asset history preceding the transition and what was the future trend of the assets of persons who experienced a particular transition during a given interval.

Appendix Table 4-1 shows total asset data for HRS respondents for all seven intervals, by the interval in which the family status change occurred. The interval in which the transition occurred is shaded in yellow and highlighted in bold. This transition interval is sometimes called the base interval. The assets of the people who experienced the transition are reported before and after the base transition interval. For example, the first of seven panels of the table shows beginning and ending assets in each of the seven intervals for persons whose family status changed in the first interval, 1992 to 1994. The fourth panel shows prior and future assets of persons with the family status change shown for the fourth interval, 1998-2000. The seventh panel shows the prior assets of persons whose family status change is reported for the last interval, 2004 to 2006. The asset patterns are difficult to see in the table, but are easily seen in Figures 4-1a through 4-1g, that show the assets for each of the seven panels of the table. In each table the year in which the asset change occurred, the base interval, is highlighted in a box.

Consider first Figure 4-1g that shows the prior assets of persons by family status change in the last (2004-2006) interval. Compare the prior assets of the fs22 and the fs21(widowed) groups. In the last interval, in which the change in family status occurred, the assets of both groups increased. However, the prior asset paths of these two groups are quite different. In 1992 the assets of these two groups were similar, but over the next 14 years the assets of the fs22 group increased substantially, while the assets of the fs21 group changed little, on balance. The assets of the fs11 group changed little over the prior 14 years. The prior assets of the fs21(divorced) group declined substantially during the 2004-2006 period when these persons were divorced. But the assets of this group were low in all prior years, even lower than the assets of the fs11 group. That is, the assets of persons who would experience an fs21 transition many years in the future did not change much over the intervening years, while the assets of the persons who were to experience an fs22 transition in the future increased substantially in the intervening years. (The relationships for the other base intervals are similar in this respect, but for the other intervals, the assets of the fs21 group were much lower than the assets for the fs22 group.)

Moving to the Figure 4-1a, we can follow the future assets of persons who changed family status in the first HRS interval 1992-1994. We see that the assets of the fs22 group in the first interval continued to increase in all of the later periods. The initial wealth of this group was \$135,689 at the end of the first interval in 1994 and \$199,156 at the end of 2006 (in year 2000 dollars), an increase of 46.8 percent over the next 12 years. Persons whose spouse died between 1992 and 1994, the fs21(widowed) group, had assets about half the level of the fs22 group in the first interval and the surviving persons in this group had only a small increase in assets over the next 14 years, 18.8 percent. The fs11 group in the first interval experienced a 46.1 percent increase in assets over the next 12 years. The fs21(divorced) group had a substantial drop in assets in the first interval and the subsequent assets of the single persons increased over 124 percent over the next 12 years. It is likely that much of this growth is due to remarriage. Of the 121 persons divorced or separated in 1992 to 1994, 47 remarried within 12 years (only 28 of 108 widows remarried).

Figure 4-1d shows the prior and subsequent assets of persons who changed family status in 1998-2000. The assets of the fs22 group were increasing in each of the prior three intervals and each of the three subsequent intervals. The fs21(widowed) group had much lower assets than the fs22 group in the prior three intervals and continued to have much lower assets in the future three intervals. The assets of the fs11 group were less than a third of the assets of the fs22 group in the beginning of the 1998-2000 interval and had been at about this same level prior to this transition. Their assets increased somewhat in subsequent years, more or less the same as the increase of the assets of the fs11 group. The fs21(divorced) group experienced a sharp drop in assets in the base interval and had declining assets in the prior 3 intervals. The subsequent assets of this group were about the same at the last of the seven periods and at the end of the base period, although with fluctuation in between (likely reflecting reporting errors). The patterns revealed in the other four figures are much like the three discussed.

In summary, we conclude that households that continue as two-person households (fs22) in any of the seven two-year intervals increase total assets in that interval and also typically experience an increase in assets in all prior and subsequent intervals. The same pattern typically holds for continuing one-person (fs11) households as well. We also find that the asset history of two-person households that experience a change in family status (fs21) is very different from the history of continuing two-person families. In a particular interval the fs21 families experience a drop in assets in that interval, but also had much lower assets than continuing two-person households long before they experienced the change in family status. In most cases, two-person households that experience a change in family status and become one-person households experience future levels of total assets that are only slightly higher than that of households that have always been one-person.

Figure 4-1a. Total wealth by household status change in 1992-1994

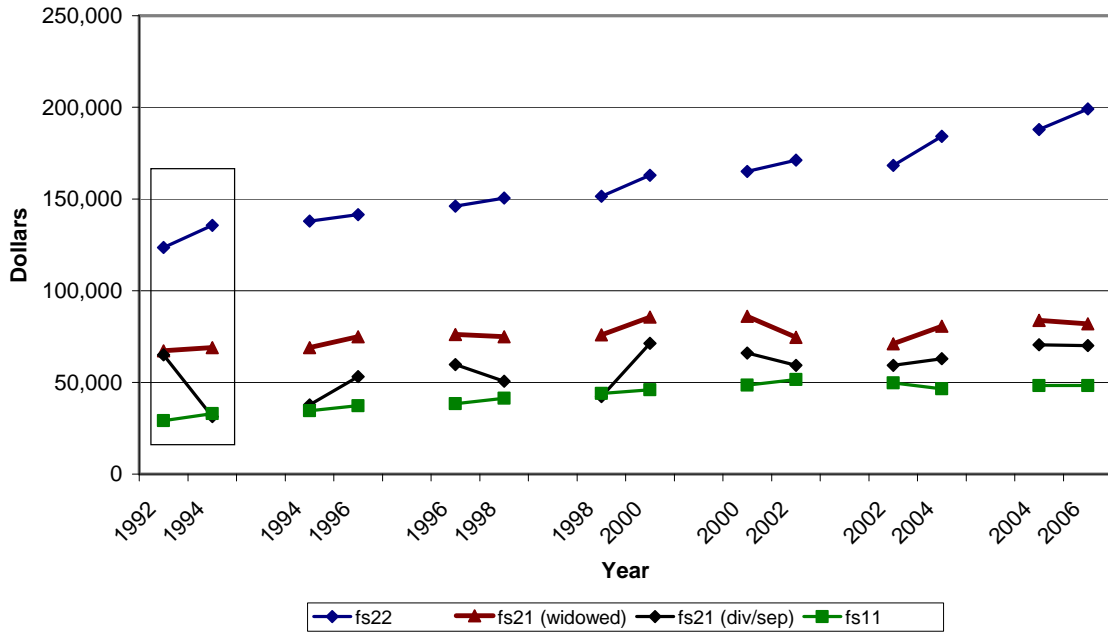


Figure 4-1b. Total wealth by household status change in 1994-1996

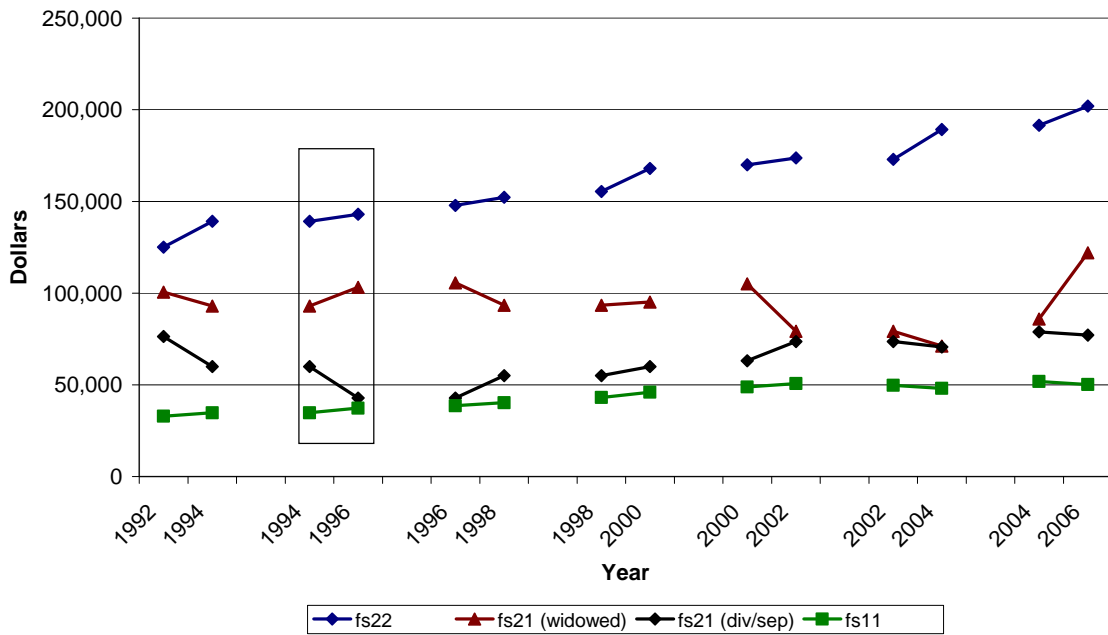


Figure 4-1c. Total wealth by household status change in 1996-1998

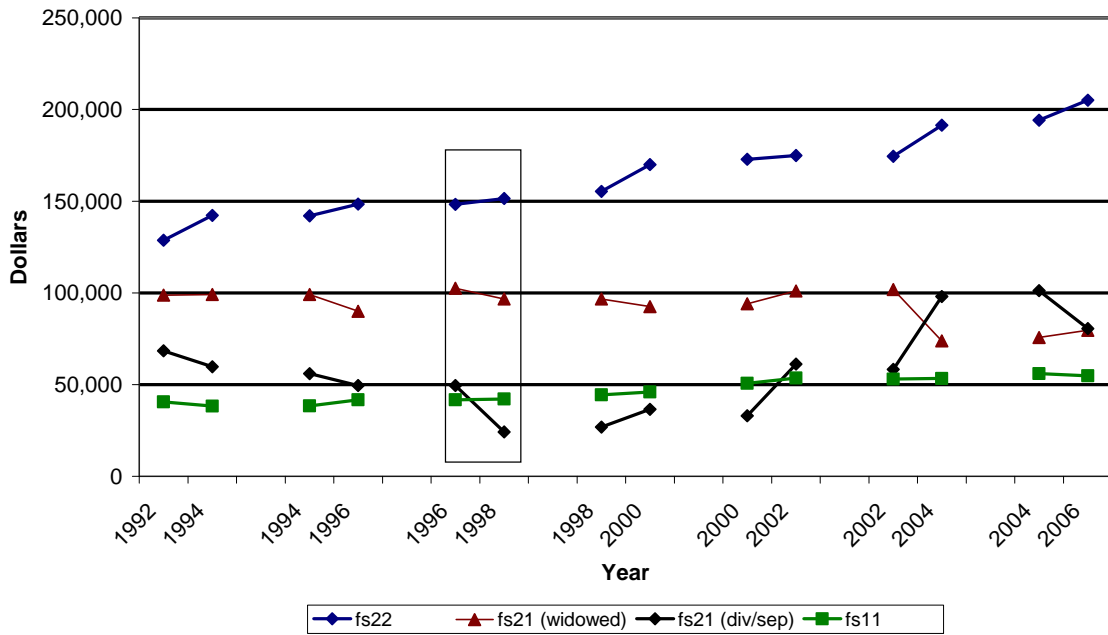


Figure 4-1d. Total wealth by household status change in 1998-2000

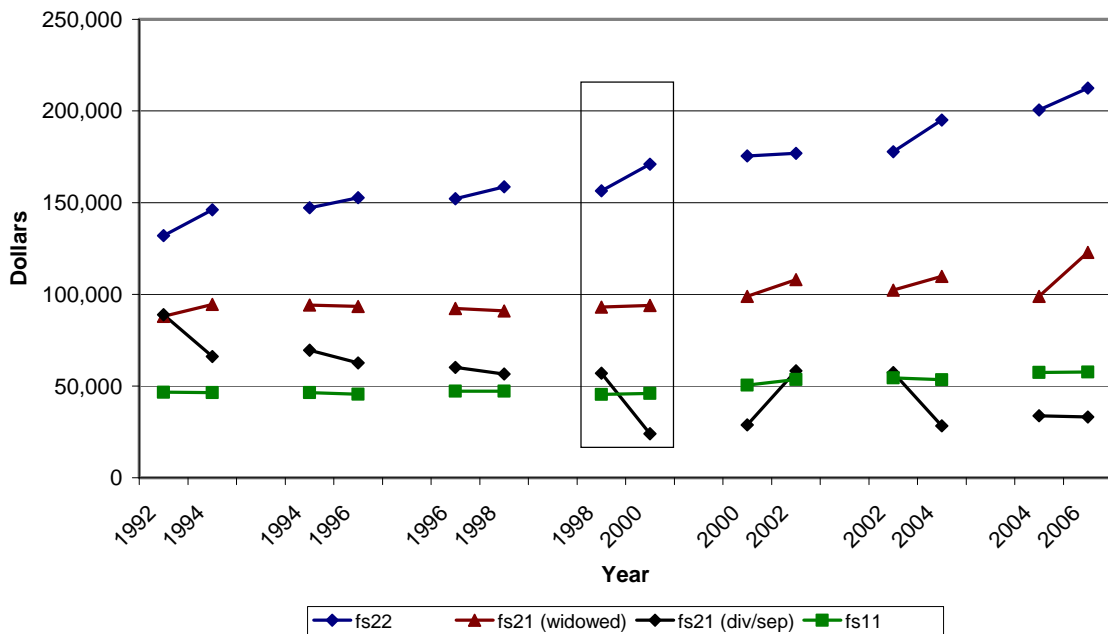


Figure 4-1e. Total wealth by household status change in 2000-2002

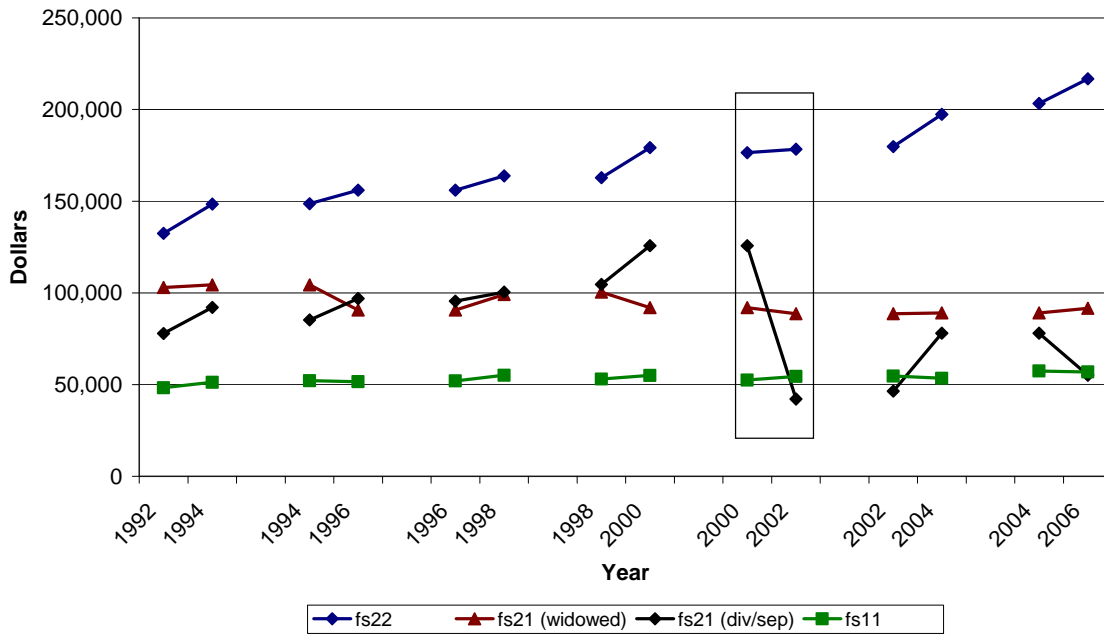


Figure 4-1f. Total wealth by household status change in 2002-2004

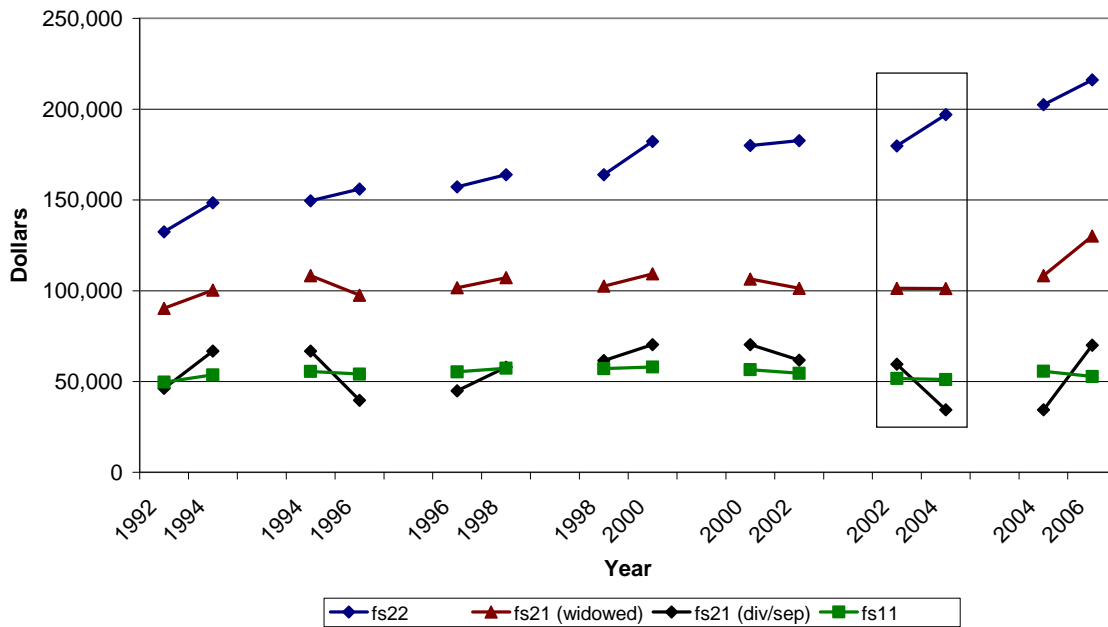
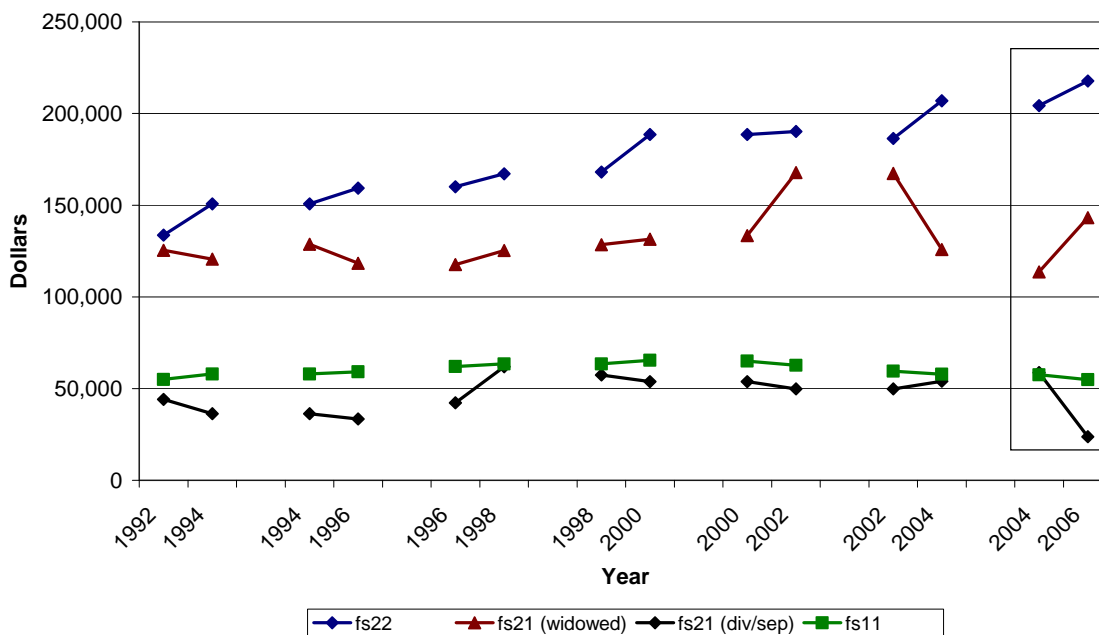


Figure 4-1g. Total wealth by household status change in 2004-2006



5. Cohort Description of Asset Accumulation

The asset accumulation figures above are all based on the data as described in Table 1-1. An alternative way to describe the data is to show the accumulation of assets within cohorts. This allows easy comparison of HRS and AHEAD data and HRS/AHEAD data with SIPP data. The entries in the figures below are the initial asset values in each of the intervals shown in Table 1-1.

Figure 5-1 shows the total assets of persons in continuing two-person households (fs22) age 56 to 61 in the HRS in 1992 and age 70 to 75 in the AHEAD in 1993. The HRS persons age 56 to 61 in 1992 are followed until they are age 70 to 75 in 2006. This allows us to compare the assets of the original HRS cohort at age 70 to 75 in 2006 with the assets of the AHEAD cohort who were the same age in 1993. The age shown on the horizontal axis in the figure is the first age of an interval. For example, age “56” denotes the five-year age interval 56 to 61. (The two series don’t overlap at age 70 in the figure because the figure shows the initial assets at age 68 for fs22 persons who will be 70 to 75 at the end of the last HRS interval, 2004-2006.) Like the figures in section 4 above, this figure also shows that the assets of fs22 persons increase through age 81 to 85. The profile for the younger HRS cohort lies well above the profile for the older AHEAD cohort. This suggests a substantial cohort effect, that is, at each age the younger cohort has substantially more assets than the older cohort had at that age.

Figure 5-1. Median total assets of fs22 persons in HRS cohort age 56 to 61 in 1992 and AHEAD cohort age 70 to 75 in 1993

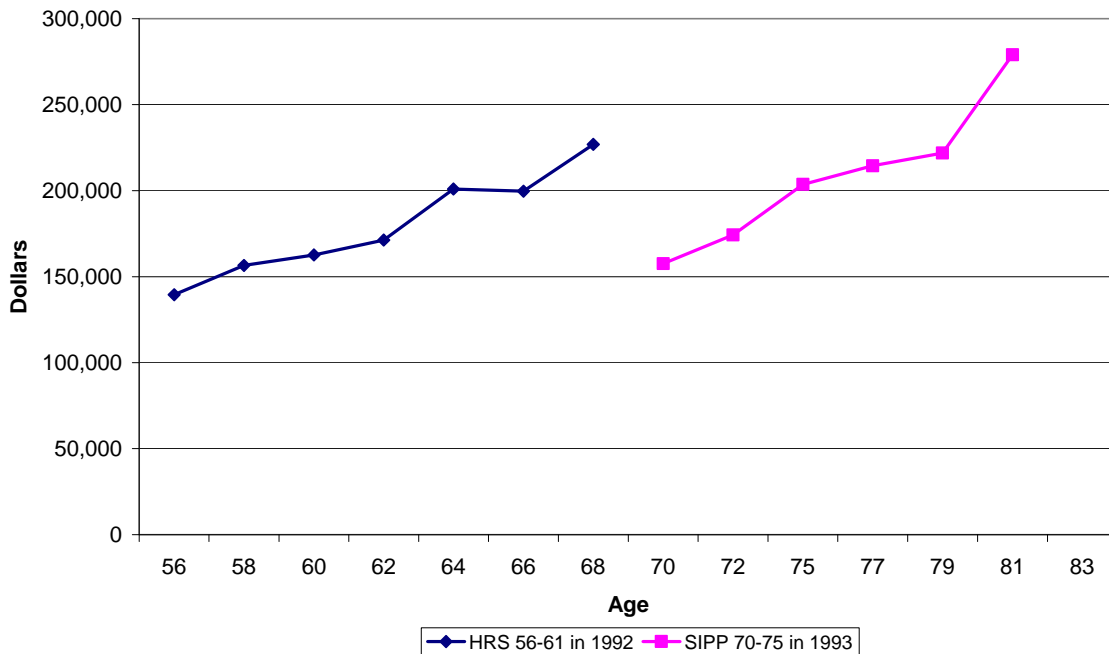


Figure 5-2 is like Figure 5-1 but pertains to persons in continuing one-person households (fs11) instead of fs22 persons. Again, it is evident that total assets increase virtually continuously through age 81 to 85. Surprisingly, however, there seems to be no cohort effect for persons in continuing one-person households.

Figure 5-3 shows cohort data for persons in continuing two-person households based on SIPP data. As explained above, the SIPP surveys all age groups for each wave, so that data for a large number of cohorts can be identified. First, like the HRS/AHEAD data, it is clear from the SIPP data that total assets of fs22 persons increase with age, through at least age 82. Second, the cohort effects for continuing two-person households are again apparent. Persons who attain a given age in a later year have more total assets. Figure 5-4 is like Figure 5-3 but pertains to fs11 instead of fs22 persons. Again it is clear that for the assets of remaining one-person families increase virtually continuously through age 82. Unlike the HRS data, the SIPP data show some cohort effects for fs11 persons although these effects are smaller than those for fs22 persons.

Figure 5-2. Median total assets of fs11 persons in HRS cohort age 56 to 61 in 1992 and AHEAD cohort age 70 to 75 in 1993

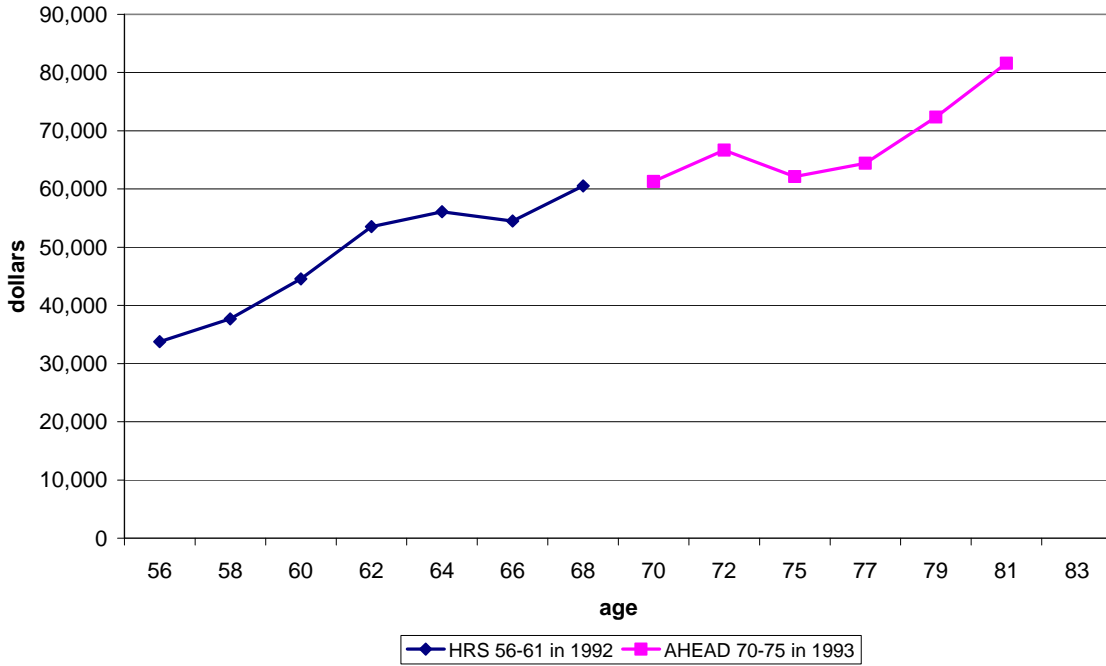


Figure 5-3. Median total assets of fs22 persons for selected SIPP cohorts

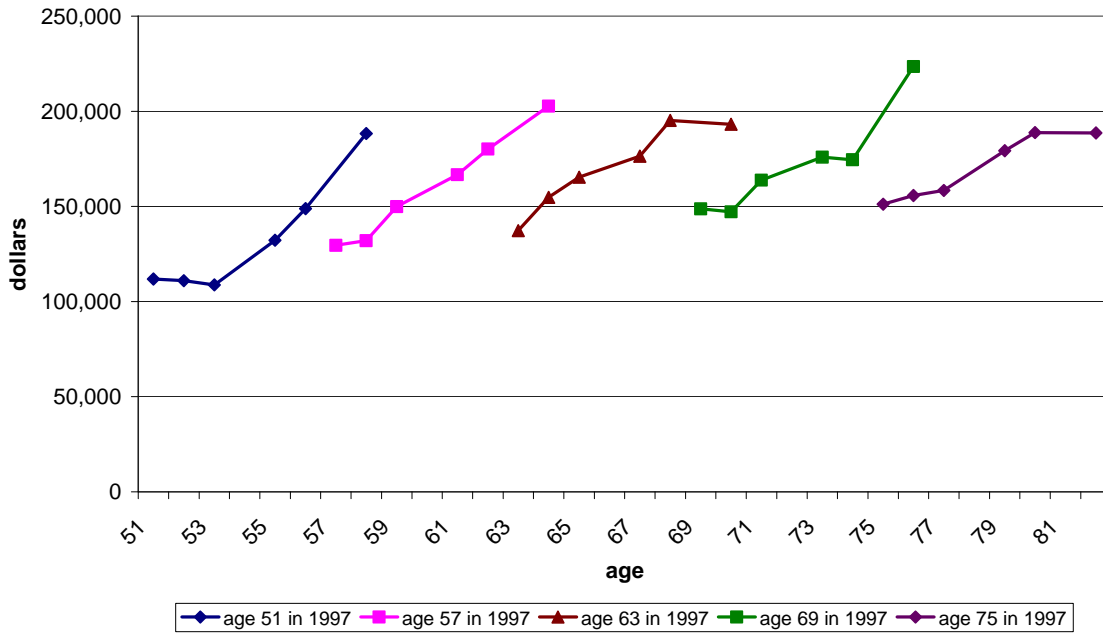
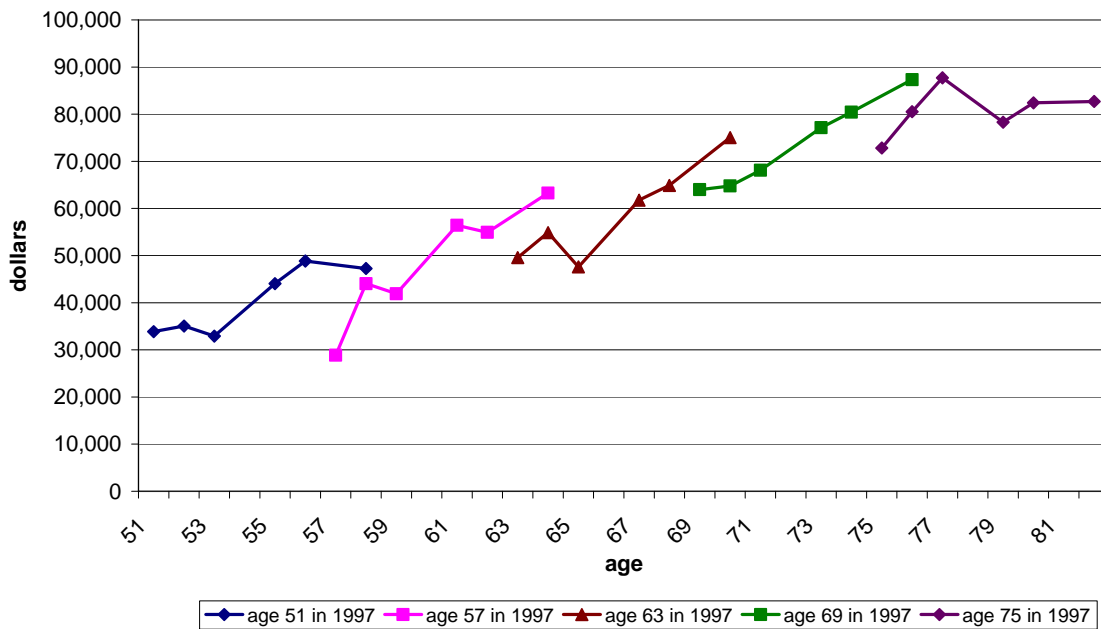


Figure 5-4. Median total assets of fs11 persons for selected SIPP cohorts



The next two figures compare HRS/AHEAD assets with those reported in SIPP. Figure 5-5 compares the assets of fs22 persons reported in the HRS with the assets reported in SIPP. Figure 5-6 makes the comparison for fs11 persons. For fs22 persons, assets reported in SIPP are greater than those reported in the HRS. This may be because 401(k) assets are not available from the HRS. For fs11 persons, the assets reported in the same intervals are similar.

Figure 5-5. Median initial total assets of fs22 persons for cohort age 51 to 61 in 1992, HRS and SIPP data

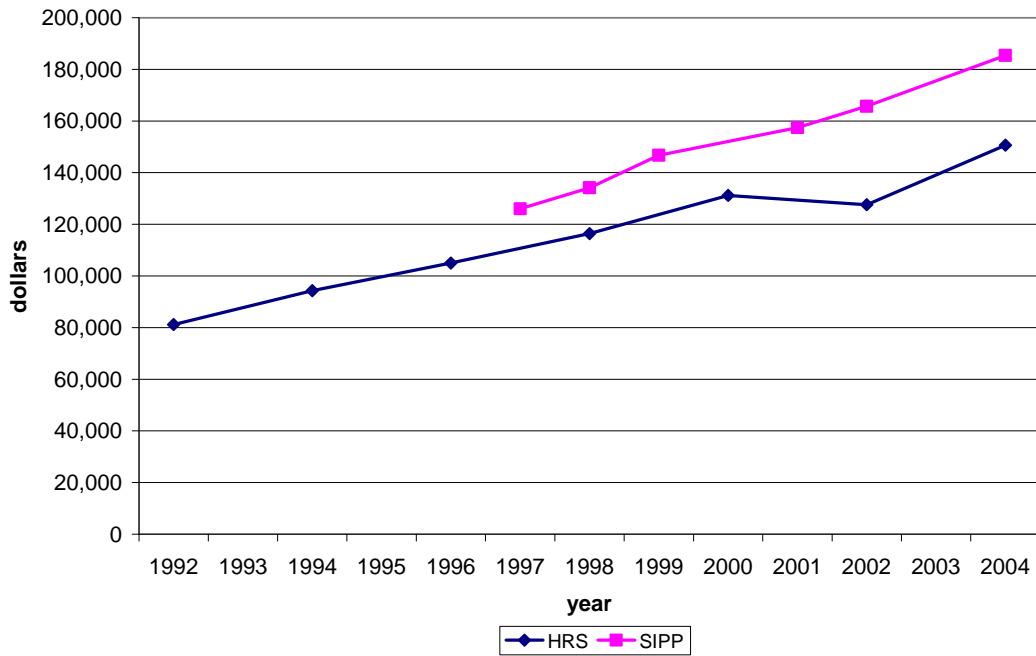
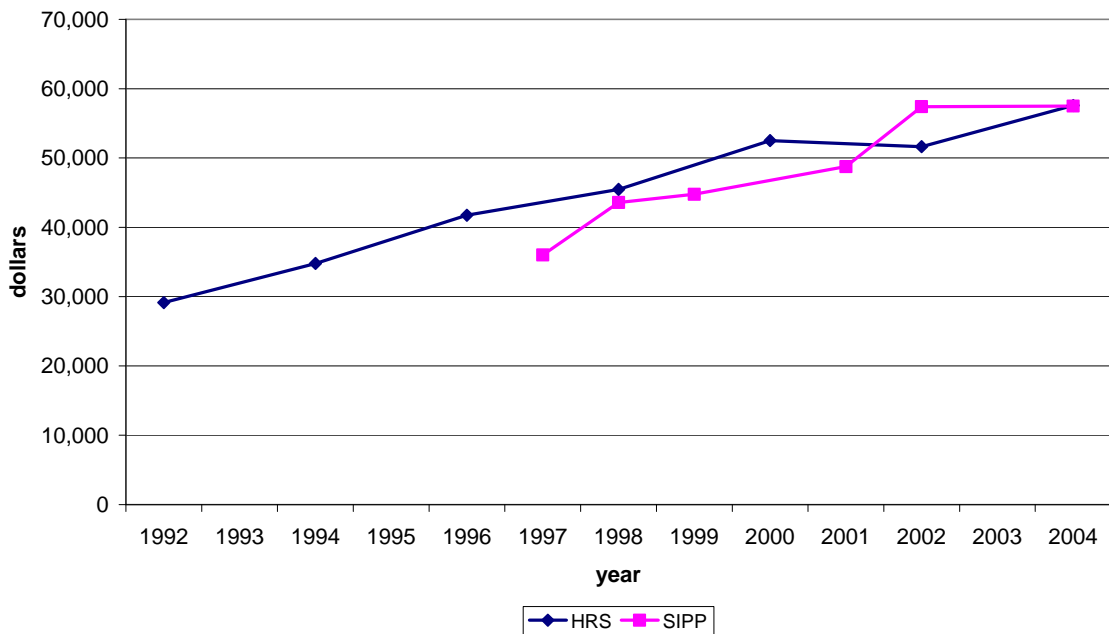


Figure 5-6. Median initial total assets of fs11 persons for cohort age 51 to 61 in 1992, HRS and SIPP data



Figures 5-7 and 5-8 pertain to personal retirement assets of fs22 and fs11 persons respectively. These figures show means instead of medians. Like the interval change data in section 2, this cohort representation of the data also

shows that the assets of continuing fs22 and fs11 families continue to grow through age 80 at least. The increase is especially strong for continuing two-person households. Again the cohort effects are apparent for both groups, with younger cohort having greater retirement assets. Recall that the interval change data show a decline in the retirement assets of the fs21 families.

Figure 5-7. Mean retirement assets of fs22 persons for selected SIPP cohorts

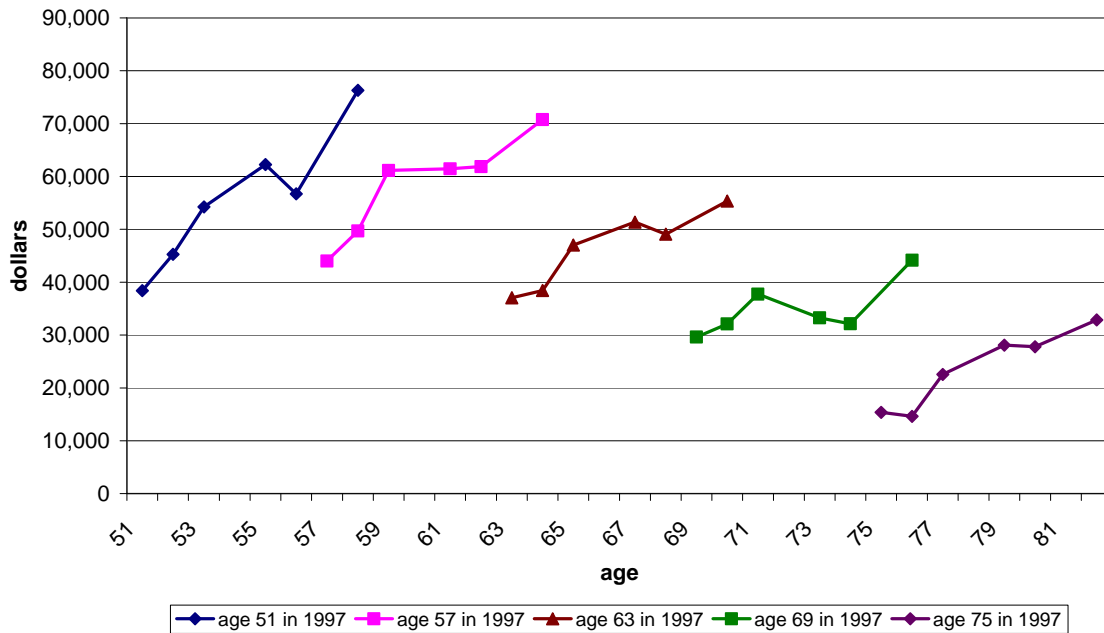
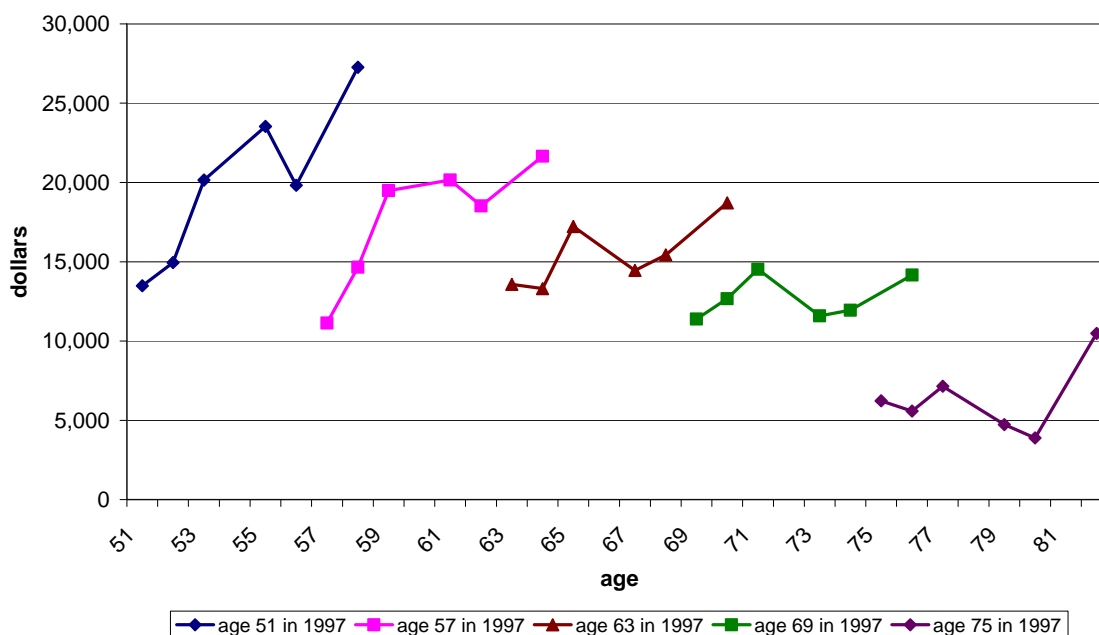


Figure 5-8. Mean retirement assets of fs11 persons for selected SIPP cohorts



6. Summary and Discussion

The central question we ask is whether the retirement assets accumulated in personal retirement accounts are drawn down precipitously soon after retirement or whether they are conserved for use later in life. We find that persons tend to conserve retirement assets, rather than drawing assets down soon after retirement. Following retirement, the percentage of dollars withdrawn from personal accounts each year appears to fall below the rate of return earned on existing balances, allowing balances to accumulate further. This is true even after persons are required to make minimum withdrawals at age 70 ½. It may be a function of the particular returns earned over the period that we study, but it may also reflect a decision on the part of participants to avoid drawing down capital unless forced to by a binding minimum distribution requirement. We also find that the assets of continuing two-person families increase well into the 80s. The retirement assets of continuing one-person families increase well into the 80s as well. On the other hand, persons who transition from a two-person to a one-person family experience a fall in retirement assets that is in some cases substantial. It is noteworthy that persons who will experience a two- to one-person transition in the future had much lower assets in prior years than persons who would later remain as continuing two-person families. Overall, the evidence seems to suggest that persons conserve retirement assets for a future “rainy day.” This result is much like Venti and Wise’ (2004) finding with respect to home equity, which tended to be held until a shock to family status occurred. We

also find that this general pattern is true not only for retirement assets, but for the sum of all assets as well. Unless there is a shock to family status, assets tend to grow with age.

There are several issues that need to be addressed more thoroughly in the continuing analysis. We have shown the data as it is, without adjustment for reporting errors. In many instances anomalous jumps in asset balances are likely the result of reporting errors. This is particularly a problem when looking at changes in wealth over time--a single misreport of a zero balance in one period will produce both a large negative change and a large positive change. In most cases we have used medians to lessen the problem. We have also made conclusions based on graphical presentation of the raw data. We find this approach appealing at this stage of the analysis. In future work we will develop results based on more integrative econometric methods. We also want to pursue the implications of our findings for the management of the drawdown of assets after retirement. Our findings bear on the potential demand for annuitization. For those who are conserving assets for random future shocks, annuitization may make it more difficult to access a ready pool of capital in the event of a "rainy day." The appropriate way to manage the drawdown of retirement assets is an open question. Finally, the results we present here pertain to average accumulation of assets. They do not say how many people may be drawing assets down too quickly, or how many are perhaps forgoing "too much" consumption by conserving their assets.

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Appendix

Appendix Table 4-1. Median total assets of persons before and after interval of family status change, by year of family status change--HRS

	1992-1994		1994-1996		1996-1998		1998-2000		2000-2002		2002-2004		2004-2006	
	Assets		Assets		Assets		Assets		Assets		Assets		Assets	
	start	end	start	end	start	end	start	end	start	end	start	end	start	end
type in 1992-1994														
fs11	29	33	35	37	38	41	44	46	49	52	50	47	48	48
fs12	39	77	73	88	91	87	110	99	98	107	110	141	144	144
fs21 (widowed)	67	69	69	75	76	75	76	86	86	75	71	81	84	82
fs21 (div/sep)	65	31	38	53	60	51	42	71	66	59	59	63	70	70
fs22	124	136	138	141	146	151	151	163	165	171	168	184	188	199
type in 1994-1996														
fs11	33	35	35	37	39	40	43	46	49	51	50	48	52	50
fs12	62	53	52	95	97	131	133	146	146	111	111	128	117	102
fs21 (widowed)	101	93	93	103	106	93	93	95	105	79	79	71	86	122
fs21 (div/sep)	76	60	60	43	43	55	55	60	63	74	74	71	79	77
fs22	125	139	139	143	148	152	155	168	170	174	173	189	192	202
type in 1996-1998														
fs11	41	38	38	42	42	42	44	46	51	54	53	53	56	55
fs12	87	58	56	63	63	97	99	135	133	113	113	147	129	127
fs21 (widowed)	99	99	99	90	103	97	97	93	94	101	102	74	76	80
fs21 (div/sep)	68	60	56	49	49	24	27	37	33	61	58	98	101	81
fs22	129	142	142	148	148	151	155	170	173	175	175	191	194	205
type in 1998-2000														
fs11	47	46	46	46	47	47	45	46	51	54	55	53	57	58
fs12	97	75	75	78	78	96	86	135	136	120	125	121	121	171
fs21 (widowed)	88	95	94	93	92	91	93	94	99	108	102	110	99	123
fs21 (div/sep)	89	66	70	63	60	57	57	24	29	58	57	28	34	33
fs22	132	146	147	153	152	159	157	171	176	177	178	195	201	213
type in 2000-2002														
fs11	48	51	52	52	52	55	53	55	53	55	55	53	57	57
fs12	103	99	107	125	125	97	97	97	93	170	169	116	120	129
fs21 (widowed)	103	104	104	91	91	99	100	92	92	89	89	89	89	92
fs21 (div/sep)	78	92	85	97	95	100	105	126	126	42	46	78	78	55
fs22	132	148	149	156	156	164	163	179	177	178	180	197	203	217
type in 2002-2004														
fs11	50	54	56	54	55	57	57	58	57	55	52	51	56	53
fs12	92	89	92	71	73	99	101	108	108	103	87	130	129	144
fs21 (widowed)	90	100	108	98	102	107	103	109	107	101	101	101	108	130
fs21 (div/sep)	46	67	67	40	45	58	62	70	70	62	60	34	34	70
fs22	132	148	150	156	157	164	164	182	180	183	180	197	202	216
type in 2004-2006														
fs11	55	58	58	59	62	63	63	66	65	63	60	58	58	55
fs12	77	77	86	63	63	85	86	84	66	81	83	92	93	163
fs21 (widowed)	125	121	129	118	118	125	128	131	134	168	167	126	114	143
fs21 (div/sep)	44	36	36	34	42	62	57	54	54	50	50	54	59	24
fs22	134	151	151	159	160	167	168	189	189	190	186	207	204	218