Income Trajectories in Later Life: Longitudinal Evidence from the Health and Retirement Study

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Abstract

We examine respondents in the Health and Retirement Study (HRS) to observe how their financial situations unfolded as they aged. We focus on low-income older adults and follow them over time to identify the factors associated with having low income at baseline and thereafter. We find that (a) real income remained relatively stable as individuals approached and entered retirement, and progressed through their retirement years, and (b) labor force participation declined and thus earnings became less important with age, while Social Security and retirement savings rose as a proportion of annual income.

JEL classification: G53, D14, I38

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Introduction

An important question facing older individuals as well as national policymakers is how the income of older person changes as they enter transition from working into retirement. During this transition, earnings decline as a source of income while reliance on Social Security, pensions, and personal saving increases. Key questions associated with this life course transition are: Is there a sharp decline in real income as individuals leave the labor? Do most older persons live on fixed incomes, which decline throughout the retirement years?

To evaluate these queries and to assess how individuals fare in later life, this study follows individuals in the initial Health and Retirement Study (HRS) for over two decades. We find that average real income remains relatively stable for this cohort. As they age, Social Security and retirement savings replace earnings enabling retirees to maintain their economic status even for individuals in the lowest quartile of the income distribution. While there is considerable evidence from cross-sectional surveys illustrating age income differences, longitudinal data on specific individuals is needed to explain the actual changes in income as individuals age and enter retirement. The HRS is the best source of information to follow the age income changes of older Americans. We exploit these data and follow individuals as they age from 50-61 in 1992 to 73-85 in 2016.

This paper examines some of the factors explaining why the income of older Americans fluctuates as they transition from working to retirement, devoting special attention to work, saving, health, and other measurable factors. Specifically, we pose and answer two questions:

- What factors are associated with low incomes for older Americans nearing retirement?
- Does real income decline as individuals enter and live through retirement? If so, is this a particular problem of low and middle income households?

In what follows, we first describe how we identify low-income older adults, and how we follow them over time. The Original HRS cohort was first inducted into the HRS in 1992 when respondents were age 51-61. We report on factors associated with being a low-income respondent when we first observe our panel, at baseline. Subsequently, we estimate profiles of income by age and explore which factors are associated with increasing or decreasing incomes in later years.

The subsequent section discusses how results change when we include the annuitized value of wealth in older persons' financial resources. In an extension, we compare the Original HRS group with the War Babies cohort (WBB) first included in 1998, and the Early Baby Boomer cohort (EBB) first included in 2004.We follow all three cohorts though their 2016 interviews.[1] Throughout, all dollar values are

[1] A 2018 HRS survey wave has been made available, but many of the variables we require for our analysis have not yet been constructed for this dataset. Moreover, there are no HRS data available as of yet on experiences during the pandemic; see Clark, Lusardi and Mitchell (2021) for more on that topic.

provided in real $2019 terms, and all results are weighted using sample weights provided by the Health and Retirement Study.

To this end, we combine reported data on household earnings from employment and self-employment; income from pensions or annuities; income from Social Security; unemployment and worker compensation benefits, and household capital income.[2] In order to compare wellbeing across households of different sizes, we adjust these household money income values using the conventional household equivalency metric used by both the CBO and the OECD.[3] This adjustment divides total household money income by the square root of the number of people in the household to obtain the household's Adjusted Money Income. In a subsequent analysis, we compute Adjusted Full Income measures over time, where this measure includes the annuitized value of the respondent's net wealth.[4]

Our study which follows the same individuals in three cohorts over time provides the following key insights:

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[2]These measures are available from the RAND datafile with imputations for missing data; see https://www.rand.org/well-being/social-and-behavioral-policy/centers/aging/dataprod/hrs-data.html

[3] To test robustness of our results, we also examined a second equivalency measure also used by the OECD where the formula is First Adult + 0.5 × Subsequent Adults + 0.3 × Children (< age 18, if any). Results are similar so we focused on the first, more widely used, adjustment.

[4] Total household wealth is defined as the sum of the value of the primary and secondary residence (if any), plus the net value of real estate; vehicles; businesses; IRA and Keogh accounts; stocks, mutual funds, and investment trusts; checking, savings, or money market accounts; CD, government savings bonds, and T-bills; bonds and bond funds, and all other savings; minus the sum of all mortgages/land contracts (primary and secondary residence), other home loans, and other debt. Company pension and social security wealth values are not included. If net wealth fell below $1, we assigned a value of $1 for the log transformations below. For additional evidence on rising cohort debt through time, see Lusardi, Mitchell, and Oggero (2018, 2019).

1. Factors most closely associated with being in the lowest income quartiles at baseline included being Black or Hispanic, female, having less education, being nonmarried, not working for pay, being disabled, and having underage children at home. Additionally, respondents who resided in the South were systematically more likely to be in the lowest quartile.
2. Respondents initially found in the two lowest income quartiles at baseline were able to maintain their real incomes throughout retirement. The stability of real income occurs as Social Security and retirement saving replace declining earnings. Those in the third quartile experienced economic declines as they aged.
3. People in the highest baseline groups saw large improvements in income as they aged, ending up with values 30% higher than at baseline. Moreover, including the annuitized share of wealth when measuring peoples' access to resources improved our measure of many elderly respondents' financial conditions. Nevertheless, even after taking household wealth into account, Blacks and Hispanics, women, the least educated, disabled persons, the nonmarrieds, and residents of the US South, still fared relatively worse in later life, along with those having underage children and health problems.

While there have been many prior studies of peoples' financial status in retirement, there are relatively few that follow cohorts of individuals as they age. One analysis by Brown, Dynan, and Figinski (2020) examined only two waves, 1994 and 2014, of the Health and Retirement Study, for persons initially age 57-62. By

contrast, we track respondents from three separate birth cohorts, and we follow them every two years from their baseline wave through 2016. Accordingly, we have a far more detailed and granular perspective of the factors associated with financial conditions at older ages, compared to prior research.

The primary advantage of the longitudinal data is that the HRS allows us to follow each individual as they age from their 50s through their 70s as they experienced temporary and permanent shocks to their living standards. In addition, with this sample, we observe the transition from career jobs to complete retirement and document the changes in their sources of income during these events.

Materials and Methods

We begin by examining the Original HRS cohort, where we first focus on a sample of 9,955 individuals initially age 50-61 when they were first surveyed at baseline, in 1992. For this sample, we have 13 waves of data enabling us to follow them through time every other year from 1992 to 2016.[5] In the process, we collect each household's money income (e.g., labor earnings, pension benefits[6], Social

[5]People could attrite for several reasons. Some respondents refused or are unable to do the interviews because of illness or due to being in a nursing home. Sometimes respondents may have moved and been lost to follow up. When respondents died, the HRS sought to conduct "exit interviews" with the next of kin; this was successful in a majority of cases. If a respondent was institutionalized, efforts were made to survey the respondent's proxy. Our data are available only on HRS respondents, not proxies or exit interviews. Online Appendix Table 3 shows the change in sample size between 1992 and 2016 with most of the attrition being due individuals dropping out of the sample.

[6] Bee and Mitchell (2017) found substantial underreporting of pension income in the Current Population Survey when reported income in surveys is compared to that from administrative data. Chen, Munnell, and Sanzenbacher (2018) concluded that the income data in the HRS closely matches values in administrative data.

Security benefits, disability benefits, welfare benefits, withdrawals from accounts (e.g., IRAs, bank accounts), self-employment income, consulting income, and any other income (see Online Appendix Table 1 for descriptive statistics). We next divide total household money income by a family size adjustment to obtain an individual's Adjusted Money Income (these measures of income are identical in single person households). In separate robustness analysis, we also add in the annuitized value of household wealth including net financial and nonfinancial assets; we then adjust household wealth by the same equivalency measure and compute the annuity value of this wealth if the respondent were to convert his or her share to an income flow in retirement. This second measure we call Adjusted Full Income.

The HRS is a very rich dataset, as it contains information on each respondent's age, sex, education, race/ethnicity, current and past marital/partnered status, labor force status, self-reported health (limitations of daily living, the respondent's depression score, self-assessed chance that the respondent will live to age [X= 65, 75], high blood pressure, diabetes, cancer, lung disease, heart disease, had suffered a stroke, psychiatric disease, arthritis, ulcer, cognition score, numeracy score), and whether the respondent had health insurance status (none, private, public). Adjusted Money Income was based on self-reports of all household income including respondent and spouse earnings, pensions and annuities, Social Security Disability and Supplemental Income payments, Social Security retirement,

unemployment and workers compensation, other government transfers, household capital income, and other income.[7]

Figure 1 depicts the distribution of the Adjusted Money Income values at baseline for our Original HRS cohort in 1992 (in $2019). According to this metric, baseline median Adjusted Money Income for respondents age 50-61 was around $44,795 (in $2019), with 1% having no or negative earnings, and 4.1% earning over $150,000.

Figure 1 here

Next, we split the baseline sample into four Adjusted Money Income quartiles, shown at the bottom of Figure 1.[8] The lowest group, Q1, had annual median Adjusted Money Income of $11,411; Q2 had $30,770; Q3 had median income of around $53,504; and Q4, the highest income group, had median income of around $94,050. Figure 1 also indicates that there were about 2,400 respondents per quartile at baseline, and the quartile cutoffs for Q2, Q3, and Q4 were, respectively, $21,024, $41,596, and $68,345.

Results: Lowest Income Recipients in the Original HRS Cohort at Baseline

[7] Social Security earnings records are available for some HRS respondents under strict anonymity conditions, and these records could be used to track earnings over time. Nevertheless, we used the actual survey data instead of the administrative earning records since over one third (34%) of HRS respondents lacked earnings records. This could be either because they did not consent to provide the link, or they were not covered by Social Security during their work lives.

[8] Our analysis follows individuals by their position in the income quartiles at baseline. Of course, individuals may move up or down across quartiles over time. Hungerford (2019, 2020) examines how income distributions change with age.

To evaluate the factors associated with being in the lowest adjusted money income quartile at baseline, we focus initially on the Original HRS respondents first surveyed when they were age 50-61. The factors associated with being in the lowest income quartile, Q1, are derived from a multivariate logit regression analysis with estimated marginal effects reported in Table 1. Here, the first Column uses an abbreviated set of controls, while Column 2 includes additional health, insurance coverage, and region controls. All variables are measured at baseline.

Table 1 here

We see in Column 1 that Blacks and Hispanics, women, the least educated, and nonmarried persons were more likely to be found in Q1, as are disabled persons and people with underage children at home. Nonworking persons were also more likely to be in Q1, as were residents of the US South. These findings are robust to the inclusion of additional controls, as is evident from Column 2. That is, the magnitude and statistical significance of the estimated coefficients for Blacks and Hispanics, nonmarried, lower-educated, and women are relatively robust to the addition of controls.

Having underage children also continues to predict Q1 Adjusted Money Income. In addition, we see that those in poor health and with health problems were more likely to have Q1 Adjusted Money Income than their counterparts, as are people without health insurance. Those working for pay were 20% less likely to have

Q1 Adjusted Money Income in Column 1, though the effect halves to 11% after health and health insurance are controlled in Column 2.

One clear finding in Column 2 is that the probability of a respondent being in the Q1 Adjusted Money Income group at baseline was higher for older persons. That is, Column 2 shows that people age 56 and younger were half as likely to be in the lowest quartile at baseline, compared to people age 57-61. These predictors of low income at baseline conform to the findings of economic studies conducted in the 1990s as well as more recent research.

Table 2 provides additional detail on the probability of being in any of the lowest three Adjusted Money Income quartiles (Q1, Q2, or Q3), versus being in the reference or highest quartile (Q4) at baseline. Again, logit marginal effects are reported. Most of the results gleaned from Table 1 are confirmed here as well. For instance, age effects are mostly not significant up to about age 58. Thereafter, people were more likely to be found in Q1 than in the higher income quartiles, and this effect is strongest for those over the age of 58. As before, men were less likely than women to be in any of the bottom three quartiles and more likely to have top quartile Adjusted Money Income.

As before, Blacks and Hispanics were more likely to be in Q1 than Q4, as are the least educated and nonmarried persons. Being in poor health or disabled, not having health insurance, and not working for pay are all factors clearly associated with worse economic standing, as before. In terms of quantitative magnitudes, not

working for pay is associated with a 12-22% higher chance of being in the lowest compared to the highest quartile. Residents of the US South were roughly as likely to be in the lowest quartile as are respondents having underage children. Overall, the baseline results tell a consistent story about the directionality of the factors predictive of low incomes at baseline, when most Americans are nearing retirement.

Table 2 here

Results: Age-Income Profiles Over Time for the Original HRS Cohort

In this section, we ask how real income changes with age for this cohort, and whether these changes differ across respondents in the quartiles of the income distribution. Thus, we now examine how Adjusted Money Income changed over time for the Original HRS respondents first observed at baseline in 1992 when they were age 50-61. To this end, we classified each respondent as before using his or her Adjusted Money Income quartile at baseline, and then followed respondents in every wave observed thereafter. To trace the trajectories by age, we regressed (ln) Adjusted Money Income on a set of age controls, with age 50 as the reference category.[9] Other controls also included are all of the socio-demographic factors in Table 1, and controls for the year of interview. As usual, all dollar values are in $2019. A plot of the results appears in Figure 2, which illustrates the average percentage change in Adjusted Money Income by respondent age and initial quartile.[10]

[9] We use the natural log transformation so that coefficients represent percentage changes Errors are clustered by individual.
[10] An F test rejects the hypothesis that the quartile lines in Figure 2 are identical.

Figure 2 here

As is clear from the figure, Adjusted Money Incomes across the full set of respondents (black line) remained relatively stable in real terms, from age 52 to 82. Interestingly, people whose baseline Adjusted Money Incomes were initially in the lowest two quartiles (Q1, red line, Q2, blue line) experienced the largest fluctuations in their Adjusted Money Incomes with age. The income for those in Q1 dropped twice between ages 52-62 but thereafter, the Q1 group experienced improving Adjusted Money Incomes up to age 72. This age pattern reflects some early retirement prior to age 62 and then the fact that many respondents begin receiving Social Security and pension benefits around that age.[11] An alternative explanation for the improving lot of the Q1 quartile could be that people reporting the lowest annual incomes at baseline (below $10,000/year) might have experienced a recent income shock, and then their subsequent Adjusted Money Income rose to more normal levels thereafter (Hudomiet 2015).

Individuals in Q2 had the relatively best experience during the sample period, as their Adjusted Money Income remained higher than at baseline throughout retirement. Turning to the two top quartiles at baseline, Q3-4, Figure 2 indicates that they experienced rather different trajectories. After about age 62, the Q3 (yellow line) faced a large and steady decline in their Adjusted Money Income until age 82.

[11] Using IRS tax data, Beshears, et al (2019) find that "income replacement rates have not worsened over time for households at or above the median, but have deteriorated for households below the median" for households aged 70 and 80.

At that point, the Original HRS cohort in Q3 at baseline had 35% less Adjusted Money Income than they did at age 52 indicating that upper middle-income households are less able to maintain their preretirement standard of living during their retirement years. Money incomes of the top quartile, Q4 (green line), actually fell from about age 53 onwards perhaps reflecting the lower replacement rate from Social Security and monetary limits on employer pension plans.

Our analysis of the original HRS cohort illustrates that, over a 24- year period, real household income remained relatively stable; however, income fluctuations differed by income quartiles measured at baseline. In sum, those initially in the lowest Adjusted Money Incomes at baseline did relatively better after age 62, while those in higher baseline quartiles saw their Adjusted Money Incomes decline in real terms. The analysis of over time fluctuations is only possible using longitudinal data. The HRS provides the longest such data for older households and our findings provide a clear pattern of the age income profiles as individuals age and move into retirement.

Results: Explaining the Stability of Real Income

The age/income patterns we observe occurred as the proportion of respondents working for pay in each quartile fell rapidly with age. Approximately 80% of individuals in the top three quartiles were working for pay in the early 50s while by age 65 only about 40% were working for pay and by age 82 virtually all of

the respondents have left the labor force (see Figure 3).[12] Despite this rapid decline in the probability of working, real income remained relatively constant between 62 and 72. The probability of working for Q1 respondents was much lower at baseline than those in other quartiles, and members of Q1 continue to have lower labor force participation rates up to age 82.

Figure 3 here

Of course, as individuals leave the labor force, money from earnings declines; therefore, in order for real income to remain constant, other sources of income must increase. To examine the changing contribution of various income sources, we calculate the share of annual income for each respondent attributable to earnings, Social Security, unemployment and worker compensation, pensions and annuities, and capital income. Figure 4 shows the dramatic decline in the share of income for the entire cohort due to earnings falling from 75 to 80% in the mid-50s to essentially 0 by age 80. Over the same ages, the share of income due to Social Security rose from less than 5% to over 60% with smaller increases in income shares for pensions and capital income.[13]

Figure 4 here

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[12] The Congressional Budget Office (2019) provides a review of recent changes in the employment of individuals aged 55 to 79.

[13] Dushi and Trenkamp (2021) examined income sources from four national data sets including the HRS. Their results show that the HRS data are comparable to the other data files examined, and that the importance of Social Security to older households is similar to that we report using the HRS. See also Dushi, Iams, and Trenkamp (2017).

Even more interesting are the changes in income shares for the four quartiles. Beginning with respondents in the lowest quartile, we observe that earnings initially represented a smaller income share (about 50%) and declined to less than 10% in the 60s. In contrast, the share of income due to Social Security rose from around 20% when respondents were in their 50s to over 80% when they reached their late 60s. The dotted line indicates that over 60% of these low-income households were receiving 90% or more of their income from Social Security. Given that Social Security benefits are indexed for inflation, it is easy to see how the income of those in the lowest quartile remained relatively constant in real terms.

Similar changes in income shares occurred for respondents in the second and third quartiles. For respondents in the highest quartile, capital income and pensions were more important with each representing about 20% of total income. Interestingly, even for individuals in the highest quartiles, benefits from Social Security represented over 40% of annual income.

Results: Integrating Respondent Wealth as a Potential Financial Resource for the Original HRS Cohort

Previous sections focused only on money income to trace peoples' financial fortunes over time. In this section, as described above, we also incorporate the baseline level of each household's net wealth by converting baseline wealth into an equivalent income stream. Our goal is to establish what each individual *could have*

obtained, if his or her share of household wealth been converted to an annuity at baseline. To derive this measure, we first divide baseline household wealth for an individual living in a multi-person household by the number of (adult) co-residents, if any. Next, we apply an appropriate age/sex annuity factor (Academy of Actuaries 2012) to the resulting wealth allocation, to determine what the annuitized total income of that respondent would be. This annual annuitized wealth amount is then added to Adjusted Money Income in all future years. In what follows, we call this Adjusted Full Income, which is the sum of Adjusted Money Income plus the adjusted baseline value of annuitized household wealth.

Figure 5 reports the distribution of Adjusted Full Income at baseline. A few people had negative wealth and no money income (most of these lived with other persons); about 36.9% had Adjusted Full Income of under $40,000 per year; and about 15% had measured Adjusted Full Income of over $100,000 per year. The Figure also reports quartiles of Adjusted Full Income for the Original HRS cohort at baseline, labeled as EWQs to distinguish them from the Adjusted Money Income quartiles (Q1-Q4) in the discussion above. At the bottom of Figure 3, we see that the median Adjusted Full Income was $13,569 for the lowest quartile (EWQ1), and for EWQ2-3-4, respectively, $36,400, $63,045, and $114,361. Average Adjusted Full Income was 23% above average Adjusted Money Income ($68,391 versus $55,726), and median Adjusted Full Income exceeded median Adjusted Money Income by 18% ($53,047 versus $44,795), In other words, a comparison of Figures 1 and 3

confirms that all Adjusted Full Income quartiles indicate greater access to resources than the Adjusted Money Income measure.[14]

Figure 5 here

Figure 6 tracks the percentage changes in Adjusted Full Incomes for each baseline quartile as respondents age. Interestingly, the average across all quartiles (black line) traces a gradual but steady upward trajectory from age 62 onward, ending up with Adjusted Full Income about 30% higher than at the outset. This assessment of economic conditions is more positive than the impression gleaned from focusing only on Adjusted Money Income in the earlier Figures.[15]

Figure 6 here

We also see from Figure 4 that the baseline lowest EWQ1 quartile (red line) experienced important increases in its Adjusted Full Income after age 62 up to age 75. Individuals in the highest (EWQ4) quartile had a steadily rising Adjusted Full Income throughout the sample period. While the first pattern replicates what was shown in Figure 2, the improvement in top quartile Adjusted Full Income is much more strongly positive. By contrast, those initially in the second (blue line) and third quartile (yellow line) had relatively little upward or downward movement in Adjusted Full Incomes with age.

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[14] Nevertheless, Online Appendix Table 4 confirms that these two income measures are highly correlated.

[15] An F test rejects the hypothesis that the quartile lines in Figure 4 are identical.

Table 3 reports marginal effects from multivariate logit models of the probability that an Original HRS respondent was in the lowest Adjusted Full Income quartile at baseline (EWQ1). Here there are no statistically significant age effects, a result that differs from Table 1. As before, however, we find that men were much less likely to be in the lowest Adjusted Full Income quartile, while Blacks and Hispanics, the least educated, and nonmarried persons were more likely, as were Southerners, the disabled, and those with underage children. As before, people lacking health insurance were also more likely to be in the lowest Adjusted Full Income quartile. Those still working for pay were 8% less likely to have the lowest (EWQ1) Adjusted Full Income when health and health insurance are controlled in Column 2.

Table 3 here

Table 4 extends the analysis of Table 3 using a multinomial Logit model to evaluate the probability of appearing in each of the bottom three quartiles, versus being in the top adjusted Full Income quartile (EWQ4) at baseline. As in Table 3, age is not positively related to the chance of being in a low-income quartile. As before, men were less likely to be in the bottom three quartiles and were more likely to have top quartile Adjusted Full Income. Results for Blacks and Hispanics were significant across the board, and they confirm that these two population subgroups were always least likely to be in the highest Adjusted Full Income group.

Having more education and being married does reduce the chances of being in the bottom quartile, while having more underage children, being in poor health, and not working for pay are associated with worse economic standing, as is residing in the US South. The quantitative impact of working for pay is attenuated in the second panel compared to the first, suggesting that the additional controls in the second panel – including being in good health and having private health insurance are stronger influences than working *per se*. Overall, these results continue to tell a consistent story about the directionality of the factors predictive of poor financial conditions at baseline, even after taking household wealth into account.

Table 4 here

Robustness: Comparing the Original HRS with Subsequent Cohorts

With the support of the National Institutes of Health and the Social Security Administration, the HRS has been able to include new cohorts of older Americans every six years since 1992 when the original baseline group entered the study. For two of these additional cohorts, sufficient additional waves have now been fielded to enable a comparison with the original HRS cohort examined above. Specifically, in this section, we compare the original HRS cohort with the War Babies (WBB), age 50-56 in 1998, and the Early Baby Boomers (EBB) who turned age 50-56 in 2004. Both of these additional cohorts were surveyed every two years until the year 2016 (see Online Appendix Table 2 for descriptive statistics).

Figure 7 pools these three cohorts for a sample size of 14,180 into a single figure using the Adjusted Money Income measure (as before, in $2019). This expanded dataset has fewer respondents with zero or negative income, and a higher fraction with income over $150,000. Nevertheless, the distribution is similar in the mid-range of adjusted total income. To generate these comparisons, we utilize the same dollar amounts for the maximum amount cap for Q1-Q4 based on Adjusted Money Income for the Original HRS cohort at baseline.

Figure 7 here

To track these individuals through time, Figure 8 includes all three cohorts and traces the percentage changes in Adjusted Money Incomes by age and baseline quartile. As we saw in Figure 2, the overall average remains fairly constant (black line), but now the lowest Adjusted Money Income quartile (Q1) did much better from ages 52 to 72 (red line). The Q2 group (blue line) here is similar to that in Figure 2, rising toward older ages. The top two quartiles' Adjusted Money Incomes eroded somewhat with age, as in Figure 2.[16]

Figure 8 here

Tables 5 and 6, respectively, report the probability of the pooled sample falling into the lowest Adjusted Money Income at baseline, which may be compared with Tables 1 and 2. As in Table 1, older individuals (age 57+) in Table 5 were more likely to be found in the lowest group, but the age effects are attenuated in Table 6

[16] An F test rejects the hypothesis that the quartile lines in Figure 6 are identical.

(as in Table 2). One of the most robust findings is that men were less likely to fall into Q1 in both Tables 6 and 7, again supportive of the earlier findings. And once again, Blacks, Hispanics, the least educated, nonmarried, the disabled, Southern residents, and those with underage children were more at risk for falling into the lowest income group. As before, those in poor health and those lacking health insurances were also at greater risk. People who were working for pay were, again, less likely to be found in the lowest quartile. Overall, then, a consistent story emerges from all three HRS cohorts examined. In general, the cohort dummy variables in the regressions are not significantly different from zero in the models with the additional controls. This implies that our results for the age income profiles are robust across cohorts as well. Accordingly, the age pattern of real income in each of these HRS cohorts follows the same basic pattern.

Tables 5 and 6 here

Figure 9 reports the findings using Adjusted Full Income values at baseline for the pooled cohorts, where we see that the larger sample size helps smooth the volatility evident in earlier figures using just one cohort. Again, the cutoffs for each of the EWQ thresholds are the same as for the Original HRS cohort at baseline. In the pooled sample at baseline, fewer have zero Adjusted Full Income and more respondents have Adjusted Full Incomes above $150,000.

Figure 9 here

Figure 10 traces the Adjusted Full Income paths of the pooled sample by age, and interestingly, there is again about a 20 percent upward trajectory in the lowest

quartile's Adjusted Full Income from baseline onward (red line). The two middle quartiles (blue and yellow lines) fared less well but ended up above where they started out, while the group that initially had the highest Adjusted Full Income (green line) entered its 80's with 60% more Adjusted Full Income compared to its baseline.[17]

Figure 10 here

In Table 7, we run a multinomial logit model of the factors associated with the chances of someone being in the lowest Adjusted Full Income Quartile at baseline, but now using the pooled dataset with all three cohorts; results may be compared with Table 3. As we saw when we focused on the Original HRS cohort alone, there appears to be no age effect associated with the chance of being in the bottom (Q1) Adjusted Full Income quartile at baseline. As in our earlier analysis, we see that men were least likely to be found in Q1, while the most vulnerable groups include Blacks, Hispanics, the least educated, nonmarried, persons with underage children, the disabled, those without health insurance, Southern residents, and the nonemployed.

Table 7 here

Table 8 runs the same model used in Table 4, again with the pooled sample, but now the dependent variable is the probability of being in any of the lowest three Adjusted Full Income quartiles, versus being in the reference or highest Adjusted

[17] An F test rejects the hypothesis that the quartile lines in Figure 8 are identical.

Full Income quartile (EWQ4) at baseline. The logit marginal effects are reported in Table 8. Our earlier results in Table 4 are confirmed more, in that age is not statistically significant in almost all of the coefficients. Consistent with the earlier findings, men were least likely to be found in the lowest Adjusted Full Income quartile. Our previous results are also supported in that the chance of being in the lowest quartile was greatest for Blacks and Hispanics, Southerners, nonmarried persons, the least educated, people with health problems, those with underage children, the disabled, and those not working for pay. An important finding in all of our analysis is that the cohorts follow similar age income life patterns as only four of 12 cohort dummy variables are significant at the 5% level.

Table 8 here

Additional Considerations

One question that may come to mind is whether the reported income profiles traced of older persons over time might be influenced by differential mortality experiences across cohorts and demographic groups. For instance, if higher income persons have higher survival rates than do lower income persons, survival bias could skew observed changes in financial conditions with age.[18] Nevertheless, Hungerford (2019) has recently explored this question in the same dataset we use, the HRS,

[18] Online Appendix Table 3 reports sample sizes over time. Naturally since the Original HRS started earlier, before the two later waves, this cohort is the only group that has been interviewed in waves 11-13.

focusing on the Original HRS Baseline cohort examined here. Interestingly, he concluded that differential mortality by education, sex, and race does not account for rising income inequality as the population aged. We therefore leave to future work an analysis of selective mortality.[19]

Conclusions

One key finding of this analysis is that the real income of individuals in the HRS remained relatively stable between 1992 and 2016, as the cohort aged from 50-61 to 74-85. In other words, it is not the case that most older persons live on fixed incomes, notwithstanding many media reports to the contrary (LTLA 2018). Moreover, this constant real income is explained by the change in income sources from labor earnings to Social Security. We also illustrate how these findings vary by income quartiles: interestingly, individuals in the lowest quartile actually experienced rising real income with age. Adding annuitized wealth to provide a measure of total income strengthens these findings. This result provides support for the conclusion by Scholz, Seshadri, and Khitatrakum (2006) that many HRS respondents saved optimally for retirement.[20]

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[19] Fitzgerald, Gottschalk, and Moffit (1998) examine attrition in the Panel Survey of Income Dynamics between 1968 and 1989. During this period, the sample size declined by almost 50%. Based on their analysis, they concluded that despite this high level of attrition in the sample "attrition bias nevertheless remains quite small in magnitude." They also concluded that "the PSID has stayed roughly representative through 1989" (page 1). For additional evidence of attrition in the PSID, see Becketti, Gould, Lillard, and Welch (1988).

[20] Scholz, Seshadri, and Khitatrakum (2006) conclude that "84.4 percent of households meet or exceed their wealth targets (and most of those who are below miss by a relatively small amount)" (page 637). This finding is based on data from the 1992 HRS which is the baseline for our study.

Another contribution of our paper is to identify the key factors associated with poor financial status in retirement by undertaking a granular analysis of three HRS cohorts followed as they age. Our results identify a set of factors that are systematically associated with older Americans being in the lowest quartile of what we called the Adjusted Money Income distribution in their early 50's. This set of factors includes age, in that people in age 50-56 typically have more income than do their older counterparts in their late 50's and early 60's, mainly because the latter group is more likely to have left paid employment. Multivariate analysis confirms that Blacks, Hispanics, people with underage children, those in poor health, and people lacking private/employer-provided health insurance, were also more likely to be in the lowest Money Income quartile when observed at baseline. Another group systematically at risk is respondents living in the South of the US. The better-educated and those who continue to work for pay at older ages were most likely to be in higher Adjusted Money Income quartiles.

We also traced how peoples' financial fortunes changed with age, and we identified the factors associated with these trajectories. Interestingly, we found that individuals whose baseline Adjusted Money Incomes were initially the lowest, went on to experience rising real incomes after about age 62. By contrast, persons initially found in the Q3 and Q4 groups experienced a downward trend in money incomes as they age. Accordingly, those initially in the lowest income group did relatively better after age 62, whereas the others did about the same or saw their incomes fall.

We further incorporate wealth into computations of peoples' financial resources at older ages, by adding in an estimate of their annuitized wealth to their incomes, which we call Adjusted Full Income. Interestingly, this measure tracks upward from age 62, on average, providing evidence of a more positive trajectory than one might glean from looking only at Adjusted Money Income. Moreover, the lowest and the highest baseline groups experience large increases in Adjusted Full Income with age, ending up with real values 30% higher than at the outset. In other words, including the annuitized share of wealth when measuring peoples' access to resources makes many elderly respondents' financial conditions appear substantially better. This could imply that making it easier for older people to access their net home equity and other assets would enhance their financial positions in old age (Mayer and Moulton, 2021).

Using the Adjusted Full Income measure, we again find that Blacks and Hispanics, the least educated, disabled, and nonmarried persons, fared relatively worse in later life, as well as those having underage children and health problems. These findings imply that enhancing lower paid workers' health conditions and health insurance could improve their retirement wellbeing. Additionally, since many older persons in fragile economic circumstances are also likely to be caring for underage children, identifying ways to ease this burden could substantially enhance wellbeing for many in later life. Finally, we show that residents of the Southern US states were consistently more likely to be in the lowest income quartile on the verge

of retirement, and they continued to be in this group throughout retirement even after controlling on many other socioeconomic factors. While the HRS data do not permit a fuller examination of this last result, other analysts (e.g., Henderson 2019) have pointed to substandard educational levels, a dearth of job training and skills, and the paucity of well-paying jobs in Southern states.

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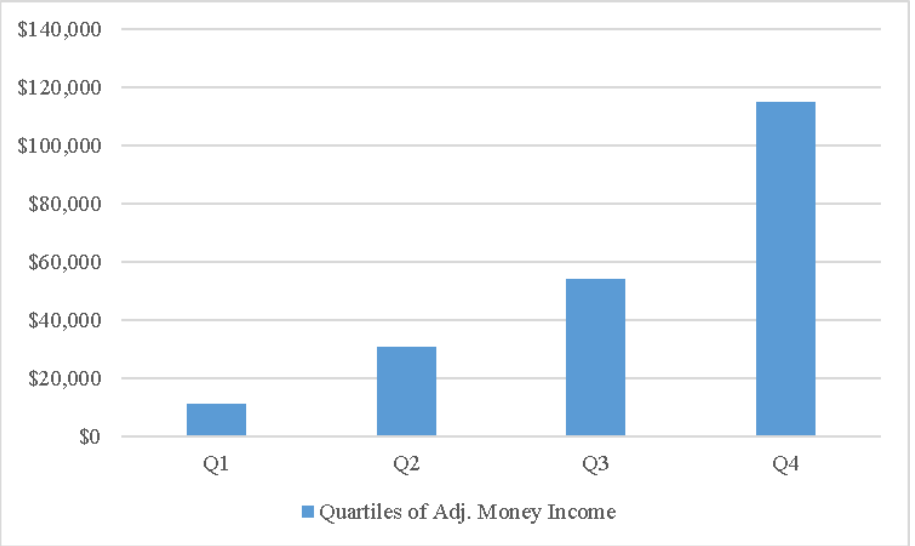
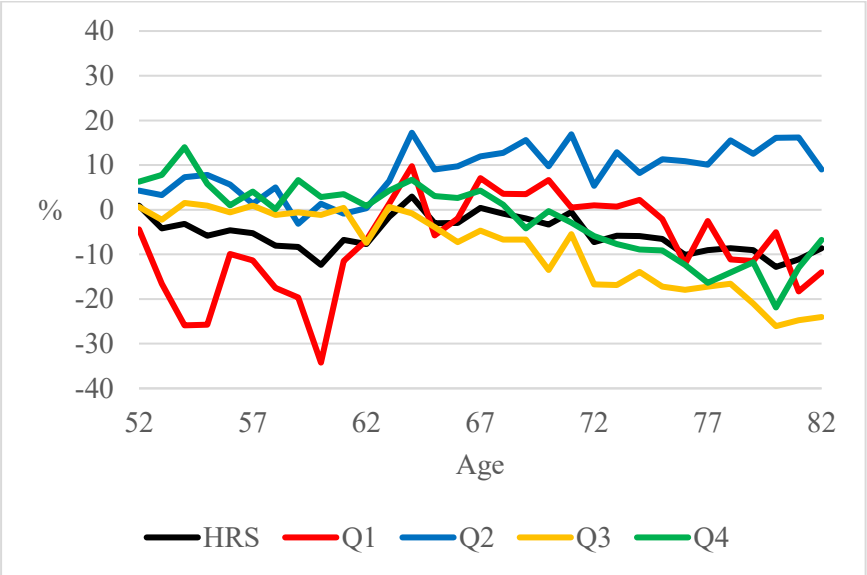
Figure 1. Adjusted Money Income for Original HRS Baseline (in $2019)



Note: The sample analyzed includes all HRS respondents age 50-61 having adjusted money income at baseline; see text. Data weighted.

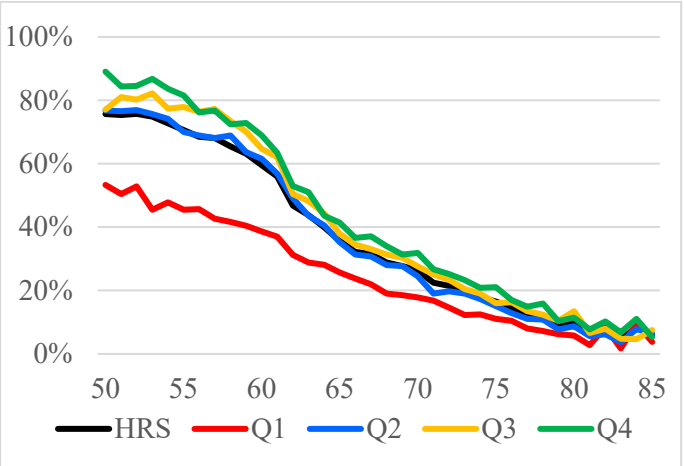
Quartiles of Adj. Money Income	N	Mean	Std.Dev.	Min	Median	Max
Q1	2,416	11,191	6,042	0	11,411	21,024
Q2	2,400	30,949	5,708	21,031	30,770	41,596
Q3	2,392	54,195	7,730	41,630	53,504	68,345
Q4	2,400	114,848	66,510	68,399	94,050	997,310
Total	9,608	55,726	52,820	0	44,795	997,310

Figure 2. Percentage Changes in Adjusted Money Income by Age in the Panel and Quartile of Baseline Adjusted Money Income Quartile: Original HRS at Baseline Followed Over Time (in $2019)



Note: Quartiles of Adjusted Money Income are determined at baseline (Q1-4). The profiles represent estimated age effects from a regression of ln(adj. money income) on age, demographic factors, and interview year. Baseline quartile cutoffs appear in Figure 1. Data weighted.

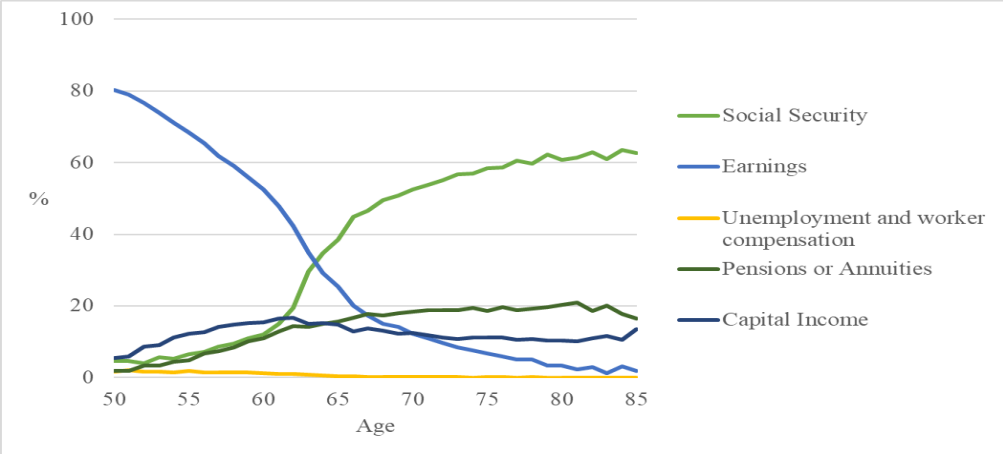
Figure 3. Proportion of Respondents in Each Quartile Working for Pay at Each Age



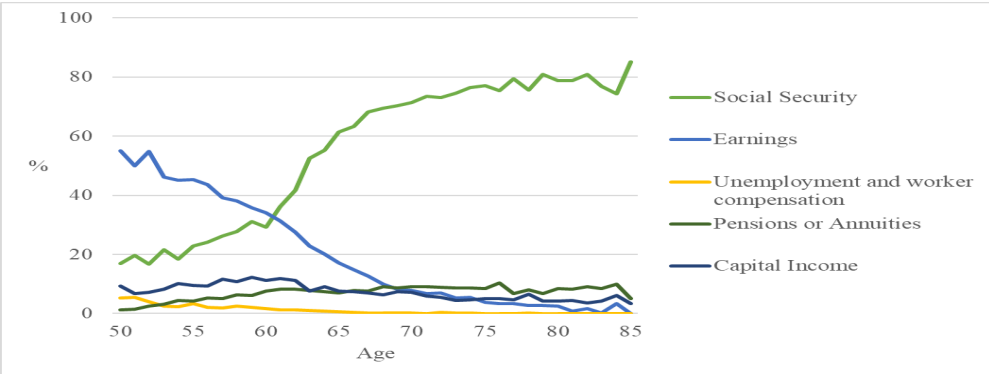
Percent working for pay by baseline Adjusted Money Income quartile

Figure 4. Shares of Adjusted Money Income by Age: Total and by Quartile

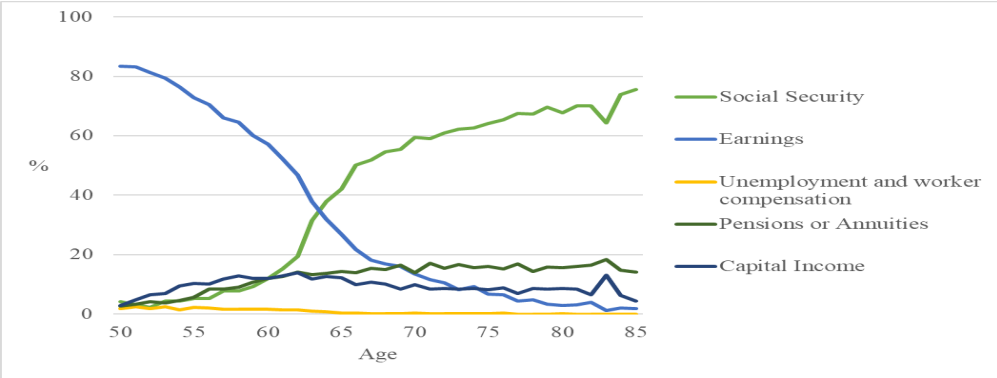
A. Original HRS, Total



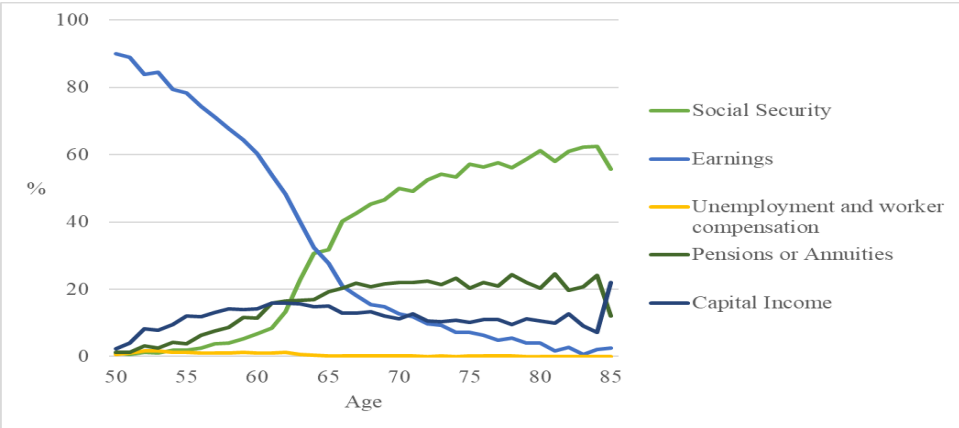
B. Quartile 1



C. Quartile 2



D. Quartile 3



E. Quartile 4

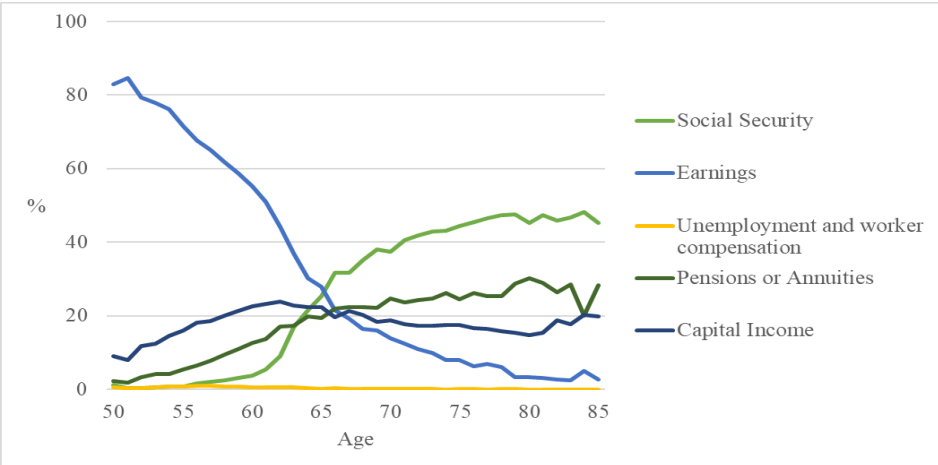
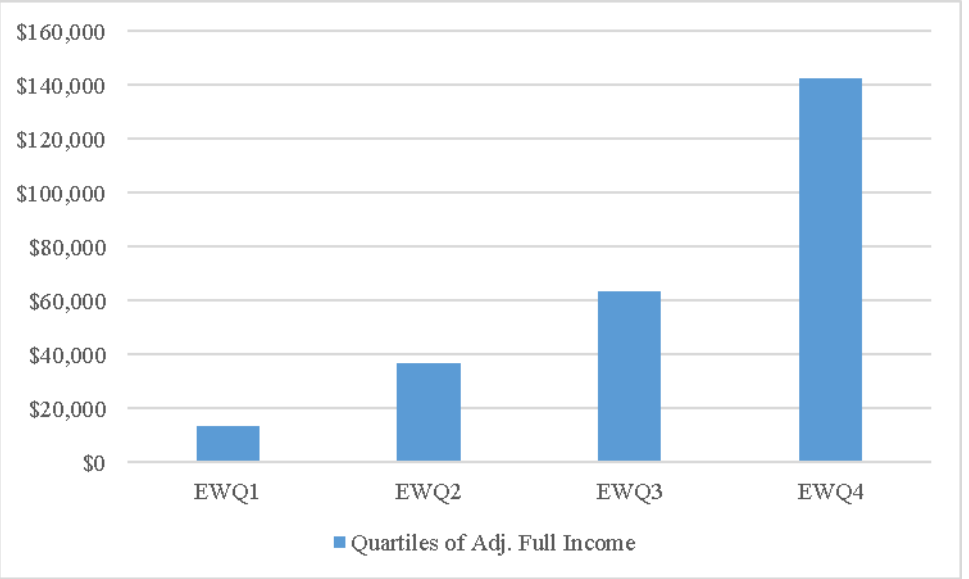


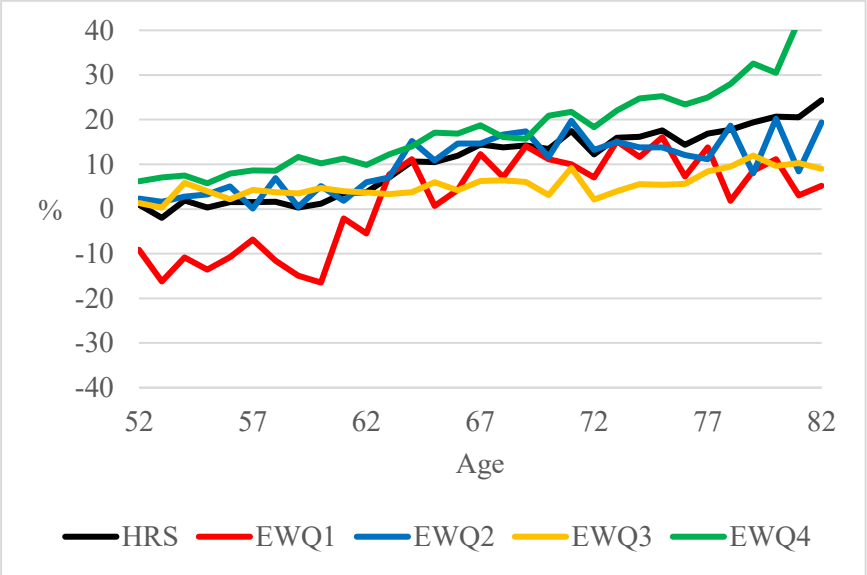
Figure 5. Adjusted Full Income: Original HRS at Baseline (in $2019)



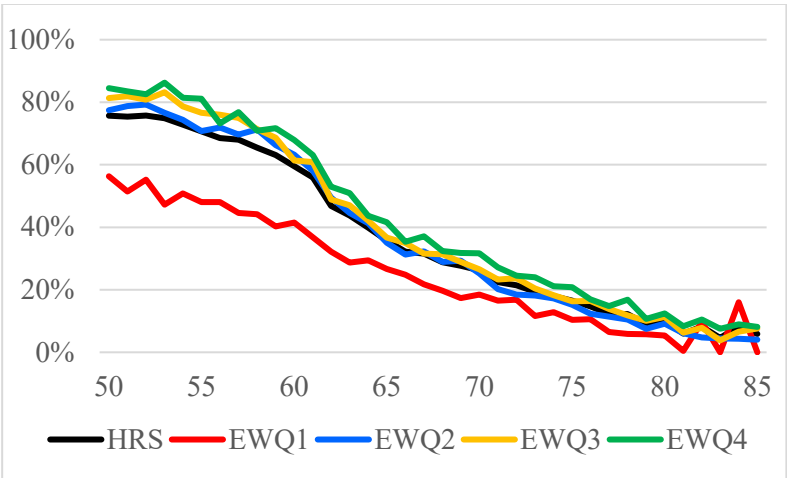
Note: The sample analyzed includes those having Full Income adjusted for household size, computed by summing adjusted income plus annuitized wealth. Data weighted.

Quartiles of Adj. Full Income	N	Mean	Std.Dev.	Min	Median	Max
EWQ1	2,413	13,641	6,987	-13,194	13,569	25,385
EWQ2	2,398	36,810	6,830	25,389	36,400	48,970
EWQ3	2,390	63,387	8,995	48,977	63,045	80,262
EWQ4	2,407	142,717	91,077	80,272	114,361	1,395,449
Total	9,608	68,391	69,188	-13,194	53,047	1,395,449

Figure 6. Percentage Changes in Adj. Full Income by Age in the Panel and Quartile of Initial Full Income: Original HRS Followed Over Time (in $2019)

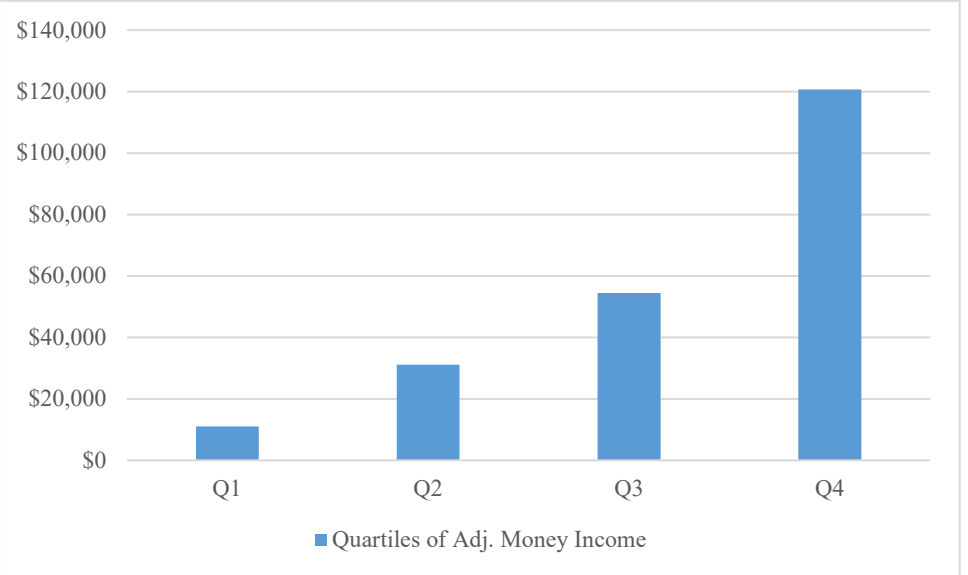


Note: Quartiles of Adjusted Full Income (adjusted income plus annuitized wealth at baseline) are determined at baseline (EWQ1-4). The profiles represent estimated age effects from a regression of ln(Adj. Full Income) on age, demographic factors, and interview year. Baseline quartile cutoffs appear in Figure 3. Data weighted.



Percent working for pay by baseline Adjusted Full Income quartile.

Figure 7. Adjusted Money Income for Three Cohorts of Respondents: Original HRS, WBB, and EBB at their Baseline (in $2019)

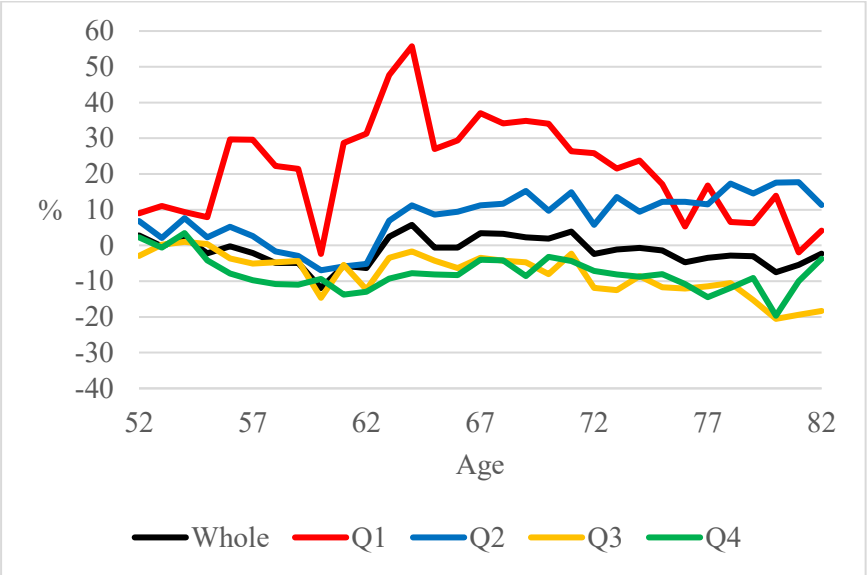


Note: The sample analyzed includes three cohorts of respondents (original HRS, WBB, EBB) age 50-61 at baseline; see text. Quartiles are defined by same Adj. Money Income thresholds in HRS Baseline (see Fig 1). Data weighted.

Quartiles of Adj. Money Income	N	Mean	Std.Dev.	Min	Median	Max
Q1	3,387	10,992	6,105	0	11,078	21,024
Q2	3,280	31,088	5,765	21,031	31,067	41,596
Q3	3,443	54,406	7,757	41,605	53,974	68,345
Q4	4,070	120,695	71,404	68,349	96,720	997,310
Total	14,180	60,456	58,664	0	47,730	997,310

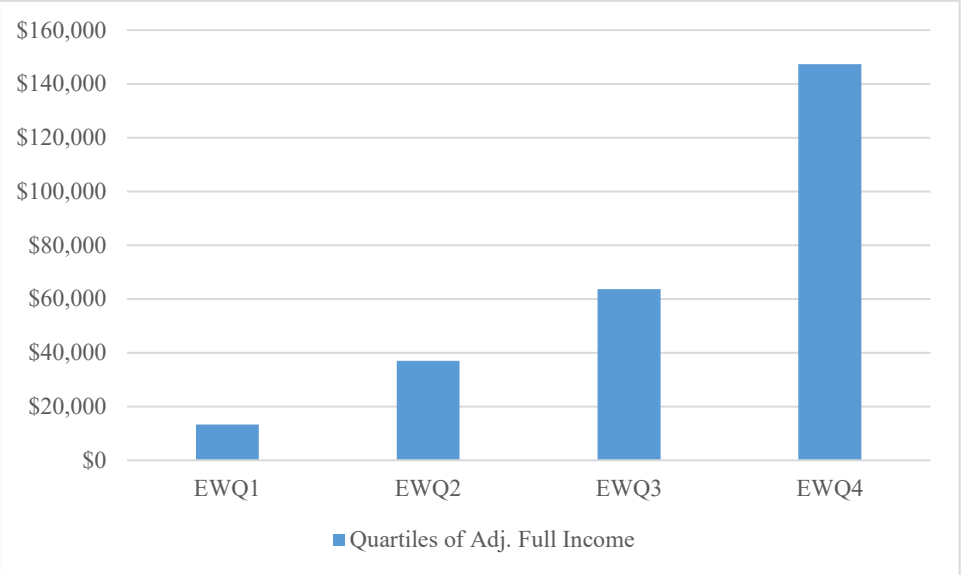
Note: Quartile thresholds defined as for Original HRS cohort at baseline and applied to subsequent cohorts, all in $2019.

Figure 8. Percentage Changes in Adj. Money Income by Age in the Panel and Quartile of Adj. Money Income for Three Cohorts: Original HRS, WBB, and EBB Followed Over Time (in $2019)



Note: The profiles represent estimated age effects from a regression of ln(Adj. Money Income) on age, demographic factors, interview year. Baseline quartile cutoffs are the same as those defined for HRS Original cohort (see Figure 1). Data weighted.

Figure 9. Adj. Full Income for Three Cohorts of Respondents: Original HRS, WBB, and EBB at their Baselines (in $2019)

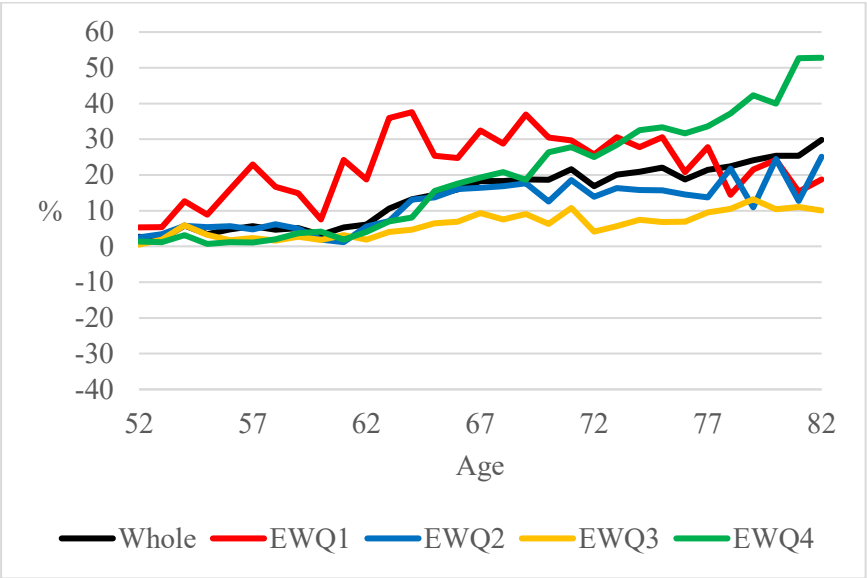


Note: Full income computed by summing Adjusted Money Income plus annuitized wealth. Quartiles are defined by same Adj. Full Income thresholds in HRS Baseline (see Fig 3). Data weighted.

Quartiles of Adj. Full Income	N	Mean	Std.Dev.	Min	Median	Max
EWQ1	3,422	13,342	7,572	-116,640	13,447	25,385
EWQ2	3,321	36,978	6,867	25,389	36,858	48,970
EWQ3	3,425	63,719	9,004	48,977	63,597	80,262
EWQ4	4,012	147,283	92,489	80,272	116,821	1,395,449
Total	14,180	72,778	73,660	-116,640	55,622	1,395,449

Note: Quartiles measured for Original HRS Baseline cohort and applied to subsequent cohorts as well, all in $2019.

Figure 10. Percentage Changes in Adj. Full Income by Age and Initial Full Income Quartile for Three Cohorts: Original HRS, WBB, and EBB Followed Over Time (in $2019)



Note: Quartiles of Adjusted Full Income determined at baseline (EWQ1-4). The profiles represent estimated age effects from a regression of ln(Adj. Full Income) on age, demographic factors, and interview year. Quartile cutoffs appear in Figure 3. Data weighted.

Table 1. Probability of Adj. Money Income being in Lowest Quartile at Baseline (Logit Marginal Effects Reported): Original HRS cohort (in $2019)

	Adj. Money Income in Q1 (0/1)	
Age 52	0.002	0.007
	(0.019)	(0.019)
Age 53	0.006	0.010
	(0.018)	(0.019)
Age 54	0.017	0.031
	(0.019)	(0.021)
Age 55	0.020	0.024
	(0.020)	(0.020)
Age 56	0.010	0.019
	(0.019)	(0.020)
Age 57	0.031	0.045 *
	(0.020)	(0.021)
Age 58	0.039	0.050 *
	(0.021)	(0.022)
Age 59	0.031	0.053 *
	(0.021)	(0.024)
Age 60	0.031	0.058 *
	(0.021)	(0.024)
Age 61	0.064 *	0.089 **
	(0.026)	(0.029)
Male	-0.029 **	-0.035 **
	(0.007)	(0.008)
Black	0.097 **	0.074 **
	(0.015)	(0.015)
Race, others	0.036	0.015
	(0.026)	(0.024)
Hispanic	0.119 **	0.080 **
	(0.023)	(0.022)
Education years	-0.029 **	-0.021 **
	(0.002)	(0.002)
Married	-0.276 **	-0.233 **
	(0.014)	(0.016)
#Marriages	-0.008	-0.018 **
	(0.006)	(0.006)

#Children<18 yr	0.058 **	0.053 **
	(0.008)	(0.008)
Working for pay	-0.204 **	-0.106 **
	(0.012)	(0.013)
Disabled	0.186 **	0.081 **
	(0.033)	(0.027)
Poor health		0.063 **
		(0.014)
CESD score		0.003
		(0.002)
#Health problems		0.008 *
		(0.004)
Prob live to 75		-0.017
		(0.015)
Covered by fed. Govt HI		-0.012
		(0.012)
Covered by priv. HI		-0.211 **
		(0.018)
Covered by ER HI		-0.052 **
		(0.011)
Census region, northeas	0.016	0.027
	(0.018)	(0.018)
Census region, midwest	0.015	0.025
	(0.016)	(0.017)
Census region, south	0.060 **	0.052 **
	(0.015)	(0.015)
N	9,608	9,608
Pseudo R-sq	0.27	0.33
Dep. var. mean	0.22	0.22
Dep. var. st. dev.	0.41	0.41

Note: Adjusted Money Income includes all sources of adjusted household income; see text. Reference levels: age 50/51, white, west census region. Data weighted. *p≤0.05, **p≤0.01.

Table 2. Probability of Adj. Money Income being in Q1, Q2, or Q3 (vs. Q4) at Baseline (MLogit Marginal Effects Reported)**:** Original HRS cohort (in $2019)

	Quartiles of Adj. Money Income					
	Q1 vs. Q4	*Q2 vs. Q4*	*Q3 vs. Q4*	*Q1 vs. Q4*	*Q2 vs. Q4*	*Q3 vs. Q4*
Age 52	0.003	0.014	-0.014	0.008	0.010	-0.015
	(0.020)	(0.025)	(0.023)	(0.021)	(0.025)	(0.023)
Age 53	0.007	0.038	-0.046 *	0.013	0.039	-0.047 *
	(0.019)	(0.025)	(0.022)	(0.020)	(0.026)	(0.022)
Age 54	0.019	0.010	-0.032	0.034	0.006	-0.038
	(0.020)	(0.025)	(0.023)	(0.022)	(0.026)	(0.024)
Age 55	0.024	0.040	-0.058 **	0.027	0.034	-0.058 *
	(0.021)	(0.026)	(0.022)	(0.022)	(0.027)	(0.023)
Age 56	0.013	0.040	-0.029	0.024	0.044	-0.034
	(0.020)	(0.026)	(0.023)	(0.022)	(0.027)	(0.024)
Age 57	0.036	0.016	-0.043	0.051 *	0.013	-0.050 *
	(0.022)	(0.026)	(0.023)	(0.023)	(0.027)	(0.023)
Age 58	0.045 *	0.048	-0.049 *	0.058 *	0.040	-0.052 *
	(0.022)	(0.028)	(0.024)	(0.024)	(0.028)	(0.025)
Age 59	0.038	0.070 *	-0.055 *	0.061 *	0.058 *	-0.064 **
	(0.023)	(0.028)	(0.024)	(0.026)	(0.029)	(0.024)
Age 60	0.038	0.048	-0.048 *	0.068 **	0.042	-0.061 *
	(0.022)	(0.028)	(0.024)	(0.026)	(0.028)	(0.024)
Age 61	0.073 **	0.049	-0.054 *	0.100 **	0.041	-0.067 *
	(0.028)	(0.031)	(0.027)	(0.031)	(0.032)	(0.027)
Male	-0.032 **	-0.039 **	0.046 **	-0.039 **	-0.033 **	0.043 **
	(0.008)	(0.009)	(0.009)	(0.009)	(0.011)	(0.010)
Black	0.111 **	0.027	-0.057 **	0.087 **	0.035	-0.050 **
	(0.015)	(0.017)	(0.017)	(0.016)	(0.019)	(0.018)
Race, others	0.047	0.004	0.012	0.021	-0.001	0.028
	(0.028)	(0.036)	(0.039)	(0.027)	(0.038)	(0.041)
Hispanic	0.153 **	0.048	-0.113 **	0.114 **	0.060 *	-0.102 **
	(0.024)	(0.027)	(0.023)	(0.024)	(0.028)	(0.025)
Education years	-0.036 **	-0.034 **	0.007 **	-0.027 **	-0.033 **	0.004
	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)	(0.003)
Married	-0.295 **	-0.042 **	0.152 **	-0.254 **	-0.063 **	0.146 **
	(0.014)	(0.015)	(0.013)	(0.016)	(0.016)	(0.014)
#Marriages	-0.011	-0.008	0.003	-0.022 **	-0.009	0.010
	(0.007)	(0.009)	(0.009)	(0.007)	(0.009)	(0.010)
#Children<18 yr	0.072 **	0.054 **	-0.035 **	0.068 **	0.056 **	-0.035 **
	(0.008)	(0.011)	(0.012)	(0.008)	(0.012)	(0.012)
Working for pay	-0.219 **	0.004	0.106 **	-0.117 **	-0.018	0.062 **
	(0.013)	(0.013)	(0.012)	(0.014)	(0.016)	(0.015)
Disabled	0.209 **	-0.014	-0.102 **	0.096 **	-0.009	-0.056
	(0.035)	(0.036)	(0.038)	(0.029)	(0.043)	(0.046)

Poor health				0.074 **	0.040 *	-0.043 *
				(0.015)	(0.018)	(0.018)
CESD score				0.005	0.007 *	0.000
				(0.002)	(0.003)	(0.003)
#Health problems				0.010 *	0.012 *	-0.013 *
				(0.004)	(0.006)	(0.006)
Prob live to 75				-0.019	-0.010	-0.025
				(0.016)	(0.023)	(0.022)
Covered by fed. Govt HI				-0.022	-0.093 **	0.054 *
				(0.013)	(0.021)	(0.026)
Covered by priv. HI				-0.238 **	-0.019	0.139 **
				(0.019)	(0.019)	(0.018)
Covered by ER HI				-0.055 **	-0.001	0.045 **
				(0.012)	(0.013)	(0.012)
Census region, north	0.015	0.002	-0.017	0.027	0.000	-0.024
	(0.019)	(0.023)	(0.023)	(0.020)	(0.024)	(0.024)
Census region, midw	0.015	0.014	0.012	0.026	0.009	0.005
	(0.017)	(0.022)	(0.022)	(0.018)	(0.022)	(0.022)
Census region, south	0.064 **	-0.025	-0.006	0.056 **	-0.028	-0.002
	(0.016)	(0.020)	(0.020)	(0.017)	(0.021)	(0.021)
N			9,608			9,608
Pseudo R-sq			0.16			0.19
Dep. var. mean			2.59			2.59
Dep. var. st. dev.			1.11			1.11

Note: See Table 1. *p≤0.05, **p≤0.01.

Table 3. Probability of Adj. Full Income being in Lowest Quartile (EWQ1) at Baseline (Logit Marginal Effects Reported): Original HRS at Baseline (in $2019)

	Adj. Full Income in EWQ1 (0/1)	
Age 52	-0.006	-0.002
	(0.017)	(0.017)
Age 53	-0.001	0.004
	(0.017)	(0.017)
Age 54	-0.020	-0.011
	(0.015)	(0.016)
Age 55	-0.014	-0.013
	(0.016)	(0.016)
Age 56	-0.011	-0.004
	(0.016)	(0.017)
Age 57	-0.004	0.006
	(0.017)	(0.017)
Age 58	0.003	0.010
	(0.018)	(0.018)
Age 59	-0.025	-0.008
	(0.016)	(0.017)
Age 60	-0.025	-0.005
	(0.016)	(0.017)
Age 61	-0.004	0.014
	(0.020)	(0.021)
Male	-0.032 **	-0.046 **
	(0.007)	(0.008)
Black	0.131 **	0.107 **
	(0.016)	(0.016)
Race, others	0.053	0.032
	(0.028)	(0.027)
Hispanic	0.118 **	0.076 **
	(0.023)	(0.022)
Education years	-0.031 **	-0.023 **
	(0.002)	(0.002)
Married	-0.290 **	-0.237 **
	(0.015)	(0.016)
#Marriages	0.002	-0.007
	(0.006)	(0.006)

#Children<18 yr	0.061 **	0.057 **
	(0.008)	(0.008)
Working for pay	-0.176 **	-0.082 **
	(0.012)	(0.012)
Disabled	0.204 **	0.086 **
	(0.036)	(0.028)
Poor health		0.060 **
		(0.013)
CESD score		0.007 **
		(0.002)
#Health problems		0.008 *
		(0.004)
Prob live to 75		-0.035 *
		(0.015)
Covered by fed. Govt HI		-0.011
		(0.012)
Covered by priv. HI		-0.249 **
		(0.019)
Covered by ER HI		-0.017
		(0.011)
Census region, northeast	0.006	0.014
	(0.016)	(0.017)
Census region, midwest	-0.004	0.005
	(0.015)	(0.015)
Census region, south	0.067 **	0.060 **
	(0.015)	(0.015)
N	9,608	9,608
Pseudo R-sq	0.30	0.37
Dep. var. mean	0.21	0.21
Dep. var. st. dev.	0.41	0.41

Note: See Table 1. * p<0.05, ** p<0.01. Robust standard errors and clustered on HH.

Table 4. Probability of Adj. Full Income being in EWQ1, EWQ2, or EWQ3 (vs. EWQ4) at Baseline (MLogit Marginal Effects Reported)**:** Original HRS at Baseline (in $2019)

	Quartiles of Adj. Full Income					
	EWQ1 vs. EWQ4	*EWQ2 vs. EWQ4*	*EWQ3 vs. EWQ4*	*EWQ1 vs. EWQ4*	*EWQ2 vs. EWQ4*	*EWQ3 vs. EWQ4*
Age 52	-0.005	0.017	-0.008	-0.002	0.014	-0.009
	(0.018)	(0.025)	(0.023)	(0.018)	(0.026)	(0.023)
Age 53	-0.002	0.010	-0.041	0.004	0.011	-0.042
	(0.017)	(0.025)	(0.022)	(0.018)	(0.025)	(0.022)
Age 54	-0.021	0.036	-0.048 *	-0.010	0.035	-0.053 *
	(0.016)	(0.026)	(0.023)	(0.017)	(0.026)	(0.023)
Age 55	-0.014	0.035	-0.049 *	-0.014	0.028	-0.047 *
	(0.017)	(0.026)	(0.023)	(0.017)	(0.027)	(0.023)
Age 56	-0.011	0.019	-0.029	-0.003	0.022	-0.034
	(0.017)	(0.025)	(0.023)	(0.019)	(0.026)	(0.024)
Age 57	-0.004	-0.011	-0.007	0.006	-0.015	-0.011
	(0.018)	(0.026)	(0.024)	(0.019)	(0.027)	(0.025)
Age 58	0.004	0.021	-0.038	0.013	0.013	-0.039
	(0.019)	(0.027)	(0.025)	(0.020)	(0.028)	(0.025)
Age 59	-0.023	0.052	-0.041	-0.007	0.041	-0.047
	(0.017)	(0.028)	(0.025)	(0.019)	(0.028)	(0.025)
Age 60	-0.025	0.022	-0.035	-0.004	0.016	-0.043
	(0.017)	(0.027)	(0.025)	(0.019)	(0.028)	(0.025)
Age 61	0.000	0.054	-0.043	0.019	0.046	-0.052
	(0.021)	(0.031)	(0.027)	(0.023)	(0.031)	(0.027)
Male	-0.035 **	-0.026 **	0.035 **	-0.051 **	-0.021	0.037 **
	(0.008)	(0.009)	(0.009)	(0.008)	(0.011)	(0.010)
Black	0.147 **	0.035 *	-0.075 **	0.123 **	0.043 *	-0.069 **
	(0.016)	(0.017)	(0.017)	(0.017)	(0.018)	(0.018)
Race, others	0.065 *	0.006	0.012	0.041	0.006	0.027
	(0.030)	(0.035)	(0.039)	(0.030)	(0.037)	(0.041)
Hispanic	0.147 **	0.057 *	-0.109 **	0.104 **	0.074 *	-0.097 **
	(0.024)	(0.027)	(0.024)	(0.024)	(0.029)	(0.026)
Education years	-0.039 **	-0.036 **	0.012 **	-0.030 **	-0.036 **	0.009 **
	(0.002)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)
Married	-0.308 **	-0.031 *	0.152 **	-0.257 **	-0.052 **	0.140 **
	(0.014)	(0.015)	(0.014)	(0.016)	(0.016)	(0.015)
#Marriages	0.000	-0.010	0.008	-0.011	-0.012	0.014
	(0.006)	(0.009)	(0.009)	(0.007)	(0.010)	(0.010)
#Children<18 yr	0.074 **	0.049 **	-0.033 **	0.070 **	0.052 **	-0.033 **
	(0.008)	(0.012)	(0.013)	(0.008)	(0.012)	(0.013)
Working for pay	-0.188 **	0.024	0.080 **	-0.088 **	0.010	0.029
	(0.012)	(0.013)	(0.013)	(0.013)	(0.016)	(0.015)
Disabled	0.229 **	0.002	-0.095 *	0.105 **	0.011	-0.033
	(0.037)	(0.038)	(0.038)	(0.030)	(0.045)	(0.048)

Poor health				0.070 **	0.042 *	-0.043 *
				(0.014)	(0.019)	(0.018)
CESD score				0.008 **	0.009 *	-0.004
				(0.002)	(0.004)	(0.003)
#Health problems				0.010 *	0.016 **	-0.006
				(0.004)	(0.006)	(0.006)
Prob live to 75				-0.039 *	-0.016	-0.003
				(0.015)	(0.023)	(0.023)
Covered by fed. Govt HI				-0.016	-0.055 *	0.027
				(0.013)	(0.023)	(0.026)
Covered by priv. HI				-0.273 **	0.017	0.153 **
				(0.020)	(0.019)	(0.017)
Covered by ER HI				-0.017	0.002	0.030 *
				(0.011)	(0.013)	(0.012)
Census region, north	0.006	0.059 *	-0.041	0.016	0.057 *	-0.050 *
	(0.017)	(0.025)	(0.023)	(0.018)	(0.025)	(0.023)
Census region, midw	-0.004	0.079 **	0.006	0.006	0.074 **	-0.002
	(0.016)	(0.023)	(0.022)	(0.016)	(0.024)	(0.022)
Census region, south	0.074 **	0.022	-0.023	0.067 **	0.021	-0.021
	(0.016)	(0.021)	(0.020)	(0.016)	(0.022)	(0.021)
N			9,608			9,608
Pseudo R-sq			0.17			0.20
Dep. var. mean			2.61			2.61
Dep. var. st. dev.			1.11			1.11

Note: See Table 1. * p<0.05, ** p<0.01. Robust standard errors and clustered on HH.

Table 5. Probability of Adj. Money Income being in Lowest Quartile at Baseline (Logit Marginal Effects Reported): Original HRS cohort, EBB, and WBB (in $2019)

	Adj. Money Income in Q1 (0/1)	
Age 52	-0.001	0.000
	(0.013)	(0.013)
Age 53	0.006	0.004
	(0.013)	(0.013)
Age 54	0.013	0.018
	(0.014)	(0.014)
Age 55	0.031 *	0.029 *
	(0.015)	(0.014)
Age 56	0.014	0.020
	(0.015)	(0.015)
Age 57	0.029	0.038 *
	(0.018)	(0.018)
Age 58	0.036	0.043 *
	(0.019)	(0.019)
Age 59	0.028	0.047 *
	(0.019)	(0.021)
Age 60	0.028	0.051 *
	(0.018)	(0.020)
Age 61	0.058 *	0.076 **
	(0.023)	(0.025)
Male	-0.017 **	-0.026 **
	(0.006)	(0.006)
Black	0.085 **	0.060 **
	(0.011)	(0.011)
Race, others	0.037 *	0.021
	(0.019)	(0.018)
Hispanic	0.111 **	0.071 **
	(0.018)	(0.017)
Education years	-0.028 **	-0.020 **
	(0.001)	(0.001)
Married	-0.259 **	-0.216 **
	(0.011)	(0.012)
#Marriages	-0.006	-0.015 **
	(0.005)	(0.005)

#Children<18 yr	0.048 **	0.045 **
	(0.006)	(0.006)
Working for pay	-0.208 **	-0.106 **
	(0.011)	(0.011)
Disabled	0.166 **	0.070 **
	(0.025)	(0.020)
Poor health		0.057 **
		(0.010)
CESD score		0.003
		(0.002)
#Health problems		0.006 *
		(0.003)
Prob live to 75		-0.029 *
		(0.012)
Covered by fed. Govt HI		-0.005
		(0.010)
Covered by priv. HI		-0.201 **
		(0.015)
Covered by ER HI		-0.048 **
		(0.009)
WBB cohort	-0.022 *	-0.015
	(0.011)	(0.011)
EBB cohort	0.017	0.002
	(0.011)	(0.011)
Census region, northeast	0.009	0.018
	(0.014)	(0.014)
Census region, midwest	0.014	0.024
	(0.013)	(0.013)
Census region, south	0.053 **	0.043 **
	(0.012)	(0.012)
N	14,180	14,180
Pseudo R-sq	0.28	0.34
Dep. var. mean	0.21	0.21
Dep. var. st. dev.	0.41	0.41

Table 6. Probability of Adj. Money Income being in Q1, 2, and 3 (versus 4) at Baseline (Logit Marginal Effects Reported): Original HRS cohort, EBB, and WBB (in $2019)

	Quartiles of Adj. Money Income					
	Q1 vs. Q4	*Q2 vs. Q4*	*Q3 vs. Q4*	*Q1 vs. Q4*	*Q2 vs. Q4*	*Q3 vs. Q4*
Age 52	-0.001	0.000	-0.006	0.001	-0.001	-0.006
	(0.014)	(0.017)	(0.017)	(0.014)	(0.018)	(0.017)
Age 53	0.007	0.019	-0.016	0.005	0.021	-0.015
	(0.014)	(0.018)	(0.017)	(0.014)	(0.018)	(0.017)
Age 54	0.015	0.000	0.005	0.020	-0.004	0.003
	(0.014)	(0.018)	(0.018)	(0.015)	(0.018)	(0.018)
Age 55	0.036 *	0.022	-0.032	0.033 *	0.018	-0.031
	(0.016)	(0.019)	(0.018)	(0.016)	(0.019)	(0.018)
Age 56	0.018	0.021	-0.019	0.026	0.024	-0.024
	(0.016)	(0.020)	(0.019)	(0.017)	(0.021)	(0.019)
Age 57	0.033	0.003	-0.025	0.044 *	0.003	-0.031
	(0.019)	(0.023)	(0.022)	(0.020)	(0.024)	(0.022)
Age 58	0.043 *	0.036	-0.027	0.051 *	0.031	-0.031
	(0.020)	(0.024)	(0.023)	(0.021)	(0.025)	(0.024)
Age 59	0.037	0.057 *	-0.034	0.056 *	0.049	-0.043
	(0.020)	(0.025)	(0.023)	(0.022)	(0.025)	(0.023)
Age 60	0.036	0.036	-0.027	0.061 **	0.034	-0.040
	(0.020)	(0.024)	(0.023)	(0.022)	(0.025)	(0.023)
Age 61	0.069 **	0.038	-0.032	0.089 **	0.035	-0.044
	(0.025)	(0.027)	(0.027)	(0.027)	(0.028)	(0.027)
Male	-0.019 **	-0.035 **	0.030 **	-0.031 **	-0.031 **	0.030 **
	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)
Black	0.100 **	0.049 **	-0.055 **	0.076 **	0.055 **	-0.050 **
	(0.012)	(0.014)	(0.014)	(0.012)	(0.015)	(0.015)
Race, others	0.048 *	0.033	-0.008	0.027	0.027	0.002
	(0.020)	(0.027)	(0.028)	(0.020)	(0.028)	(0.029)
Hispanic	0.145 **	0.055 *	-0.115 **	0.104 **	0.067 **	-0.104 **
	(0.020)	(0.022)	(0.019)	(0.019)	(0.023)	(0.020)
Education years	-0.036 **	-0.034 **	0.002	-0.027 **	-0.034 **	-0.001
	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)
Married	-0.280 **	-0.058 **	0.135 **	-0.232 **	-0.075 **	0.126 **
	(0.011)	(0.012)	(0.011)	(0.013)	(0.013)	(0.012)
#Marriages	-0.009	-0.011	0.003	-0.019 **	-0.015	0.008
	(0.005)	(0.007)	(0.008)	(0.005)	(0.008)	(0.008)
#Children<18 yr	0.060 **	0.050 **	-0.018 *	0.057 **	0.052 **	-0.019 *
	(0.006)	(0.008)	(0.009)	(0.006)	(0.008)	(0.009)
Working for pay	-0.224 **	-0.005	0.096 **	-0.120 **	-0.022	0.052 **
	(0.011)	(0.011)	(0.011)	(0.012)	(0.013)	(0.013)
Disabled	0.186 **	-0.006	-0.086 **	0.080 **	-0.006	-0.047
	(0.026)	(0.028)	(0.029)	(0.022)	(0.032)	(0.035)

Poor health				0.070 **	0.046 **	-0.031 *
				(0.011)	(0.015)	(0.015)
CESD score				0.004 *	0.009 **	-0.003
				(0.002)	(0.003)	(0.003)
#Health problems				0.008 *	0.011 *	-0.006
				(0.003)	(0.005)	(0.005)
Prob live to 75				-0.031 *	-0.005	-0.012
				(0.013)	(0.018)	(0.019)
Covered by fed. Govt HI				-0.016	-0.082 **	0.034
				(0.011)	(0.017)	(0.022)
Covered by priv. HI				-0.237 **	-0.035 *	0.124 **
				(0.016)	(0.016)	(0.015)
Covered by ER HI				-0.045 **	-0.001	0.039 **
				(0.010)	(0.011)	(0.010)
WBB cohort	-0.027 *	-0.032 *	-0.023	-0.018	-0.028	-0.028
	(0.011)	(0.015)	(0.016)	(0.012)	(0.016)	(0.016)
EBB cohort	0.017	-0.057 **	-0.006	0.001	-0.058 **	0.003
	(0.012)	(0.014)	(0.016)	(0.012)	(0.015)	(0.016)
Census region, northeast	0.007	0.002	-0.007	0.019	0.002	-0.015
	(0.014)	(0.018)	(0.019)	(0.015)	(0.019)	(0.020)
Census region, midwest	0.014	0.005	0.012	0.025	0.002	0.005
	(0.013)	(0.017)	(0.018)	(0.014)	(0.018)	(0.018)
Census region, south	0.057 **	-0.012	-0.005	0.047 **	-0.014	-0.001
	(0.012)	(0.016)	(0.017)	(0.013)	(0.016)	(0.017)
N			14,180			14,180
Pseudo R-sq			0.17			0.20
Dep. var. mean			2.66			2.66
Dep. var. st. dev.			1.12			1.12

Table 7. Probability of Adj. Full Income being in EQW1 at Baseline (Logit Marginal Effects Reported): Original HRS cohort, EBB, and WBB (in $2019)

	Adj. Full Income in EWQ1 (0/1)	
Age 52	0.003	0.004
	(0.012)	(0.012)
Age 53	0.005	0.003
	(0.012)	(0.012)
Age 54	-0.008	-0.005
	(0.012)	(0.012)
Age 55	0.018	0.016
	(0.013)	(0.013)
Age 56	0.005	0.011
	(0.014)	(0.014)
Age 57	0.007	0.014
	(0.016)	(0.016)
Age 58	0.012	0.018
	(0.017)	(0.017)
Age 59	-0.015	0.001
	(0.015)	(0.016)
Age 60	-0.015	0.002
	(0.015)	(0.016)
Age 61	0.005	0.019
	(0.019)	(0.020)
Male	-0.020 **	-0.035 **
	(0.006)	(0.006)
Black	0.121 **	0.094 **
	(0.012)	(0.013)
Race, others	0.056 **	0.038
	(0.021)	(0.020)
Hispanic	0.116 **	0.074 **
	(0.019)	(0.017)
Education years	-0.030 **	-0.021 **
	(0.001)	(0.001)
Married	-0.272 **	-0.218 **
	(0.011)	(0.012)
#Marriages	0.002	-0.007
	(0.005)	(0.005)

#Children<18 yr	0.052 **	0.050 **
	(0.005)	(0.006)
Working for pay	-0.181 **	-0.079 **
	(0.010)	(0.010)
Disabled	0.189 **	0.079 **
	(0.026)	(0.021)
Poor health		0.062 **
		(0.010)
CESD score		0.005 **
		(0.002)
#Health problems		0.008 **
		(0.003)
Prob live to 75		-0.037 **
		(0.011)
Covered by fed. Govt HI		-0.004
		(0.010)
Covered by priv. HI		-0.238 **
		(0.016)
Covered by ER HI		-0.019 *
		(0.009)
WBB cohort	-0.023 *	-0.014
	(0.010)	(0.011)
EBB cohort	0.007	-0.009
	(0.010)	(0.009)
Census region, northeast	-0.002	0.007
	(0.013)	(0.013)
Census region, midwest	-0.006	0.003
	(0.012)	(0.012)
Census region, south	0.054 **	0.044 **
	(0.012)	(0.011)
N	14,180	14,180
Pseudo R-sq	0.30	0.38
Dep. var. mean	0.21	0.21
Dep. var. st. dev.	0.41	0.41

Table 8. Probability of Adj. Full Income being in EQW1, 2, 3 versus (EQ4) (Logit Marginal Effects Reported): HRS Original, WBB, EBB at Baseline

	Quartiles of Adj. Full Income					
	EWQ1 vs. EWQ4	*EWQ2 vs. EWQ4*	*EWQ3 vs. EWQ4*	*EWQ1 vs. EWQ4*	*EWQ2 vs. EWQ4*	*EWQ3 vs. EWQ4*
Age 52	0.002	-0.009	-0.012	0.004	-0.010	-0.012
	(0.013)	(0.017)	(0.017)	(0.013)	(0.018)	(0.017)
Age 53	0.004	-0.005	-0.023	0.002	-0.003	-0.022
	(0.013)	(0.017)	(0.017)	(0.013)	(0.018)	(0.017)
Age 54	-0.007	0.015	-0.009	-0.004	0.012	-0.011
	(0.013)	(0.018)	(0.018)	(0.013)	(0.019)	(0.018)
Age 55	0.021	-0.004	-0.018	0.017	-0.009	-0.015
	(0.014)	(0.018)	(0.018)	(0.014)	(0.019)	(0.018)
Age 56	0.006	-0.001	-0.033	0.012	0.001	-0.038 *
	(0.015)	(0.019)	(0.019)	(0.016)	(0.020)	(0.019)
Age 57	0.007	-0.029	0.007	0.013	-0.032	0.002
	(0.017)	(0.022)	(0.023)	(0.017)	(0.023)	(0.023)
Age 58	0.014	0.001	-0.023	0.019	-0.005	-0.026
	(0.018)	(0.023)	(0.023)	(0.018)	(0.024)	(0.024)
Age 59	-0.012	0.031	-0.025	0.002	0.021	-0.033
	(0.016)	(0.024)	(0.023)	(0.017)	(0.025)	(0.023)
Age 60	-0.015	0.001	-0.020	0.003	-0.002	-0.030
	(0.016)	(0.023)	(0.023)	(0.017)	(0.024)	(0.023)
Age 61	0.011	0.031	-0.026	0.024	0.025	-0.036
	(0.020)	(0.027)	(0.026)	(0.021)	(0.028)	(0.026)
Male	-0.021 **	-0.020 **	0.021 **	-0.040 **	-0.017 *	0.022 **
	(0.006)	(0.008)	(0.007)	(0.006)	(0.009)	(0.008)
Black	0.139 **	0.054 **	-0.075 **	0.113 **	0.063 **	-0.070 **
	(0.013)	(0.014)	(0.014)	(0.013)	(0.015)	(0.015)
Race, others	0.069 **	0.038	-0.005	0.047 *	0.034	0.004
	(0.022)	(0.027)	(0.028)	(0.021)	(0.028)	(0.029)
Hispanic	0.145 **	0.040	-0.091 **	0.102 **	0.056 *	-0.078 **
	(0.020)	(0.022)	(0.020)	(0.019)	(0.023)	(0.022)
Education years	-0.038 **	-0.038 **	0.007 **	-0.029 **	-0.038 **	0.005 *
	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)
Married	-0.292 **	-0.047 **	0.137 **	-0.235 **	-0.064 **	0.123 **
	(0.011)	(0.012)	(0.011)	(0.012)	(0.013)	(0.012)
#Marriages	0.001	-0.008	0.006	-0.010	-0.012	0.012
	(0.005)	(0.007)	(0.008)	(0.005)	(0.008)	(0.008)
#Children<18 yr	0.064 **	0.047 **	-0.019 *	0.062 **	0.051 **	-0.020 *
	(0.006)	(0.008)	(0.009)	(0.006)	(0.009)	(0.009)
Working for pay	-0.194 **	0.010	0.081 **	-0.087 **	-0.002	0.030 *
	(0.011)	(0.011)	(0.011)	(0.011)	(0.013)	(0.013)
Disabled	0.210 **	-0.005	-0.076 *	0.091 **	-0.001	-0.024
	(0.027)	(0.029)	(0.030)	(0.023)	(0.033)	(0.036)

Poor health				0.074 **	0.037 *	-0.034 *
				(0.011)	(0.015)	(0.015)
CESD score				0.007 **	0.011 **	-0.006 *
				(0.002)	(0.003)	(0.003)
#Health problems				0.010 **	0.016 **	-0.001
				(0.003)	(0.005)	(0.005)
Prob live to 75				-0.040 **	-0.014	-0.003
				(0.012)	(0.018)	(0.019)
Covered by fed. Govt HI				-0.009	-0.050 **	0.021
				(0.010)	(0.019)	(0.022)
Covered by priv. HI				-0.270 **	-0.009	0.143 **
				(0.017)	(0.016)	(0.015)
Covered by ER HI				-0.015	0.004	0.030 **
				(0.009)	(0.011)	(0.010)
WBB cohort	-0.027 *	-0.027	-0.024	-0.016	-0.022	-0.033 *
	(0.011)	(0.016)	(0.016)	(0.011)	(0.017)	(0.016)
EBB cohort	0.006	-0.035 *	-0.028	-0.010	-0.032 *	-0.021
	(0.011)	(0.015)	(0.015)	(0.010)	(0.016)	(0.016)
Census region, northeast	-0.002	0.048 *	-0.033	0.009	0.049 *	-0.042 *
	(0.013)	(0.020)	(0.019)	(0.014)	(0.021)	(0.019)
Census region, midwest	-0.006	0.059 **	0.005	0.005	0.056 **	-0.003
	(0.012)	(0.018)	(0.018)	(0.013)	(0.019)	(0.018)
Census region, south	0.060 **	0.028	-0.016	0.050 **	0.028	-0.014
	(0.012)	(0.017)	(0.017)	(0.012)	(0.017)	(0.017)
N			14,180			14,180
Pseudo R-sq			0.17			0.21
Dep. var. mean			2.66			2.66
Dep. var. st. dev.			1.12			1.12

Online Appendix Tables

AT1. Baseline Descriptive Statistics: Original HRS Cohort at Baseline ($2019)

A. Using Adjusted Money Income

	N	Mean	Std. Dev.	Min	Median	Max
Adj. Money Income Q1 Bline	9,608	0.22	0.41	0	0	1
Quartiles of Adj. Money Income	9,608	2.59	1.11	1	3	4
Age (yr)	9,608	55.56	3.20	50	55	61
Male	9,608	0.47	0.50	0	0	1
Black	9,608	0.10	0.31	0	0	1
Race, others	9,608	0.04	0.18	0	0	1
Hispanic	9,608	0.07	0.25	0	0	1
Education years (yr)	9,608	12.29	3.04	0	12	17
Currently married	9,608	0.76	0.42	0	1	1
#Marriage	9,608	1.30	0.71	0	1	13
#Children≤18 yr	9,608	0.22	0.61	0	0	15
Working for pay	9,608	0.69	0.46	0	1	1
Disabled	9,608	0.04	0.19	0	0	1
Poor health	9,608	0.20	0.40	0	0	1
CESD score	9,608	2.17	1.96	0	2	8
#Health problem	9,608	1.25	1.20	0	1	7
Prob live to 75	9,608	0.64	0.28	0	0.70	1
Covered by fed.govt. HI	9,608	0.12	0.32	0	0	1
Covered by priv. HI	9,608	0.78	0.41	0	1	1
Covered by ER HI	9,608	0.48	0.50	0	0	1
Census region, northeast	9,608	0.22	0.41	0	0	1
Census region, midwest	9,608	0.24	0.43	0	0	1
Census region, south	9,608	0.35	0.48	0	0	1
Census region, west	9,608	0.19	0.39	0	0	1

Note: Analysis sample includes all those with Adjusted Total Money Income; see text. Data weighted.

B. **Using Adjusted Full Income**

	N	Mean	Std. Dev.	Min	Median	Max
Adj.Full Income Q1 Bline	9,608	0.21	0.41	0	0	1
Quartiles of Adj. Full Income	9,608	2.61	1.11	1	3	4
Age (yr)	9,608	55.56	3.20	50	55	61
Male	9,608	0.47	0.50	0	0	1
Black	9,608	0.10	0.31	0	0	1
Race, others	9,608	0.04	0.18	0	0	1
Hispanic	9,608	0.07	0.25	0	0	1
Education years (yr)	9,608	12.29	3.04	0	12	17
Currently married	9,608	0.76	0.42	0	1	1
#Marriage	9,608	1.30	0.71	0	1	13
#Children≤18 yr	9,608	0.22	0.61	0	0	15
Working for pay	9,608	0.69	0.46	0	1	1
Disabled	9,608	0.04	0.19	0	0	1
Poor health	9,608	0.20	0.40	0	0	1
CESD score	9,608	2.17	1.96	0	2	8
#Health problem	9,608	1.25	1.20	0	1	7
Prob live to 75	9,608	0.64	0.28	0	0.70	1
Covered by fed.govt. HI	9,608	0.12	0.32	0	0	1
Covered by priv. HI	9,608	0.78	0.41	0	1	1
Covered by ER HI	9,608	0.48	0.50	0	0	1
Census region, northeast	9,608	0.22	0.41	0	0	1
Census region, midwest	9,608	0.24	0.43	0	0	1
Census region, south	9,608	0.35	0.48	0	0	1
Census region, west	9,608	0.19	0.39	0	0	1

Note: Analysis sample includes all those having Adjusted Money Income, and Adjusted Full Income computed by summing household adjusted income plus annuitized wealth, all in $2019. Data weighted.

AT2. Baseline Descriptive Statistics: Original HRS, WBB, and EBB

A. Using Adjusted Money Income

	N	Mean	Std. Dev.	Min	Median	Max
Adj. Money Income Q1 Bline	14,180	0.209	0.407	0	0	1
Quartiles of Adj. Money Income	14,180	2.662	1.122	1	3	4
Age (yr)	14,180	54.76	3.09	50	54	61
Male	14,180	0.50	0.50	0	0	1
Black	14,180	0.11	0.31	0	0	1
Race, others	14,180	0.05	0.21	0	0	1
Hispanic	14,180	0.07	0.26	0	0	1
Education years (yr)	14,180	12.61	3.02	0	12	17
Currently married	14,180	0.75	0.43	0	1	1
#Marriage	14,180	1.31	0.72	0	1	13
#Children≤18 yr	14,180	0.26	0.65	0	0	15
Working for pay	14,180	0.72	0.45	0	1	1
Disabled	14,180	0.04	0.20	0	0	1
Poor health	14,180	0.21	0.41	0	0	1
CESD score	14,180	1.97	1.98	0	1.00	8
#Health problem	14,180	1.22	1.20	0	1	8
Prob live to 75	14,180	0.64	0.28	0	0.7	1
Covered by fed.govt. HI	14,180	0.12	0.32	0	0	1
Covered by priv. HI	14,180	0.79	0.41	0	1	1
Covered by ER HI	14,180	0.50	0.50	0	1	1
Census region, northeast	14,180	0.20	0.40	0	0	1
Census region, midwest	14,180	0.25	0.43	0	0	1
Census region, south	14,180	0.36	0.48	0	0	1
Census region, west	14,180	0.19	0.39	0	0	1
HRS	14,180	0.70	0.46	0	1	1
WBB	14,180	0.15	0.36	0	0	1
EBB	14,180	0.15	0.36	0	0	1

B. Using Adjusted Full Income

	N	Mean	Std. Dev.	Min	Median	Max
Adj. Full Income Q1 Bline	14,180	0.207	0.405	0	0	1
Quartiles of Adj. Full Income	14,180	2.662	1.119	1	3	4
Age (yr)	14,180	54.76	3.09	50	54	61
Male	14,180	0.50	0.50	0	0	1
Black	14,180	0.11	0.31	0	0	1
Race, others	14,180	0.05	0.21	0	0	1
Hispanic	14,180	0.07	0.26	0	0	1
Education years (yr)	14,180	12.61	3.02	0	12	17
Currently married	14,180	0.75	0.43	0	1	1
#Marriage	14,180	1.31	0.72	0	1	13
#Children≤18 yr	14,180	0.26	0.65	0	0	15
Working for pay	14,180	0.72	0.45	0	1	1
Disabled	14,180	0.04	0.20	0	0	1
Poor health	14,180	0.21	0.41	0	0	1
CESD score	14,180	1.97	1.98	0	1.00	8
#Health problem	14,180	1.22	1.20	0	1	8
Prob live to 75	14,180	0.64	0.28	0	0.7	1
Covered by fed.govt. HI	14,180	0.12	0.32	0	0	1
Covered by priv. HI	14,180	0.79	0.41	0	1	1
Covered by ER HI	14,180	0.50	0.50	0	1	1
Census region, northeast	14,180	0.20	0.40	0	0	1
Census region, midwest	14,180	0.25	0.43	0	0	1
Census region, south	14,180	0.36	0.48	0	0	1
Census region, west	14,180	0.19	0.39	0	0	1
HRS	14,180	0.70	0.46	0	1	1
WBB	14,180	0.15	0.36	0	0	1
EBB	14,180	0.15	0.36	0	0	1

AT3. Sample Retention over Time

A. Original HRS Cohort

Longitudinal step	1	2	3	4	5	6	7	8	9	10	11	12	13
Core interview obtained	9,608	8,662	8,196	7,771	7,312	7,001	6,686	6,312	5,992	5,527	5,137	4,586	3,936
Death (Exit or Post-exit)	0	166	209	266	371	447	312	370	373	532	449	525	585
Dropout (Non-interview)	0	780	1,203	1,571	1,925	2,160	2,610	2,926	3,243	3,549	4,022	4,497	5,087
Total	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608	9,608

B. Original HRS, WBB, and EBB

Longitudinal step	1	2	3	4	5	6	7	8	9	10	11	12	13
Core interview obtained	14,180	12,771	12,170	11,597	10,968	10,511	9,997	7,724	7,307	6,708	5,137	4,586	3,936
Death (Exit or Post-exit)	0	212	280	355	466	557	410	419	433	616	449	525	585
Dropout (Non-interview)	0	1,197	1,730	2,228	2,746	3,112	3,773	3,397	3,800	4,216	4,022	4,497	5,087
Total	14,180	14,180	14,180	14,180	14,180	14,180	14,180	11,540	11,540	11,540	9,608	9,608	9,608

AT4. Correlation of Quartiles of Adjusted Money Income and Quartiles of Adjusted Full Income

A. Original HRS

	Adj. Full Income				
Adj. Money Income	EWQ1	EWQ2	EWQ3	EWQ4	Total
Q1	2,270	180	26	13	2,489
Q2	219	2,013	216	42	2,490
Q3	0	296	1,976	219	2,491
Q4	0	0	271	2,214	2,485
Total	2,489	2,489	2,489	2,488	9,955

P_value<0.001, Chi2 test

B. Original HRS, WBB and EBB

	Adj. Full Income				
Adj. Money Income	EWQ1	EWQ2	EWQ3	EWQ4	Total
Q1	3,188	242	37	14	3,481
Q2	330	2,739	275	53	3,397
Q3	1	462	2,814	303	3,580
Q4	0	0	435	3,795	4,230
Total	3,519	3,443	3,561	4,165	14,688

P_value<0.001, Chi2 test