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The Risk of Financial Hardship in Retirement: A Cohort Analysis

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Abstract

This paper explores the likely prevalence of hardship in old age for individuals now nearing retirement. We use two decades of longitudinal data from the Health and Retirement Study to determine what observable demographic, socioeconomic, and financial factors in late middle age predicted economic hardship in old age for the cohort that was nearing retirement age in the mid-1990s. It then uses these findings to predict economic hardship in old age for the cohort nearing retirement age in the mid-2010s. Our analysis suggests that the more recent cohort is likely to realize higher economic insecurity, particularly among men.

Keywords

Older adults, Health and Retirement Study, demographics, economic hardship

Disciplines

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Comments

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Remaking Retirement

Debt in an Aging Economy

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Chapter 4

The Risk of Financial Hardship in Retirement: A Cohort Analysis

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The economic security of current and future generations of the elderly is a leading public policy concern, particularly as the older population grows in the United States. By some metrics, the elderly appear to be more economically secure than other age groups. According to the Federal Reserve Board's Survey of Consumer Finances (SCF), median net worth for population age 75+ of $265,000 in 2016 was higher than for all other age groups and also at an all-time high (in inflation-adjusted terms). Moreover, the social safety net provides considerably more protection for the elderly than other age groups through Medicare, Medicaid, and other programs. Yet other considerations point to greater risks facing the elderly. The poverty rate falls with age prior to age 65 but rises thereafter. The elderly are also at greater risk for catastrophic healthcare expenses related to physical disability and dementia. And the elderly, having largely left the labor force, have fewer ways to address economic vulnerabilities than do younger individuals.

Moreover, changes in the economic and demographic profile of the population mean that future cohorts of the elderly will face different economic security risks (Gale et al. 2018). Some factors will enhance their economic security compared to earlier generations, including higher female labor force participation rates and greater real social security benefits. Yet future generations of the elderly will also confront longer life expectancies to finance and possibly lower rates of return on assets compared to their predecessors. The balance sheets of today's near elderly also suggest that they are less financially prepared for the years to come than were earlier generations. According to the SCF, 77 percent of households approaching retirement age (with heads the age 55–64) held some debt in 2016, up slightly from 74 percent in 1995. For those with debt, the median amount was $31,000 in 2016, more than double the median in 1995 (adjusted for inflation). Median net worth was 3.1 times annual income for this group in 2016, little changed from 1995, despite a considerably smaller share of these households had defined benefit (DB) pensions to supplement their retirement savings (37% in 2016, down from 53% in 1995).

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Much of what we know about economic insecurity among older Americans is based on patterns that have been observed in the current or past population of retired people (see, for example, Clark and Liu (2020). Given changes in demographics and the economic environment, the patterns of the past provide only limited information about the prevalence of hardship and economic insecurity of future generations of the elderly. This chapter helps to remedy this gap by identifying factors earlier in life correlated with hardship when elderly and using those factors to predict future hardship for individuals now approaching retirement.

We look at households as they are approaching their elderly years in the mid-1990s and then again when they are well into their elderly years in the mid-2010s using the Health and Retirement Study (HRS): a rich dataset with over 20 years of information on the same households. This exercise sheds light on how economic insecurity later in life (measured several ways) is shaped by factors during late middle age. We use the results of this exercise to project the economic insecurity that the current generation of households in late middle age will confront in old age, with their different traits from those of earlier cohorts. We go on to consider how changes across the cohorts in various specific factors (e.g., increasing debt burdens, longer careers, and different demographics) contribute to differences in predicted old-age hardship for the two cohorts. Of course, some factors might have a very different effect on future economic insecurity than they did in the past. Most notable of these factors is initial wealth due to the potential for future asset returns to be different than were for households approaching retirement two decades ago. A final exercise that effectively allows for different realizations of asset returns for those approaching retirement in 2014 shows how our results would change if future returns on assets are lower than for households nearing retirement in the mid-1990s.

For most measures of economic insecurity, we found that observable traits in late middle age predict that the incoming generation of retirees will face somewhat more hardship in old age than their earlier counterparts. Moreover, the prevalence of old-age hardship for women is projected to be little changed from that experienced by those currently in old age. By contrast, men now in late middle age are projected to fare considerably worse when old than their earlier counterparts. As a result, although women have traditionally been more likely to experience most types of hardship in old age, the gender gap is predicted to narrow or reverse for most of the measures that we explore. In counterfactual simulations, we find that reversing the increase in the share of the population represented by race and ethnic groups having lower income and wealth undoes much of the predicted increase in old-age hardship. We also find that hardship would not be predicted to rise quite as much if the population currently in late middle age held debt levels more similar to those held by the late middle age cohorts two decades ago.

If our projections bear out, this will have a material impact not only on the affected individuals, but also on government finances given that the government provides a safety net that is used extensively by the economically vulnerable elderly population. Exploring this possibility well in advance is important since households have limited options of their own to reverse their economic misfortunes once they are in old age. A long lead time, for example, allows individuals more years to save, raise their labor supply when still of working age, and purchase insurance. It also gives policymakers the ability to create incentives for individuals to act now to increase their future economic security, as well as more flexibility to make needed adjustments to the safety net.

Past Research on Economic Security in Retirement

A considerable literature exists on the economic security of the elderly; we do not review it in detail in this chapter. We do, however, highlight past research that is particularly relevant to our work. One relevant strand of earlier literature looks at the retirement readiness of pre-retirees using contemporaneous information about the pre-retiree population demographic characteristics and wealth. Much of the focus is on whether households have sufficient wealth to meet their expected retirement needs, either in an absolute sense or relative to their pre-retirement standard of living. Some of these papers model optimal wealth accumulation and decumulation to gauge whether savings of pre-retirees are adequate (Engen et al. 2000; Scholz et al. 2006; Pang and Warshawsky 2014). Others assess retirement preparedness of households by projecting replacement rates to determine whether households can maintain their pre-retirement standard of living based on demographics, assets, and liabilities (Munnell et al. 2018). Microsimulation techniques have also been used to project not only economic security, but also changes in individual factors that shape such security (Butrica et al. 2007).

This literature yields mixed conclusions about the overall level of retirement preparedness, with many of the differences owing to conceptual issues (Gale et al. 2018). For example, some authors consider retirement savings to be adequate if individuals can expect to experience the average standard of living that they enjoyed during their younger years, while others judge savings to be adequate only if individuals can expect to live at the standard of living they experienced in the years immediately preceding retirement (which is likely to be higher given productivity growth in the economy). Another conceptual difference across studies is whether households have sufficient wealth to meet their *expected* retirement needs (either in an absolute sense or relative to their pre-retirement standard of living), or enough resources to protect them against all types of risk.

A second relevant strand in the literature examines contemporaneous factors that contribute to economic insecurity in the elderly population. Costly health shocks can deplete a household's savings, leaving it vulnerable (Coile and Milligan 2009). Family structure matters as well. For example, marriage provides risk protection in the event one spouse suffers an income, health, or other shock, leading married couples to have greater economic security in retirement than single individuals (Tamborini 2007). Interfamily transfers can deplete or increase an elderly household's economic security.

Our work here is distinct from both strands of earlier literature. Instead we exploit many years of longitudinal data to assess both how households nearing retirement will fare in old age, and how they compare to earlier cohorts. We link the observable traits of households in their pre-retirement years to a range of poor outcomes in old age. In doing so, we are able to capture both the effects of lack of preparation for expected needs *and* lack of insurance against downside risk. We focus on the later retirement years (age 77–82) as this is when major risks such as widowhood, dementia, and physical disabilities are most likely to manifest themselves. Further, our approach relates hardship in old age to earlier observable traits, rather than using actuarial calculations to predict such hardship.

Data and Methods

We use the Health and Retirement Study (HRS), a longitudinal survey of individuals age 50+ that collects information about households' demographic characteristics, their financial and economic situation, and their health.[1] The HRS surveys individuals every two years, re-interviewing the same households from prior waves and periodically replenishing the sample with new birth cohorts as they pass age 50. The HRS has been conducted on an ongoing basis since 1992, but we rely only on the 1994 and 2014 waves.[2] From the 1994 wave, we examine respondents born between 1932 and 1937 (age 57–62) and use information on factors that might influence their economic security 20 years later (when they were age 77–82), including demographic, economic, financial, and health indicators.[3] From the 2014 wave, we use information on those same households, creating metrics of economic security and hardship at that time. The resulting dataset enables us to see what factors in late middle age predicted economic insecurity for these individuals when they were well into their elderly years.

Next, we tap the 2014 survey for information on the population more recently in late middle age: those born between 1952 and 1957. We draw the same information on the factors that could contribute to future economic security as we add for their earlier counterparts in the 1994 wave. Based on what we have learned about how the economic security of the current generation of elderly was shaped their traits in late middle age, we project the future economic security of the incoming elderly generation.

Measures of Economic Insecurity

We assess economic insecurity and hardship among the elderly with a number of measures. First, we look at several measures related to the resources households have to finance their spending needs. Poverty is the most commonly used metric to gauge whether a household has adequate income to afford a subsistence standard of living. Also, because wealth (in its financial, nonfinancial, and pension forms) is an especially important resource for the elderly, we use a measure of resource adequacy that combines income and wealth, along the lines of the measures used by Love et al. (2008) and Brown and Dynan (2017). We call this measure 'annuitized wealth,' and it is designed to capture the expected annual resources that individuals would have to fund consumption and other expenditures were they to use their accumulated wealth to buy an annuity and combine the payout from that annuity with other forms of income.

To calculate this measure, we aggregate all sources of financial and nonfinancial wealth for each household. To this amount, we add predicted wealth from various sources. For those respondents and spouses who have not yet retired, we assume that their annual earnings will remain constant until their predicted retirement age. The HRS also provides a predicted social security retirement wealth measure for individuals and households that have not claimed social security retirement benefits; we add this amount, assuming currently scheduled benefits. Additionally, we include the HRS's measure of predicted DB and defined contribution (DC) wealth (Gustman et al. 2014).We then calculate a hypothetical annuitized value of wealth for HRS participants. For single people, the annuitized value is the amount of income a no-load annuity would pay for the expected remaining years of their lives, assuming life expectancies reported by the Social Security actuary and a real interest rate of 2.5 percent. For married people, this annuity would have one payout when both members are alive and a smaller payout when only one is alive. Following the convention of many annuities, we calculate the payout as a joint-and-two-thirds annuity, whereby the annuity pays a surviving spouse two-thirds the amount when both spouses are alive. Although this calculation overstates the value of an annuity one could actually purchase, given loading costs and the transactions costs from liquidating assets, it provides a rough conversion of wealth into an annual metric.

To this estimated payout, we then add other sources of regular income not captured in a conventional wealth measure, including veterans' benefits, welfare (as defined by the HRS), food stamps, and social security retirement benefits. We do not include one-time or short-term sources of income, like insurance payments or unemployment insurance benefits, given that recent sources of such income would already be incorporated in wealth and would not likely constitute an important ongoing source of wealth.

This comprehensive measure of annuitized wealth is emphasized to assess economic insecurity in two ways. First, we use it to calculate an absolute measure of well-being based on the poverty threshold, with values below 150 percent of the threshold as indicating insecurity as in Love et al. (2008). We use a value higher than 100 percent because we think about the actual threshold taking into account the fact that many households have wealth to supplement their income. We are also interested in the evolution of the measure over time, because a large decline in the measure may indicate that households are 'living beyond their means' and thus likely to face economic insecurity in the future. To do so, we take our measure of annualized resources for each household in both 1994 and 2014 and note whether the amount in the latter year has fallen by 30 percent or more. We adjust this calculation for changes in household size, using the joint-and-two-thirds annuity benchmark from above. For example, a household that has gone from a married couple to a single person would be scored as having experienced a large drop in wealth if the annuitized wealth measure in the second period was less than 47 percent [2/3*(1–0.3)] of the annuitized wealth in the first period.

We also look at material hardship among elderly households in 2014, using HRS data reporting consumption patterns that may indicate economic hardship. While these measures are correlated with other measures of economic hardship like poverty, some older people above the poverty line also report material hardship (Levy 2015). Another difference between consumption measures and hardship metrics based on income, wealth, and participation in means-tested programs is that the thresholds do not depend on household size and composition. We identify respondents as experiencing material hardship if they answered as follows to two questions:

(1) Food insecurity: 'In the last two years, have you always had enough money to buy the food you need?' [No]
(2) Medication cutbacks: 'At any time in the last two years, have you ended up taking less medication than was prescribed for you because of the cost?' [Yes]

We also identify respondents as experiencing hardship based on whether they are participating in the means-tested programs of Medicaid or SNAP (food stamps) in 2014. By definition, participants in means-tested programs experience measured economic insecurity, although the eligibility rules have multiple criteria that attempt to capture the complexity of economic insecurity. Table 4.1 shows the means of these indicators in 2014 for respondents in our sample that were born between 1932 and 1937 (and thus who were age 77–82 in 2014). We show means for the full sample and for men and women separately. All results are weighted using the person-level weights from the HRS to correct for the survey's oversampling of Blacks, Hispanics, and Floridians.[4]

For the full sample, the poverty rate of 6.5 percent in 2014 suggests lower poverty than does the Census Bureau measure (which was around 12% for individuals age 75+ in 2014), but the lower level is consistent with other work suggesting that the Census measures may overstate the actual degree of poverty (Hurd and Rohwedder 2006; Bee and Mitchell 2017). The shares of this cohort having a low value of annuitized wealth or experiencing a big decline in annuitized wealth was almost double the share in poverty, at around 12 percent. Around 5 percent of respondents in this group reported having to cut back their medication, being food insecure, or using food stamps.

By nearly all measures, women were more likely to experience economic insecurity than men at older ages, consistent with Brown and Dynan (2017). Only 3.6 percent of men ages 77–82 were in poverty in 2014, compared with

TABLE 4.1. Summary measures of economic security for 1932–37 birth cohort, in 2014

	All	Male	Female
	(N=2,047)	(N=823)	(N=1,224)
	Mean	Mean	Mean
In poverty (including nursing homes)	0.065	0.036	0.086
Cutback meds	0.049	0.044	0.053
Food insecure	0.041	0.031	0.049
Receiving SNAP	0.052	0.028	0.070
Receiving Medicaid	0.084	0.074	0.091
Annuitized wealth decline by 30%+	0.121	0.136	0.111
Annuitized wealth under 150% FPL	0.124	0.074	0.160

Notes: Observations are weighted by the Health and Retirement Study (HRS) provided the combined person-level and nursing home resident weight for the 2014 (12th) wave of the HRS. All outcomes are measures in the 2014 (12th) wave of the HRS. SNAP refers to food stamps, and FPL refers to federal poverty level.

Source: Authors' analysis of the Health and Retirement Study, years indicated.

8.6 percent of females. The share of elderly men with annuitized wealth below 150 percent of the poverty threshold, at 7.4 percent in 2014, was also less than half that of women, which was 16 percent in 2014. (That said, men were a bit more likely to have experienced a large decline in the measure than women.) Elderly men were also somewhat less likely to cut back their medications or be on Medicaid than their female counterparts, and less than half as likely to use food stamps.

Factors Potentially Predicting Economic Security

We use a variety of individual and household characteristics of the 1932–37 birth cohort measured in 1994 to predict future economic insecurity. In particular, we analyze real household wealth in 1994 disaggregated by source, since some types of wealth could change differentially due to market returns, tax treatment, liquidity, and behavioral factors. We have separate measures for housing wealth and non-housing wealth. We also make use of the HRS projections of social security wealth assuming individuals claim at their full retirement age, as well as projected wealth in DB plans and actual wealth in DC accounts.

We examine different types of outstanding household debt, since a key feature distinguishing households now approaching retirement from their earlier counterparts is that they hold more and different types of debt. Table 4.2 shows data from the Survey of Consumer Finance (SCF) documenting how the share of households age 55–64 holding different types of debt and median outstanding balances for borrowers has evolved since the early 1990s. Overall, the share of households in this age group holding debt has changed little on net, except for education debt where the share doubled. But for all types of debt, the median amount of debt for borrowers in this age group rose considerably. As documented by Dynan and Kohn

TABLE 4.2. Evolution of debt among households with heads age 55–64

	Share holding debt(%)		Median for those holding debt (thousands of 2016 $)	
	1992	2016	1992	2016
Mortgage debt on primary residence	39	42	72.95	111.00
Other residential debt	6	6	41.93	100.00
Credit card debt	44	44	1.68	2.30
Education debt	11	22	5.53	19.00
Vehicle debt	30	34	11.36	17.19

Source: Authors' analysis of the Survey of Consumer Finances, years indicated.

(2007), greater holdings of debt probably reflect both developments related to the supply of credit (for example, financial innovation), as well as developments related to demand for credit (such as the rise in real home prices over time and less stigma associated with holding debt). This trend toward more debt among older households compels us to estimate the link between debt in late middle age and future hardship for the 1994 wave to evaluate the greater debt of households in 2014 when projecting the likelihood that they will face economic insecurity.

Our analysis also separates debt between mortgage and non-mortgage debt. Ideally, we would like to include separate terms for different types of non-mortgage debt like vehicle debt and credit card balances, as research suggests that different types of debt have different relationships to the likelihood of financial distress among older households (Lusardi et al. 2018). Nevertheless, we can only capture all non-mortgage debt because the HRS does not provide information about the separate components.

Continued work as an individual approaches retirement could also have a differential impact on future retirement security than would other forms of income. Thus, we examine labor versus non-labor income separately. We also assess initial health status and health history for respondents and spouses (where present). Nearly every American age 65+ has Medicare, yet out-of-pocket healthcare costs can be high and drain household savings, particularly for those with a chronic illness or a history of acute illness that predicts future healthcare expenses. For this reason, we compare indicators of self-reported fair or poor health, for example whether the respondent ever smoked.

In addition, we include educational background, which may be correlated with preferences (such as patience and risk aversion) as well as behavioral traits (such as the ability to plan ahead and financial sophistication). Education could also be related to health, employment opportunities when older, and other factors that we cannot otherwise control.

Table 4.3 shows summary statistics for the factors described above for the respondents in our sample from the 1994 wave. (Recall that we restrict the sample to households age 57–62 in 1994.) Several of the results are of particular note. Social security is a very considerable source of wealth, on average, for all groups. Men have substantially more wealth than women by all measures, yet mean debt is higher for men than for women (suggesting that the debt may be partially financing assets such as homes and vehicles). On average, women have more children living at home and nearby than other groups.

Table 4.4 shows summary statistics for the later 1952–57 birth cohort and observed in 2014. Social security is still a considerable source of wealth, and for the median household it looms somewhat larger than other types of wealth. Looking at the medians for key variables (in the lower part of the

TABLE 4.3. Summary statistics for 1932–37 birth cohort, in 1994

	All	Male	Female
	(N=4,217)	(N=1,948)	(N=2,269)
	Mean	Mean	Mean
Age	59.07	59.09	59.04
Number of living children	3.337	3.256	3.409
Number of resident children	0.304	0.289	0.318
Number of children living within 10 miles	1.126	1.043	1.202
Self-reported health (1=excellent, 5=poor)	2.620	2.619	2.620
Spouse self-reported health	2.522	2.460	2.589
Ever smoked	0.644	0.747	0.551
HH pre-claiming social security wealth (at FRA)	278,420	298,861	259,915
Respondent DB pension wealth	97,360	156,472	43,850
Respondent DC pension wealth	20,010	23,384	16,955
HH wealth, excl. social security	775,201	644,911	282,243
excl. social security and DB/DC pensions	686,019	772,419	607,804
excl. social security, DB/DC pensions, and housing	527,018	575,243	483,361
HH value of primary residence	379,999	425,813	338,527
HH value of secondary residence	20,109	20,996	19,306
HH net value of other real estate	86,508	92,187	81,366
HH net value of vehicles	24,447	26,786	22,329
HH debt on primary residence	35,624	41,772	30,058
HH debt on secondary residence	3,309	3,829	2,838
HH other debt	4,600	5,980	3,352
HH earned income	54,356	64,558	45,121
HH unearned income, including government transfers	38,169	40,141	36,383
Education: less than high school	0.288	0.283	0.293
Education: high school	0.348	0.295	0.397
Education: some college	0.187	0.199	0.177
Education: college or more	0.176	0.223	0.133
MEMO: Median values			
HH pre-claiming social security wealth (at FRA)	303,285	328,531	260,758
HH wealth, excl. social security	375,466	430,360	327,120
excl. social security and DB/DC pensions	245,678	262,622	228,735
excl. social security, DB/DC pensions, and housing	106,743	123,178	94,883
HH value of primary residence	128,769	135,547	127,075
HH earned income	39,099	52,131	27,803
HH unearned income, including government transfers	13,971	13,728	15,306

Note: Dollar amounts in 2018 dollars. Observations are weighted by the Health and Retirement Study (HRS) person-level weights for the 2nd wave of the HRS. All outcomes are measures in the 1994 (2nd) wave of the HRS. Only observations that have non-missing responses for each variable are included in the sample.

Source: Authors' analysis of the Health and Retirement Study.

TABLE 4.4. Summary statistics for 1952–57 birth cohort, in 2014

	All (N=3,135) Mean	Male (N=1,352) Mean	Female (N=1,783) Mean
Age	59.00	58.98	59.03
Number of living children	2.635	2.658	2.615
Number of resident children	0.395	0.434	0.360
Number of children living within 10 miles	0.660	0.653	0.666
Self-reported health (1=excellent, 5=poor)	2.687	2.691	2.683
Spouse self-reported health	2.577	2.559	2.595
Ever smoked	0.540	0.596	0.490
HH pre-claiming social security wealth (at FRA)	321,594	324,706	318,771
Respondent DB pension wealth	73,304	76,800	70,134
Respondent DC pension wealth	57,092	73,542	42,170
HH wealth, excl. social security	908,221	1,085,752	747,178
excl. social security and DB/DC pensions	727,689	893,681	577,113
excl. social security, DB/DC pensions, and housing	507,683	644,382	383,680
HH value of primary residence	229,130	228,549	229,657
HH value of secondary residence	73,186	104,762	44,543
HH net value of other real estate	61,083	81,075	42,947
HH net value of vehicles	23,754	13,166	7,911
HH debt on primary residence	66,210	68,146	64,453
HH debt on secondary residence	9,475	10,292	8,734
HH other debt	11,947	15,737	8,509
HH earned income	75,581	82,281	69,504
HH unearned income, including government transfers	47,613	53,099	42,637
Education: less than high school	0.129	0.136	0.123
Education: high school	0.244	0.247	0.241
Education: some college	0.290	0.291	0.289
Education: college or more	0.337	0.326	0.347
MEMO: Median values			
HH pre-claiming social security wealth (at FRA)	311,083	315,919	308,090
HH wealth, excl. social security	294,987	295,161	293,696
excl. social security and DB/DC pensions	184,352	180,342	187,768
excl. social security, DB/DC pensions, and housing	53,042	47,738	58,346
HH value of primary residence	159,126	159,126	159,126
HH earned income	48,496	53,884	42,030
HH unearned income, including government transfers	11,822	10,863	12,932

Note: Dollar amounts in 2018 dollars. Observations are weighted by the Health and Retirement Study (HRS) person-level weights for the 2014 (12th) wave of the HRS. All outcomes are measures in the 2014 (12th) wave of the HRS. Only observations that have non-missing responses for each variable are included in the sample.

Source: Authors' analysis of the Health and Retirement Study.

table), several patterns stand out. First, women are better off than their earlier counterparts in Table 4.3, in terms of earned income and social security wealth (owing to their longer careers in paid work). Social security wealth is a bit higher for the full sample, but it is lower for men. Most strikingly, non-social-security wealth is much lower relative to the 1994 cohort for all groups. The size of the decline in the median for females is smaller than the increase in their median social security wealth, but the same comparison for men suggest that they are much worse off on net. Although the values of primary residences look to be little changed, the means for debt on those residences are considerably higher. Consistent with the results from the SCF in Table 4.2, the value of non-mortgage debt is also considerably higher (with the mean nearly three times as high as for the 1994 cohort).

Estimation and Simulation

We seek to establish the relationship between characteristics of respondents age 57–62 in 1994 with measures of economic insecurity 20 years later in 2014. One consideration is that a number of survey respondents die between time periods, and the factors that predict economic security may also predict survival. Therefore, we estimate the relationship between economic security and predictors in two steps. First, we predict the probability that survey respondents observed in the first wave are living 20 years later, using our economic security predictors. Second, we estimate the likelihood of being economically insecure conditional on surviving, correcting for the non-randomness of the surviving sample using the Heckman correction.[5] We estimate these equations using ordinary least squares separately for different household types in 1994: single men, single women, and married couples.

With these estimates in hand, we then apply the estimated effects of factors predicting future economic insecurity for the 1994 respondents in late middle age, to the 2014 respondents in late middle age. All of our predicted factors from 1994 are also included in the 2014 questionnaire, allowing for out-of-sample predictions with the 2014 cohort of near-retirees. To interpret this exercise as a prediction of economic insecurity in 2034 requires the assumption that each factor will have the same effect on economic insecurity between 2014 and 2034 as it did in 1994 and 2014. While this assumption is strong, we believe that this exercise is useful in helping us to understand whether insecurity of the elderly in the future might differ from the past based on observable demographic, social, health, and economic changes. For instance, asset returns appear to have significantly boosted the accumulated lifecycle wealth of older households since the early 1990s (Feiveson and Sabelhaus 2019), but the decade-long decline in real interest rates (Del Negro et al. 2017) suggest that the current generation of elderly may not be nearly as fortunate. We address this limitation of our baseline analysis below through an additional exercise that effectively allows for different realizations of asset returns for those approaching retirement in 2014.[6] Finally, we note that this population is heavily reliant on government programs like Social Security, Medicare, Medicaid, and SNAP, so that reforms to these programs could affect the likelihood of hardship among future cohorts of elderly. Such changes are beyond the scope of this chapter.

Results

In all, we run 21 separate regressions (seven measures of hardship modelled for three different groups—married households, single men, and single women), with each model having a vector of explanatory variables. Looking at the individual estimates as a way of divining which factors matter is not particularly useful due to the number of coefficient estimates and the collinearity of some of the explanatory variables. Thus, we do not present these detailed results here (available upon request). We can say that many of the point estimates make sense. For example, having more social security wealth, owning more housing, and having children living within 10 miles is generally associated with a lower hardship probability. A better way to summarize results is provided in Figure 4.1. Here we compare observed rates of economic insecurity in 2014 for people age 57–62 in 1994 (age 77–82 in 2014) with the predicted 2034 rates for the sample that was age 57–62 in 2014 (and will be age 77–82 in 2034). Any differences in outcomes can be directly attributed to changes in demographic, economic, and financial characteristics of the late-middle-age population. For every measure but the poverty rate, our results suggest a rise in the share of the older population that is economically vulnerable. For example, 4.1 percent of the age 77–82 group was food insecure in 2014. Using the composition and characteristics of the 1952 to 1957 birth cohort and applying the relationship between the pre-elderly factors and future economic vulnerability observed for the 1932 to 1937 birth cohort, the food insecure rate is predicted to be 5.5 percent (an increase of about one-third). Notably, the predicted share of people in old age on Medicaid is predicted to rise from 8.4 percent in 2014 to 9.7 percent in 2034 (an increase of 15 percent). If realized, this change would have important implications for federal and state budgets, which already devote around $100 billion dollars a year to Medicaid spending on the elderly population.

Figures 4.2 and 4.3 show observed versus simulated levels of economic security by gender. Here we see that, by most metrics, today's female near-

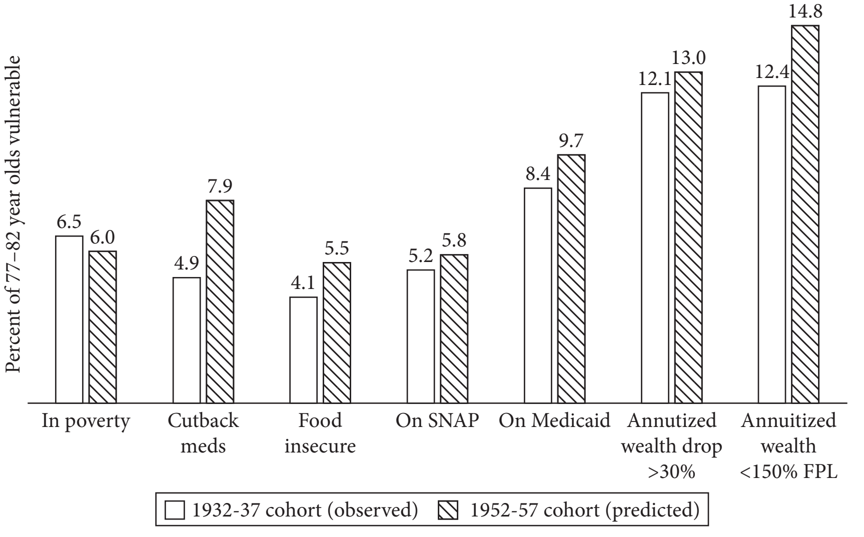

Figure 4.1 Percent of 77–82-year-old population economically vulnerable, by metric of vulnerability and birth cohort

Notes: When calculating the outcome for the 1932 to 1937 cohort, observations are weighted by the Health and Retirement Study (HRS) combined person-level and nursing home resident weights for the 2014 (12th) wave of the HRS. When calculating the outcome for the 1952 to 1957 cohort, observations are weighted by the HRS provided person-level weight for the 2014 (12th) wave. In the regression analyses, observations are weighted using the 1932 to 1937 cohort's person-level weight from the 1994 (2nd) wave.

Source: Authors' calculations from the Health and Retirement Study.

retirees are not predicted to experience more hardship in old age than the cohort of females currently in their late 70s and early 80s. The predicted shares of women cutting back medications or experiencing food insecurity are higher but the predicted shares for other types are hardship are little changed or lower. By contrast, today's male near-retirees are expected to experience considerably more hardship in old age than their earlier counterparts, by all metrics. As a result, the gender gap documented in Table 4.1, whereby females experience more hardship of nearly all types in old age, is predicted to narrow and in some cases reverse in the future. The implied improvements in *relative* old-age outcomes for women suggest that the greater economic security resulting from a rise in female labor force attachment helps offset factors that are likely to diminish economic security (such as less DB pension coverage and less accumulated financial and nonfinancial wealth).

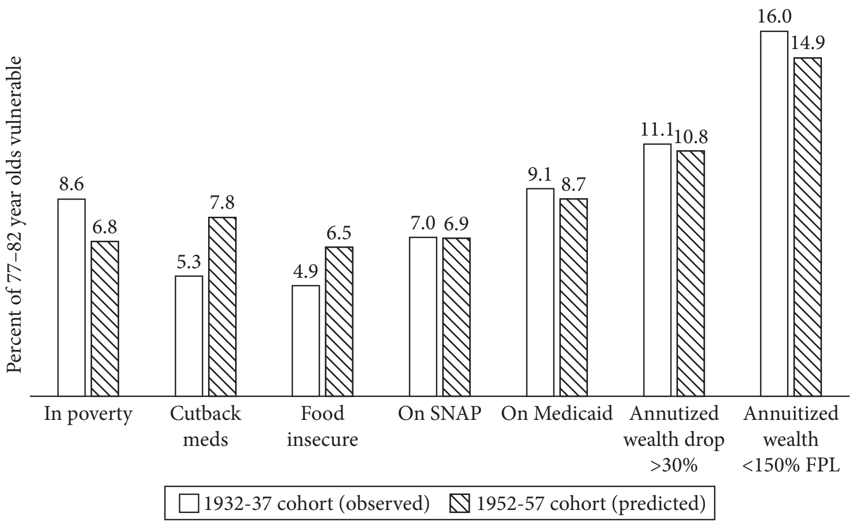

Figure 4.2 Percent of 77–82-year-old female population economically vulnerable, by metric of vulnerability and birth cohort

Notes: When calculating the outcome for the 1932 to 1937 cohort, observations are weighted by the Health and Retirement Study (HRS) combined person-level and nursing home resident weights for the 2014 (12th) wave of the HRS. When calculating the outcome for the 1952 to 1957 cohort, observations are weighted by the HRS provided person-level weight for the 2014 (12th) wave. In the regression analyses, observations are weighted using the 1932 to 1937 cohort's person-level weight from the 1994 (2nd) wave.

Source: Authors' calculations from the Health and Retirement Study.

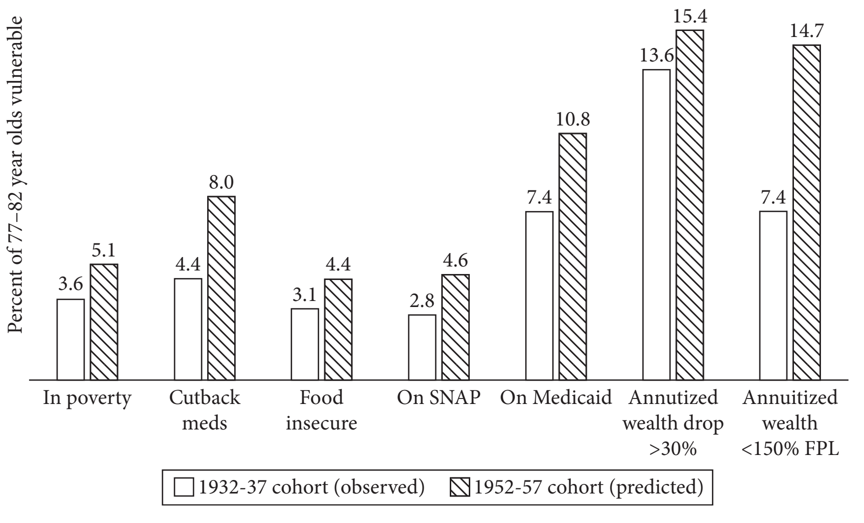

Figure 4.3 Percent of 77–82-year-old male population economically vulnerable, by metric of vulnerability and birth cohort

Notes: When calculating the outcome for the 1932 to 1937 cohort, observations are weighted by the Health and Retirement Study (HRS) combined person-level and nursing home resident weights for the 2014 (12th) wave of the HRS. When calculating the outcome for the 1952 to 1957 cohort, observations are weighted by the HRS provided person-level weight for the 2014 (12th) wave. In the regression analyses, observations are weighted using the 1932 to 1937 cohort's person-level weight from the 1994 (2nd) wave.

Source: Authors' calculations from the Health and Retirement Study.

The Changing Indebtedness of Households

As noted above, more recent generations of near-elderly have higher levels of debt than prior generations, which shows up in both housing and non-housing debt. Such burdens could presage greater insecurity for the incoming generation in retirement. Indeed, survey data analyzed by Lusardi et al. (2020) suggest that households now approaching retirement are uneasy with their current debt level, with more than one-third of people age 56–61 reporting being over-indebted.

To assess the role of rising indebtedness across cohorts, we re-run the analyses, normalizing average debt levels of the 1952–57 birth cohort to those of the 1932–37 birth cohort. This has the effect of removing the overall increase in debt so we can compare the new to the prior simulations, as well as observed outcomes of the earlier birth cohort. This exercise will understate the role of debt since it does not capture the fact that there are more households in late middle age holding debt today compared with two decades ago (as indicated in Table 4.2).

Comparing the first columns in each grouping in Figure 4.4 (which show the original simulation) with the second columns, we find that undoing the rise in debt modestly reduces predicted old-age hardship for most measures. The exception is for the poverty rate, which is predicted to be higher than in the base case. This latter result may seem surprising, but we note that debt can have a complex relationship with predicted hardship since the poorest households presumably have little access to credit.

Changing Demographics

The racial and ethnic makeup of the late middle age population has changed over the last two decades. As shown in Table 4.5, the share of the HRS sample reported being White was about 7 percentage points lower in 2014 than in 1994 (on a weighted basis); the Black share rose by a little more than a percentage point (to 11%); and the Hispanic share rose by 5 percentage points (to 10%). To assess the importance of these changes, we divide our simulation results for the 1952–57 birth cohort by race and ethnicity, and then we reweight to match the race and ethnicity distribution of the 1932–37 birth cohort. We then recalculate population-wide predictions of financial hardship, with results shown in the third columns of each group in Figure 4.4.[7]

Removing the effects of changing race and ethnicity makes a considerable difference in the predicted share of the older population experiencing different types of economic insecurity. For example, the predicted poverty rate of the 1952–57 birth cohort is 6 percent, but holding the distribution

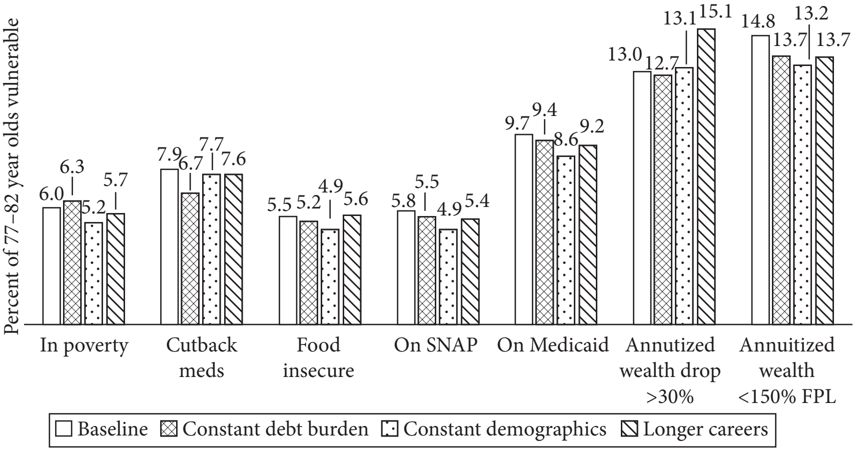

Figure 4.4 Percent of 77–82-year-old population (1952–57 birth cohort) economically vulnerable, by metric of vulnerability, baseline simulation and simulations with other assumptions

Notes: Baseline corresponds to original simulation for the 1952 to 1957 birth cohort based on estimates from the 1932 to 1937 cohort. The constant demographics analysis holds the racial and ethnic composition fixed to 1932 to 1937 birth cohort proportions by creating six cells—white non-Hispanic, black non-Hispanic, other non-Hispanic, white Hispanic, black Hispanic, and other Hispanic. The racial and ethnic composition is fixed at the shares of the 1932 to 1937 cohort alive in the 2014 (12th) wave of the Health and Retirement Study (HRS) weighted using the combined person-level and nursing home resident weights for the 2014 (12th) wave of the HRS. The (weighted) shares of the cells are as follows: white non-Hispanic (0.8561), black non-Hispanic (0.0791), other non-Hispanic (0.0158), white Hispanic (0.0385), black Hispanic (0.0004), and other Hispanic (0.0101). The longer careers analysis includes a variable in the estimation and simulation for individuals' expected remaining labor earnings. When calculating the outcome for the 1932 to 1937 cohort, observations are weighted by the HRS combined person-level and nursing home resident weights for the 2014 (12th) wave of the HRS. When calculating the outcome for the 1952 to 1957 cohort, observations are weighted by the HRS provided person-level weight for the 2014 (12th) wave. In the regression analyses, observations are weighted using the 1932 to 1937 cohort's person-level weight from the 1994 (2nd) wave.

Source: Authors' calculations from the Health and Retirement Study.

fixed to 1932–37 proportions, the predicted poverty rate would only be 5.2 percent. Also of note, the predicted Medicaid enrollment rate of households in their late 70s and early 80s in 2034 would be materially lower if the race and ethnic composition had remained unchanged. The Medicaid enrollment rate would be 8.6 percent (instead of 9.7%), only slightly higher than the observed 8.4 percent for the 1932 to 1935 cohort.

These results are not inconsistent with the view that the lower observed financial, non-financial, and private pension wealth for today's near-retirees

TABLE 4.5. Distribution of race and ethnicity

	Born 1932 to 1937		Born 1952 to 1957
	All	Alive in 2014	All
	(N= 4,217)	(N=2,047)	(N=3,135)
	Mean	Mean	Mean
Race			
White	0.877	0.895	0.805
Black	0.095	0.080	0.108
Other	0.028	0.026	0.087
Ethnicity			
Non-Hispanic	0.945	0.951	0.896
Hispanic	0.055	0.049	0.104

Note: Observations from the 1932–37 birth cohort are weighted by the Health and Retirement Study (HRS) person-level weights for the 1994 (2nd) wave of the HRS. Observations from the 1932 to 1937 birth cohort alive in 2014 are weighted by the HRS combined person-level and nursing home resident weights for the 2014 (12th) wave of the HRS. Observations from the 1932–37 birth cohort are considered alive in 2014 if they responded to the HRS survey in the 2014 (12th) wave. The remaining respondents from the 1932–37 birth cohort were interviewed in 2015. Observations from the 1952–57 birth cohort are weighted by the HRS person-level weights for the 2014 (12th) wave of the HRS.

Source: Authors' analysis of the Health and Retirement Study, years indicated.

documented in Tables 4.3 and 4.4 is playing a central role in raising predicted hardship. Wealth disparities across different race and ethnicity groups continue to be large and concerning.

Career Lengths

While many of the factors discussed above could increase economic insecurity, one major factor that could counteract it is the longer careers of more recent retirees. Working longer helps households build wealth and strengthen their balance sheets generally: indeed, Butrica and Karamcheva (2020) show that older households with more debt have a higher propensity to work and a later expected date of retirement. Working longer can also forestall public and private pension benefit claiming, which could ultimately increase the stream of income received on claiming. Bronshtein et al. (2018) finds that delaying retirement by three to six months has the equivalent impact on retirement standard of living as a 1 percentage point increase in saving of labor income over 30 years. In our data, we see that the median worker in the 1952–57 birth cohort expected to work two years more than the median worker in the 1932–37 birth cohort.

To assess the potential of longer workers on retirement hardship, we reran our models including predicted remaining labor earning calculated for the outcomes variables that relied on annuitized wealth. Because we predicted retirement for the 1952 to 1957 birth cohort, we then run the simulations with this predicted labor wealth variable, and our results have shown in the third column of Figure 4.4. The additional labor earnings lower the predicted rates of most types of hardship, although the changes are fairly modest. Overall, the results suggest that somewhat longer work lives can offset most of the effects of other factors that are likely to weaken economic security.

Uncertainty about Asset Returns

The above exercise holds all observed factors constant in terms of their predicted impact on future economic security. One limitation of this is that it assumes that asset returns experienced by people now nearing retirement will be the same as those enjoyed by people nearing retirement in the mid-1990s. Yet, real interest rates have dropped sharply since the early 1980s, as can be seen in Figure 5.5a, for example. The real rate of interest on one-year Treasury rates securities has fallen from an average exceeding 7 percent between 1980 and 1985 to an average of –1 percent over the past five years. To some extent this is due to the easy monetary policy in the wake of the Great Recession, but many economists believe that safe interest rates will remain very low even after central banks normalize monetary policy (Kiley

(a)

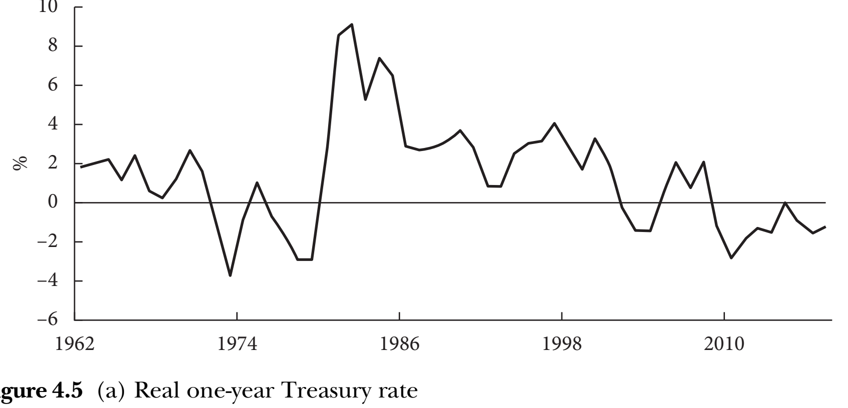

Figure 4.5 (a) Real one-year Treasury rate

Note: The real Treasury rate in period t is calculated as the nominal Treasury rate in period t minus CPI inflation between period t and period t+1.

Source: Authors' calculations based on data from the Board of Governors from the Federal Reserve System and the Bureau of Labor Statistics.

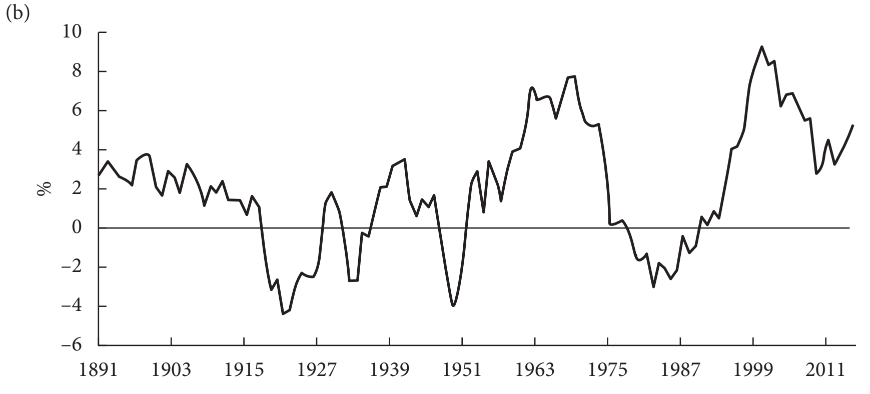

Figure 4.5 (b) 20-year average annual growth in real stock prices
Source: Authors' calculations based on data from Robert Shiller.

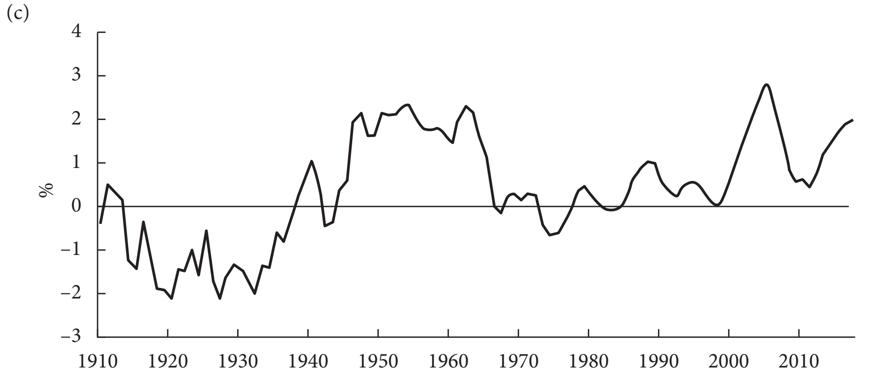

Figure 4.5 (c) 20-year average annual growth in real home prices
Source: Authors' calculations based on data from Robert Shiller.

and Roberts 2017; Horneff et al. 2018). That said, the decline in real safe interest rates largely preceded the period used in our regressions, so it may not be a large source of bias for our results. (Indeed the real one-year Treasury rate averaged 0.8% per year over this period).

Uncertainty about rates of return on risky assets poses a larger challenge. Figure 5.5 also shows 20-year growth rates of real stock prices and real home prices, respectively. The mean of the 20-year growth rate of real stock prices series since the late 1800s is 2.1 percent, but the standard deviation of the series is 3.2 percentage points. Importantly, the 1994 HRS cohort of near-elderly that we study enjoyed average annual real returns of 4.5 percent on stock that they held more than double the historical average. The mean of the average 20-year growth rate of real home prices series (which goes back to the early 1900s) is 0.4 percent, with a standard deviation of 1.2 percentage points. The 1994 HRS cohort of nearly elderly on average experienced annual growth of 1.4 percent in real home prices between 1994 and 2014, also well above the longer-term historical average.

As a rough way of judging the possible importance of lower rates of return on risky assets for the coming generation of the elderly, we redo our simulation assuming that 2014 near-elderly households start with smaller amounts of stocks and housing assets than they actually had. It is difficult to map an assumption about lower returns to lower starting levels of wealth because the calculation is very sensitive to the timing of the lower returns as well as the speed with which older households spend down their assets. Thus, to keep things very simple, we assume that the more recent cohort starts with only half the stocks and housing as they actually had. As can be

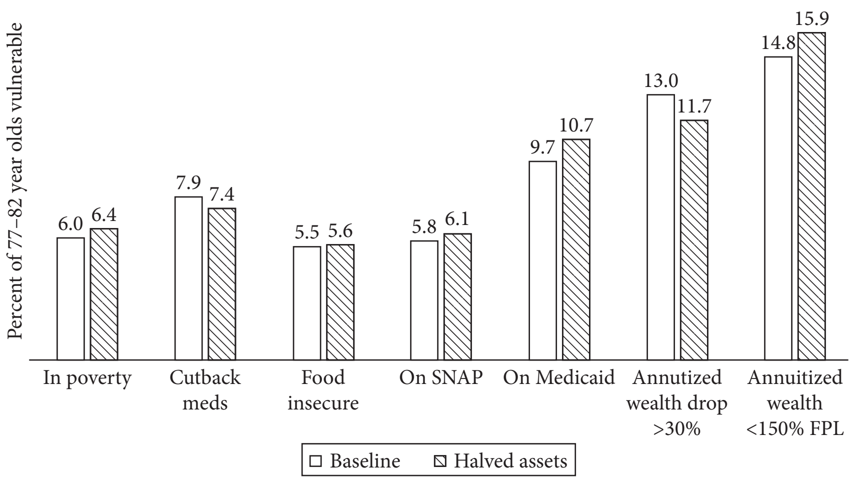

Figure 4.6 Percent of 77–82-year-old population (1952–57 birth cohort) economically vulnerable, by metric of vulnerability, baseline simulation and simulation with halved assets

Notes: Baseline corresponds to original simulation for the 1952 to 1957 birth cohort based on estimates from the 1932 to 1937 cohort. The halved assets analyses reduce the assets of the 1952 to 1957 cohort by half to account for lower expected asset returns relative to the experience of the 1932 to 1937 birth cohort. When calculating the outcome for the 1932 to 1937 cohort, observations are weighted by the Health and Retirement Study (HRS) combined person-level and nursing home resident weights for the 2014 (12th) wave of the HRS. When calculating the outcome for the 1952 to 1957 cohort, observations are weighted by the HRS provided person-level weight for the 2014 (12th) wave. In the regression analyses, observations are weighted using the 1932 to 1937 cohort's person-level weight from the 1994 (2nd) wave.

Source: Authors' calculations from the Health and Retirement Study.

seen in Figure 4.6, this change does increase predicted rates of several types of hardship. The predicted poverty rate is 0.4 percentage points higher than in the base case (going from 6% to 6.4%), predicted Medicaid enrollment is 1.1 percentage point higher (going from 9.7% to 10.7%), and the rate of low annuitized wealth is 1.1 percentage point higher (going from 14.8% to 15.9%). One might be surprised not to see even larger changes given the dramatic counterfactual assumption, but we note that the segment of the older population with these risky assets in later middle age is better off than most households facing the types of hardship we consider.

Conclusion

This chapter represents a distinct contribution to the retirement security literature in that it uses a rich longitudinal dataset spanning 20 years to show how economic insecurity in old age relates to observable demographic, socioeconomics, and financial traits in late middle age for the cohort of the U.S. population nearing retirement in the mid-1990s. It then uses these findings to examine how the cohort nearing retirement in the mid-2010s, which has different traits on average than the earlier cohort, is likely to fare in old age.

We find that a material share of people approaching retirement age in the mid-2010s will face hardship in their late 70s and early 80s. One in 20 is predicted to be unable to purchase needed medications or food on a consistent basis. One in 10 is predicted to be on Medicaid, and one in seven is predicted to have annuitized resources below 1.5 times the poverty line. If realized, this incidence of hardship will be somewhat higher than for the cohort born 20 years earlier (around 1% to 2% higher for most measures). Women, who traditionally experience much higher economic insecurity in old age, are predicted to fare about the same as their earlier counterparts, but men are likely to see considerably higher rates of hardship in old age. Simulations that effectively undo some of the changes in traits of the more recent cohorts suggest that increases in the share of the population accounted for by race and ethnic groups having lower wealth and income explain much of the increase in predicted hardship.

Our analytic approach involves the strong assumption that the traits of the cohort that was in late middle age in the mid-2010s will be related to old-age hardship as did similarly to the cohort that was in late middle age 20 years earlier. We have also touched on some of the factors that could change these relationships, but future research should further explore how these relationships might change how such changes might alter results.

Acknowledgements

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Notes

1. We use the RAND HRS which spans years from 1992–2014 (version 2) matched with the pension wealth data files from 1992–2010 compiled by Gustman et. al. (2014), the HRS fat files for the 12th wave, and the RAND HRS family data file spanning years from 1992 to 2014 (version 1).
2. We refer to the 2nd wave of the HRS as the '1994 wave' because all but two of the observations in our sample of those born in 1932–37 are interviewed in 1994. A similar logic holds for the 12th wave of the HRS being referred to as the '2014 wave' 95 percent of observations in our sample of those born in 1952–57 are interviewed in 2014.
3. In creating our sample, we make the following sample restrictions. For married households in the 1932–37 cohort, we limit the sample to individuals who respond to the 1994 wave of the HRS (3,564 observations) and then sequentially exclude those who having a missing ethnicity (7), those who are missing pension wealth from Gustman, et. al. (2014) in the 1994 wave (4), those who are missing predicted social security wealth from the 1st wave (29), those who are missing self-reported health in the 1994 wave (1), those who are missing self-reported details on health incidences, such as smoking and cancer (2), those who are missing number of resident kids or kids that live within 10 miles (155), those missing self-reported spouse health (147), those missing data on the value of the second house (29), and those missing information on our economic security variables in the 2014 wave (57). For the single male households in the 1932–37 cohort, we limit the sample to individuals who respond to the 1994 wave of the HRS (341 observations) and then sequentially exclude those who are missing number of resident kids or kids that live within 10 miles (13) and those missing information on our economic security variables in the 2014 wave (3). For the single female households in the 1932–37 cohort, we limit the sample to individuals who respond to the 1994 wave of the HRS (815 observations) and then sequentially exclude those who are missing number of resident kids or kids that live

within 10 miles (40), those who are missing self-reported details on health incidences, such as smoking and cancer (2), and those missing information on our economic security variables in the 2014 wave (12). For the married households in the 1952–57 cohort, we limit the sample to individuals who respond to the 2014 wave of the HRS (2,741 observations) and then sequentially exclude those who having a missing race and/or ethnicity (27), those missing self-reported spouse health (175), those who are missing predicted household social security wealth from the 10th wave (236), those who are missing number of resident kids or kids that live within 10 miles (199), those who are missing self-reported health in the 2014 wave (1), those missing self-reported spouse health (17), those missing information on our economic security variables (18), and those missing the number of household children (13). For the single male households in the 1952–57 cohort, we limit the sample to individuals who respond to the 2014 wave of the HRS (449 observations) and then sequentially exclude those who having a missing race and/or ethnicity (3), those who are missing predicted household social security wealth from the 10th wave (50), those who are missing number of resident kids or kids that live within 10 miles (22), those missing the number of household children (9), those who are missing self-reported details on health incidences, such as smoking and cancer (1), and those missing information on our economic security variables (9). For the single female households in the 1952–57 cohort, we limit the sample to individuals who respond to the 2014 wave of the HRS (945 observations) and then sequentially exclude those who having a missing race and/or ethnicity (5), those who are missing predicted household social security wealth from the 10th wave (103), those who are missing number of resident kids or kids that live within 10 miles (79), those who are missing number of children (6), those who are missing self-reported details on health incidences, such as smoking and cancer (6), and those missing information on our economic security variables (16).

4. We use weights throughout the analysis given that the outcomes of most interest—the means of predicted realizations of different types of hardship—would otherwise be too high given the oversampling of race and ethnicity groups that tend to be poorer. For the observed outcomes of individuals born between 1932 and 1937, we use the combined person-level and nursing home resident weight from the 2014 wave of the HRS. In the regression analyses to generate the predicted outcomes, we weight the estimation by the person-level weight from the 1994 wave of the 1932–37 birth cohort. For the predicted outcomes of individuals born between 1952 and 1957, we use the person-level weight from the 2014 wave of the HRS.
5. To ensure the model is identified, we include in the first stage (the estimation of the probability of being alive at age 77–82) an indicator for whether or not the respondent ever smoked, but exclude whether or not the respondent ever smoked from the second stage (the estimation of the effect on the economic security measures).

6. Although we only concretely explored the possibility of different realizations of asset returns, we acknowledge that there are many other factors that might play out differently for the more recent cohort. For example, self-reported health may have different implications for future health now than in the past.
7. We divide the sample into six unique cells—White non-Hispanic, Black non-Hispanic, other non-Hispanic, White Hispanic, Black Hispanic, and other Hispanic. The weighted shares of the cells, using the HRS combined person-level and nursing home resident weight from the 2014 wave, are as follows: White non-Hispanic (0.8561), Black non-Hispanic (0.0791), other non-Hispanic (0.0158), White Hispanic (0.0385), Black Hispanic (0.0004), and other Hispanic (0.0101). We then calculate the predicted outcomes for each cell for the 1952–57 cohort (weighted by the person-level weight from the 12th wave), multiply the predicted outcome for each cell by the weighted share of the 1932 to 1937 cohort, and sum the products to get the population average.

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