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ARE RETIREES FALLING SHORT? RECONCILING THE CONFLICTING EVIDENCE

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Introduction

A fundamental question for retirement security is whether today's working-age households will have adequate income to maintain their pre-retirement standard of living. Existing studies offer conflicting assessments. On the one hand, data from the *Survey of Consumer Finances* and studies using target income replacement rates indicate a widespread shortfall. On the other hand, researchers using a life-cycle model of optimal savings conclude that most pre-retirees have an optimal level of wealth. This *brief,* which summarizes a recent study, addresses why the different approaches yield such different answers.[1]

The *brief* is organized as follows. The first section presents data, free of any assumptions, on trends in wealth-to-income ratios over the past three decades. The second section compares the two different approaches to assessing retirement readiness: replacement rate targets and optimal savings. The final section concludes that the comforting results of the optimal savings research depend crucially on two assumptions – that households' consumption declines when the kids leave home and that households plan on declining consumption in retirement. In contrast, the target replacement rate analysis assumes that consumption does not decline when the kids leave home and that retirees plan on level consumption in retirement. The question is which view best reflects the real world.

Wealth-to-Income Ratios Show Declining Preparedness

While the *adequacy* of current retirement saving may be open to question, the *trend* in retirement saving relative to income is not. The Federal Reserve's triennial *Survey of Consumer Finances* (SCF) shows that the ratio of net wealth to income at each age has remained virtually unchanged from 1983-2013. In these ratios, wealth includes all financial assets, 401(k) balances, and real estate less any outstanding debt, and income includes earnings and returns on financial assets. Importantly, this measure of wealth excludes the value of the benefits that the household will receive from defined benefit pension plans and Social Security. As shown in Figure 1 on the next page, the ratios at each age for each survey lie virtually on top of one another, bounded on the high side by the 2007 values and on the low side by the 2010 and 2013 values.

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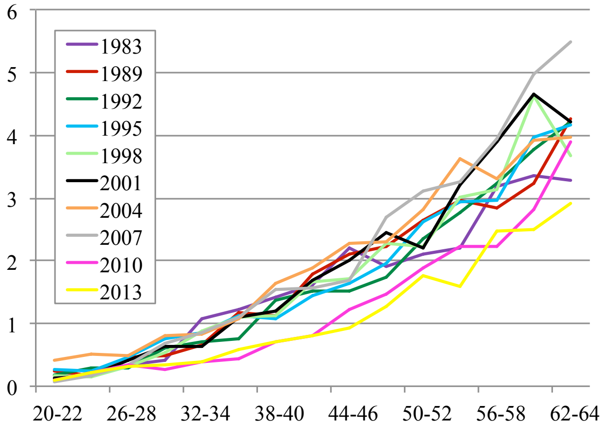
Figure 1. Ratio of Wealth to Income by Age from the Survey of Consumer Finances, 1983-2013



Source: Authors' calculations based on U.S. Board of Governors of the Federal Reserve System, *Survey of Consumer Finances* (1983-2013).

The stability of the ratio reveals a significant decline in retirement preparedness given that five major developments should have led to higher ratios of wealth to income. First, life expectancy has increased, suggesting that workers should accumulate more wealth to cover a longer period in retirement. Second, Social Security replacement rates have declined as the "Full Retirement Age" moves from 65 to 67, which reduces benefits at any given claiming age and increases the need for retirement saving. Third, retirement plans have shifted from defined benefit, where accruals of future benefits are not included in SCF wealth, to 401(k)s, where assets *are* included. This shift from unreported to reported retirement assets would have been expected to increase the wealth-to-income ratio. Fourth, retiree out-of-pocket health costs have been rising, again resulting in a need for more wealth at retirement. Finally, real interest rates have fallen since 1983, so more wealth is needed to generate a given stream of income.

The stability of wealth-to-income ratios over the 1983-2013 period clearly indicates that people are less well prepared than in the past. If they were over-prepared in the past, they could be fine today. But if they were not over-prepared in 1983, then they are falling short today.

Assessing Level of Retirement Readiness: Two Approaches

Existing studies that evaluate the retirement readiness of working households reflect two different approaches; one uses target replacement rates, while the other relies on an optimal savings model.

Target Replacement Rates

The target replacement rate approach is used to construct a National Retirement Risk Index (NRRI), which relies on data from the SCF.[2] The NRRI compares projected replacement rates – retirement income as a percentage of pre-retirement income – for today's working-age households to target rates that permit the household to enjoy the same consumption in each period before and after retirement. The Index measures the percentage of all households that fall more than 10 percent below their target. The most recent results show that about half of all households are at risk, with older households somewhat better off than younger households (see Table 1).

Table 1. Percentage of NRRI Households "At Risk" by Age Group, 2004, 2007, 2010, and 2013

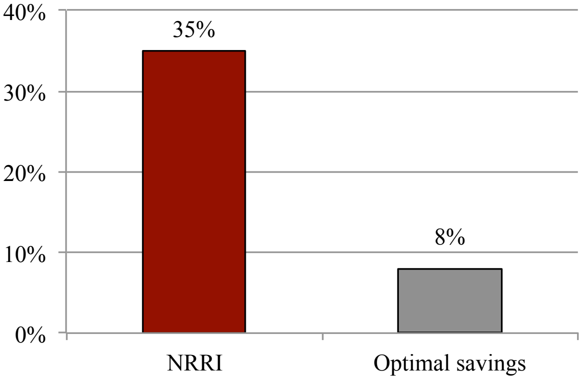
Age group	2004	2007	2010	2013
All	*43%*	*44%*	*53%*	*52%*
30-39	49	53	62	59
40-49	44	47	55	52
50-59	35	32	44	45

Note: The 2004 results reflect slightly different age groups: the youngest group is age 32-39 and the oldest is age 50-58.
Sources: Munnell, Rutledge, and Webb (2014); Munnell, Hou, and Webb (2014); and Munnell, Webb, and Delorme (2006).

Optimal Savings

In contrast to the target replacement rate method, the optimal savings approach concludes that most Americans are "saving optimally," i.e., they are accumulating more than enough to smooth the marginal utility of consumption over the life cycle.[3] This approach relies on a model of optimal wealth accumulation and decumulation, which incorporates mortality, labor market, and health cost risk, and income from defined benefit pensions and Social Security. The model is used to calculate the wealth that HRS households should have accumulated by their 50s. These optimal amounts are then compared with the amounts that HRS households actually accumulated. The results show that, in 2004, only 8 percent of households in their 50s had less than optimal wealth, far below the comparable figure of 35 percent for the NRRI (see Figure 2).[4] The question is why this optimal savings approach yields such comforting results.

Figure 2. Percentage of Households in Their Fifties "At Risk": NRRI vs. Optimal Savings, 2004



Note: The age range for the NRRI results is 50-58; the age range for the optimal savings results is 51-61.
Source: Munnell, Rutledge, and Webb (2014).

Reasons for the Difference

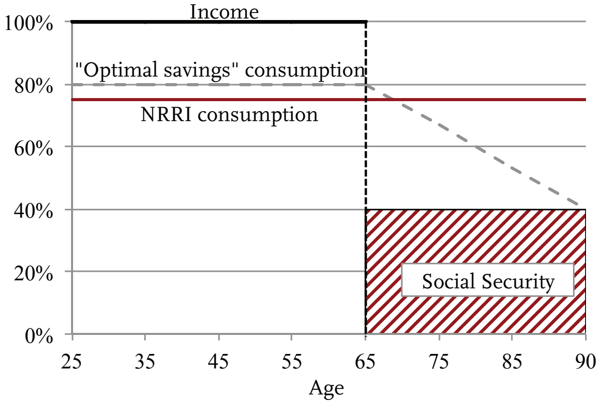
The main reason for the stark difference between the approaches is different assumptions. The two assumptions that stand out are how households consume their accumulated wealth in retirement and how they consume when their kids leave home. To understand the implications of the optimization approach for retirement preparedness, the following exercise imposes these two assumptions on the NRRI model and recalculates the percentage at risk.

Retirement Drawdown

The NRRI assumes that people buy an annuity when they retire, so that they can spend a steady inflation-adjusted amount throughout retirement. The optimization model assumes that households draw down their unannuitized wealth by trading off the risk of outliving their wealth against the cost of unnecessarily restricting their consumption. Under this approach, households choose higher consumption in their 60s and lower consumption by age 85, a pattern which reflects the declining probability that the household will be alive at older ages. As a result, a typical household following the optimal drawdown strategy will only need 66 percent of the wealth of NRRI households.[5]

Integrating an optimal drawdown strategy into the NRRI requires two changes. First, wealth annuitization must be replaced by a declining drawdown rate. Second, because households will consume less over the course of their retirement, they can consume more during their working years. To equalize pre- and post-retirement consumption, the replacement rate target prior to retirement needs to be raised (see Figure 3).[6]

Figure 3. Illustrative Consumption by Age, NRRI and Optimal Savings as Percentage of Income



Source: Munnell, Rutledge, and Webb (2014).

Imposing an assumption of an optimal drawdown increases the replacement rate targets, but this increase is more than offset by a reduction in the amount of wealth required to finance each dollar of post-retirement consumption. As a result, the percentage of those in their 50s at risk in 2004 declines from 35 percent under the original NRRI assumptions to 24 percent after the NRRI is adjusted to reflect optimal drawdown strategies.

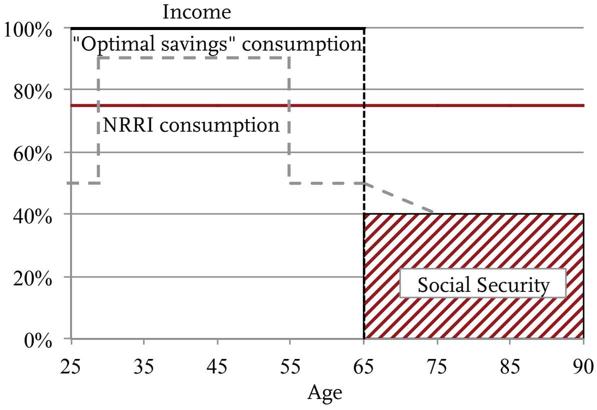
Kids

A second important assumption is what happens to household consumption once the kids leave home. Under the optimal savings approach, parents do not spend more on themselves when their kids become financially independent; instead, they simply save the money that they used to spend on the kids. As a result, their household's total consumption drops, leaving them with lower replacement rate targets and higher savings.

Incorporating the impact of kids on consumption into the NRRI model requires recalculating once again the NRRI targets. The calculation retains the optimal savings assumption that households reduce their consumption as they age. Figure 4 shows the optimal consumption path for a typical household before and after adjusting for kids. The new target rate permits the household to enjoy the same level of consumption before the arrival of the kids, after they have left home, and in the first year of retirement, and a higher level of consumption while the kids are at home.

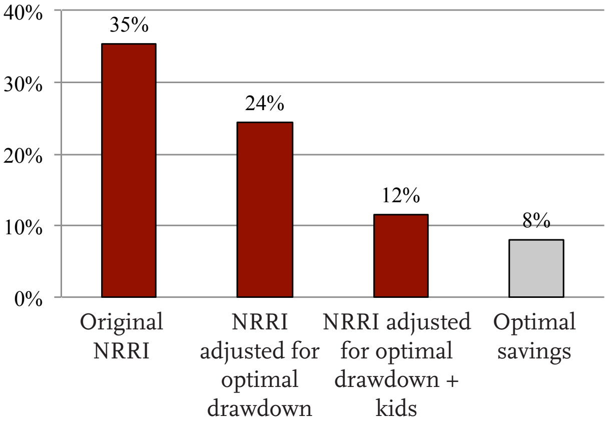
The combined impact of the adjustments for reduced consumption in retirement and for kids reduces the percentage at risk in 2004 from the original 35 percent to 12 percent (see Figure 5). This final figure is very close to the 8 percent reported in the optimal savings research.

Figure 4. Illustrative Consumption by Age, NRRI and Optimal Savings as Percentage of Income, With Kids



Source: Munnell, Rutledge, and Webb (2014).

Figure 5. Percentage of Households in Their Fifties At Risk, 2004



Note: The age range for the NRRI results is 50-58; the age range for the optimal savings results is 51-61.
Source: Munnell, Rutledge, and Webb (2014).

Conclusion

If households accept declining consumption in retirement, they need less wealth to maintain their living standard. If households consume less once their kids leave home, they have a more modest target to replace and they save more between the emptying of the nest and retirement. These two assumptions are the levers that allow one to toggle between the target replacement rate and optimal savings models.

The question is which set of assumptions is more plausible. Will people accept declining consumption in retirement or do they prefer steady real consumption? Do parents cut back on consumption when kids leave, or do they spend the slack in their budgets? No one really knows the answers. Spending does decline as people age, but it is unclear the extent to which this pattern tracks declining income; people cannot spend what they do not have. On the side of steady consumption, financial planning tools invariably assume that households require level amounts. How households react when the kids leave is also not well understood. One study found that household consumption did not decline, meaning that per-capita consumption increased after the kids left.[7] But its sample size was small, so the effects of kids remain an unresolved issue.

Of all the studies, perhaps the most convincing evidence about retirement preparedness is the simple calculation of wealth-to-income ratios from the *Survey of Consumer Finances*. These ratios have remained unchanged over time despite several developments that suggest they should have increased. Thus, we are not surprised that calculations involving target replacement rates show that about half of households will be unable to maintain their standard of living in retirement.

Endnotes

1 Munnell, Rutledge, and Webb (2014).

2 The NRRI study is Munnell, Rutledge, and Webb (2014). Another study adopting a similar approach (Munnell, Orlova, and Webb 2013) used the *Health and Retirement Study* and reached a similar conclusion.

3 Scholz, Seshadri, and Khitatrakun (2006).

4 The 8 percent is a weighted average of the 5.2 percent for households born in 1942-47 and the 10.2 percent for those born in 1948-53. These results are from Scholz and Seshadri (2008).

5 See Munnell, Rutledge, and Webb (2014) for more details. The households in the optimal savings model face uncertain health care costs and will therefore engage in precautionary saving which will reduce the age-related decline in consumption and increase optimal wealth relative to a model without this source of risk.

6 The speed of the decline in spending depends on specific household characteristics, including marital status; the percentage of wealth that is pre-annuitized through employer pensions and Social Security; and the value that a household places on consumption enjoyed in different time periods. The procedure used in this comparison is to calculate target replacement rates that will permit the household to enjoy the same level of consumption in each period prior to retirement and in the first year of retirement, and an optimally declining level of consumption in retirement.

7 Coe and Webb (2010).

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