DO RETIREES WANT TO CONSUME MORE, LESS, OR THE SAME AS THEY AGE?

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Introduction

Whether households prefer a constant, increasing, or decreasing path of consumption in retirement has important implications for our understanding of retirement adequacy. Financial planners and researchers often assume that retirees would like to maintain a constant standard of living. Similarly, Social Security benefits are based on the premise that people want steady inflation-adjusted benefits. However, several studies suggest that retired households actually decrease their consumption over time.

This *brief,* which reports the results of a recent study, uses data from two longitudinal surveys to examine the consumption behavior of retired households.[1] The analysis builds on the existing literature by: 1) examining retirement consumption over longer periods; 2) using wealth and health to separate constrained and unconstrained households in order to determine whether any declines in consumption are driven by necessity or preferences; and 3) exploring whether, within unconstrained households, those with shorter expected lifespans have faster declines in preferred consumption.

The discussion proceeds as follows. The first section provides background on retirees' consumption preferences. The second section describes the

data and methodology. The third section presents the results, which show that when households have assets and their health, they keep real consumption relatively flat over their retirement. This pattern is evident when comparing wealthy and healthy households separately and when comparing groups by health status within the top wealth tercile. For those with less wealth or with health issues, consumption declines as households age. In terms of life expectancies, households that expect to live longer, such as married households, have flatter consumption. The final section concludes that wealth and health constraints or longevity expectations may be important reasons that consumption drops over time for retired households as a group.

Background

Economists' life-cycle model assumes that forward-looking retirees smooth their marginal utility of consumption over their lifespan. Under certain assumptions – such as the rate of return being equal to the individual's time preference – the model predicts that retirees would prefer constant consumption. This result is intuitive, and financial planners and

researchers have often assumed that retirees would like to maintain their pre-retirement standard of living.[2] In addition, Social Security benefits are based on the premise that people want steady consumption, as benefits are adjusted for inflation.

While maintaining steady consumption may seem intuitive, most research has studied the change in consumption right at retirement, finding a sharp drop as new retirees initially consume less than they did while working.[3] This decline has been called the "retirement consumption puzzle," as it seemingly contradicts the lifecycle model's prediction that people smooth their consumption over predictable income changes, like retirement. Research has resolved this puzzle with three complementary explanations. First, work-related expenses decline as retirees no longer have to spend on professional attire and commuting.[4] Second, food expenditures decrease as retirees have more time to spend cooking and shopping for low prices.[5] Third, some people have been forced into involuntary retirement, and the lifecycle model predicts that a negative shock would lead people to reduce their consumption.[6]

While these three factors explain the change in consumption *at* retirement, they do not extend to consumption changes *during* retirement. One constraint that researchers face in examining longer periods is that surveys that provide comprehensive and consistent panel data on consumption, such as the *Consumer Expenditure Survey,* cover only a short period. Other panels of data that are longer did not use consistent measures over time until the early to mid-2000s. The few recent studies using longitudinal data have found that consumption declines during retirement.[7]

Observed declines may not reflect household preferences but may instead be due to financial constraints. Guo, Skinner and Zeldes (2018) compared the consumption paths of different "retirement adequacy" groups and found that consumption paths are flatter for households who are more financially prepared.[8] These results suggest that declines in consumption are, at least in part, due to financial constraints. However, financial resources may not be the only constraint that affects retirement consumption paths. Some households may prefer to consume more but are unable to due to health limitations. And married households may prefer flatter consumption because they have to account for joint survivor probabilities.[9]

To gain a better understanding of preferred consumption in retirement, this analysis takes advantage of almost 20 years of consistent consumption data, examines the consumption patterns of households facing various constraints, and explores whether survival probabilities account for differences among unconstrained households.

Data and Methodology

This project uses data from two surveys that follow consumption behavior over extended periods of time. The first is the *Health and Retirement Study's* (HRS) *Consumption and Activities Mail Survey* (CAMS), linked with the U.S. Social Security Administration's administrative cross-year benefits file.[10] The second is consumption data from the *Panel Study of Income Dynamics* (PSID). Each dataset has its advantages and disadvantages. One advantage of the CAMS is that it includes more households at older ages. One disadvantage is that the CAMS is only given to a subset of the HRS respondents, and respondents can enter and leave the consumption panel. In the PSID, consumption questions are asked of the entire population, but the survey contains a far smaller sample of retirees than the CAMS.

Table 1 shows that the demographic and socioeconomic characteristics of retired households in the HRS and PSID are generally quite similar, although households in the PSID are somewhat better educated and tend not to have a defined benefit plan, likely because they are from later cohorts.

TABLE 1. CHARACTERISTICS OF THE CAMS AND PSID SAMPLES

	CAMS	PSID
Number of households	3,022	1,223
Average age at retirement	65.1	65.0
Education		
Less than high school	18%	13%
High school	38	28
Some college or more	44	59
Race – white	88	85
Married	56	70
Median net wealth	$189,044	$271,748
Homeowner	84%	84%
Has a defined benefit pension plan	65	36
Health status at retirement year		
Fair/poor	20	18
Good	39	34
Very good/excellent	41	48

Source: Authors' calculations using *Consumption and Activities Mail Survey* (CAMS) (2001-2019) linked to *Health and Retirement Study* (HRS) (1992-2018) and administrative data on Social Security benefits; and *Panel Study of Income Dynamics* (PSID) (2005-2019).

The analysis involves estimating fixed effect regression equations that calculate the change in each household's consumption from one survey year to the next, controlling for changes in household size. A simplified form of the basic equation is:

Household consumption = f (years since retirement, household size, other household characteristics)

This equation is similar to that used by previous researchers, simply applied to more recent consumption data.[11] The focus is on non-durable consumption, as the purchase of durable goods can be viewed as a form of savings.[12]

The goal of this analysis, however, is not just to document consumption patterns but to understand *preferred* consumption in retirement. For example, how households prefer to consume may be different than what is observed if they have not saved enough. Lower-income households may prefer to spend more but do not have enough savings, so the consumption path of wealthier households might better represent preferred consumption.[13] Similarly, households in poor health may prefer to consume more by traveling and dining out but are unable to due to health constraints. To assess whether these constraints affect consumption paths, the analysis re-estimates the equation described above for different wealth terciles and health status. The hypothesis is that households in higher wealth terciles or in better health would have more constant consumption.

In addition to financial or health constraints, survival probabilities could also influence households' consumption paths. That is, those who expect to live longer may consume less to stretch out their resources, while those with shorter expected longevity may want to consume more earlier when they are more likely to be alive. To test whether households who perceive they will live longer – such as married couples – have flatter consumption, the equation is re-estimated once again for different types of households in the top wealth tercile. The hypothesis is that unconstrained households and those with a higher probability of being alive at older ages will have more constant consumption.

Results

The results start with looking at the pattern of consumption for retired households as a group. The findings from the equation described above are presented in Figure 1. They confirm the results from prior studies: overall, consumption declines as households age. The rates of decline in the CAMS and the PSID data are very close – 1.5-1.6 percent every two years (0.75-0.80 percent a year) – which means that 20 years into retirement, consumption could be about 12-13 percent lower than at the beginning of retirement. Moreover, the downward sloping pattern in the CAMS suggests that the decline slightly speeds up later in retirement.[14]

FIGURE 1. NON-DURABLE CONSUMPTION IN RETIREMENT


a. CAMS • *b. PSID*
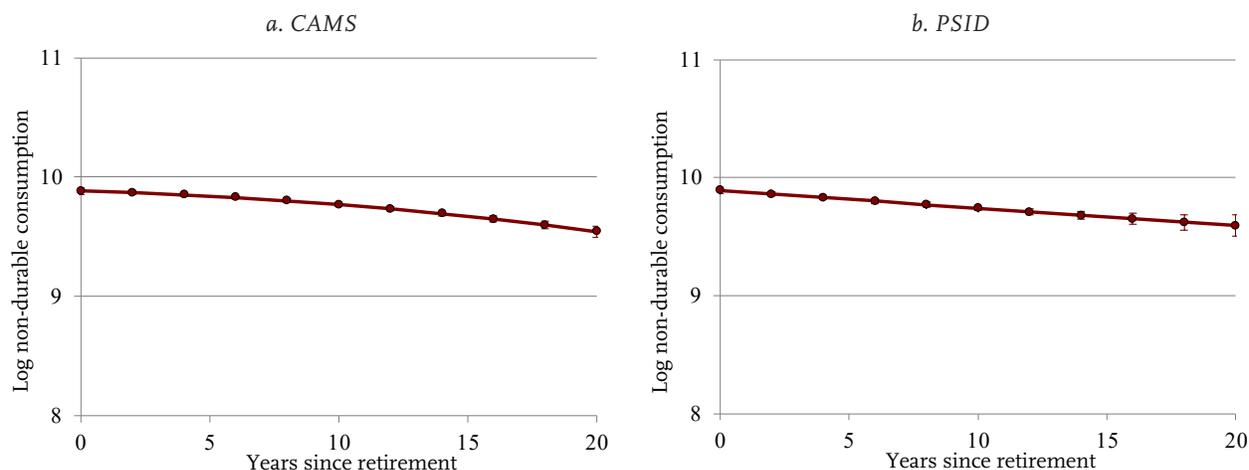
Sources: Authors' calculations from HRS/CAMS, SSA, and PSID.

The question is whether this observed decline is merely the result of financial, health, or perceived life expectancy. If these constraints – rather than preferences – are driving consumption declines, then unconstrained households should see smaller or no declines. Since the results of the CAMS and the PSID are basically consistent throughout the analysis, the following discussion focuses on the CAMS.

Financial Constraints

If households have not saved enough to maintain their spending, consumption would have to decline through retirement, regardless of household preferences. Indeed, the results show that consumption paths in both the CAMS and the PSID are much flatter for households in higher wealth terciles (see Figure 2).[15] Consumption decreases by about 0.7 percent every two years (0.35 percent a year) for those in the top wealth tercile compared to 1.6 percent and 2.0 percent every two years (0.8 and 1.0 percent a year) for the middle and bottom wealth tercile, respectively. And, although the slope is still somewhat negative for all households, consumption is not only flatter but the decline also slows down over time in the top two terciles.[16] In contrast, at the bottom of the wealth distribution, declines in consumption speed up in later years. These results suggest that financial constraints are at least partially behind consumption declines in retirement.

## FIGURE 2. NON-DURABLE CONSUMPTION IN RETIREMENT, BY WEALTH TERCILE AT RETIREMENT
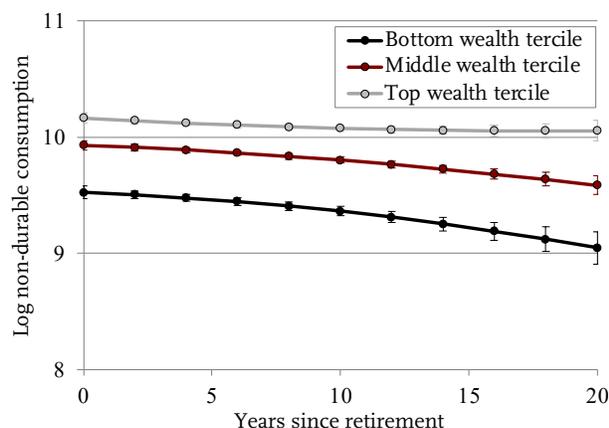
Sources: Authors' calculations from HRS/CAMS and SSA.

Health Status

The second constraint that may impact consumption patterns is health. For example, households may want to travel or eat out more but cannot due to health limitations. Indeed, re-estimating the equation to include self-reported health status at the beginning of retirement shows that retirees in better health have flatter consumption paths (see Figure 3). Consump-

FIGURE 3. CAMS: NON-DURABLE CONSUMPTION IN RETIREMENT, BY SELF-REPORTED HEALTH AT RETIREMENT
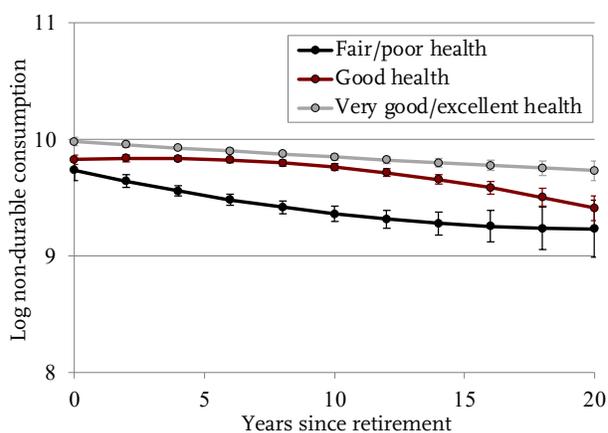
Sources: Authors' calculations from HRS/CAMS and SSA.

tion for those in very good/excellent health decreases by about 1.3 percent every two years (0.65 percent a year) while consumption for those who self-report good health or fair/poor health decreases by 1.5 percent and 3.1 percent every two years (0.7 and 1.5 percent a year), respectively. Interestingly, the consumption of households with poor health tends to tick up in later years, which might reflect higher late-life medical expenses. These results suggest that health constraints are also driving part of the observed declines in consumption in retirement.

Perceived Life Expectancy

A final constraint involves the length of the retirement period. Those who expect to live longer may want to consume more slowly, while those who think they have a low probability of living to old age may

want to front-load their consumption. However, since longer life expectancies are highly correlated with higher wealth, this analysis focuses on the variation in consumption paths by health status and household type for unconstrained households (those in the top wealth tercile).[17]

In terms of health status, the results are shown in Figure 4. The higher-wealth households who self-report very good/excellent health at retirement have a virtually flat consumption pattern, declining by only about 0.6 percent every two years (0.3 percent every year), whereas consumption for those who start retirement with good or fair/poor health declines by about 1.1 percent and 3.2 percent, respectively. The results also show some consumption increases later in retirement for those households in fair/poor health.

FIGURE 4. CAMS: NON-DURABLE CONSUMPTION IN RETIREMENT FOR THE TOP WEALTH TERCILE, BY SELF-REPORTED HEALTH AT RETIREMENT

Log non-durable consumption

Fair/poor health
Good health
Very good/excellent health

Years since retirement
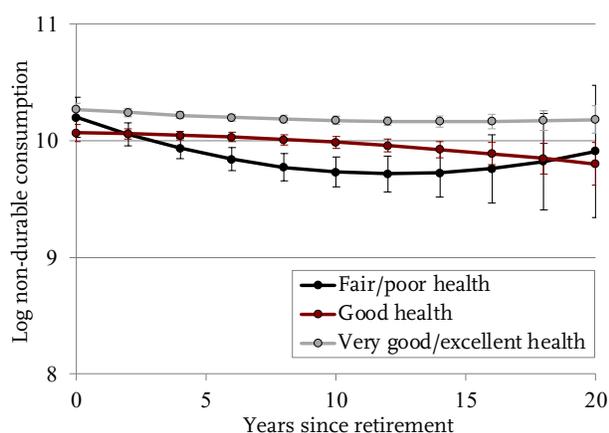
Sources: Authors' calculations from HRS/CAMS and SSA.

Shifting from health status to household type, married households, as noted, are more likely to live to older ages. In line with expectations, married retired households, as a whole, clearly have a flatter consumption pattern (see Figure 5).

That same pattern appears to hold for the top wealth tercile, as shown in Figure 6, but unlike all the earlier results, the slopes of the three lines are not statistically different. It is unclear whether mortality

FIGURE 5. CAMS: NON-DURABLE CONSUMPTION IN RETIREMENT, BY MARITAL STATUS AT RETIREMENT

Log non-durable consumption

Married
Single men
Single women

Years since retirement
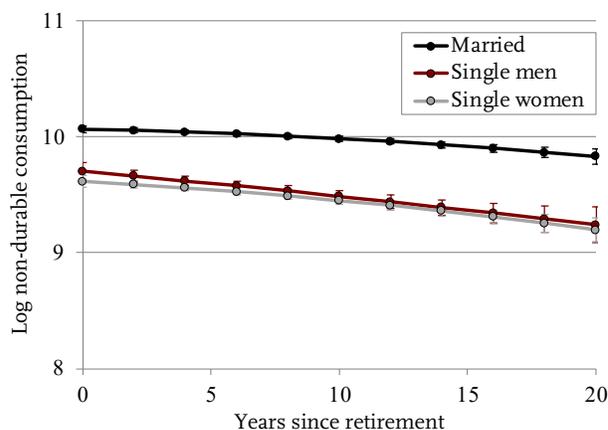
Sources: Authors' calculations from HRS/CAMS and SSA.

differences are less pronounced across married and single households in the top tercile or if our analysis is limited by sample size.

The key overall finding that emerges from the analysis of consumption paths is that consumption for wealthy and healthy households declines much more slowly than for other households.

FIGURE 6. CAMS: NON-DURABLE CONSUMPTION IN RETIREMENT FOR THE TOP WEALTH TERCILE, BY MARITAL STATUS AT RETIREMENT

Log non-durable consumption

Married
Single men
Single women

Years since retirement
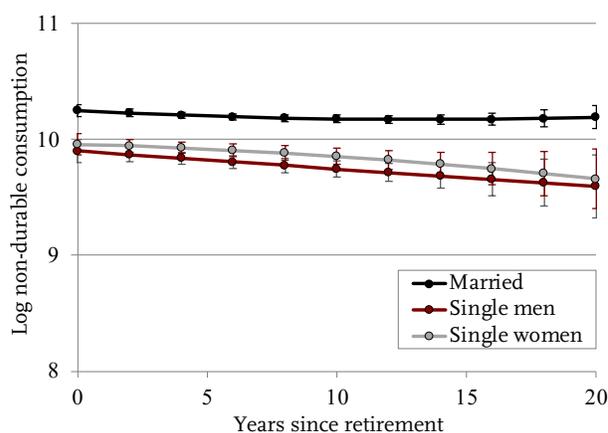
Sources: Authors' calculations from HRS/CAMS and SSA.

Conclusion

Whether households prefer a constant, increasing, or decreasing path of consumption in retirement has important implications for understanding retirement adequacy. Financial planners and researchers often assume that retirees would like to maintain their pre-retirement standard of living. Similarly, Social Security benefits are based on the premise that people want steady inflation-adjusted income.

The results show that, for the population as a whole, consumption declines over retirement. But constraints also matter: wealthier and healthier households have relatively flat consumption paths, suggesting that constraints are at least in part driving the observed declines for the whole population. Declining consumption paths may also reflect differences in life expectancy; however, these results are less clear. Healthier individuals and women, for example, have longer life expectancies, so to the extent that consumption declines reflect different mortality profiles, healthier and married households within the top wealth tercile should also have flatter consumption paths. The results show that these healthy unconstrained households do have flatter consumption paths. And for the population as a whole, married couples have flatter consumption profiles.

This analysis shows that wealth and health are important determinants of consumption paths in retirement and that preferred consumption is likely much flatter than observed in the data. However, many questions remain, including whether consumption profiles continue to get flatter for the top quintile or decile, a clearer picture of whether survival expectations matter, or whether other factors such as risk aversion or bequest motives may determine consumption paths. Hopefully, as more years of data become available, a clearer picture will emerge.

Endnotes

1 Chen and Munnell (2021).

2 Palmer (2008) and Munnell, Chen, and Siliciano (2021).

3 See Banks, Blundell, and Tanner (1998), Bernheim, Skinner, and Weinberg (2001), Haider and Stephens Jr. (2007), and Aguila, Attanasio, and Meghir (2011).

4 Fisher et al. (2008) and Aguiar and Hurst (2013).

5 Aguiar and Hurst (2005).

6 Smith (2006) and Hurd and Rohwedder (2003, 2013).

7 Blanchett (2014) and Guo, Skinner and Zeldes (2018).

8 The authors define adequacy as the difference between annuitized pre-retirement income and annuitized retirement income with some other adjustments – something close to a replacement rate. Their results found that log-income before retirement was similar across adequacy groups.

9 Another potential reason for the decline suggested by preliminary data from Hudomiet, Hurd, and Rohwedder (forthcoming) is that retirees receive less enjoyment from consumption over time perhaps, the authors hypothesize, due to declining health, the loss of a spouse with whom to share activities, and increasing age itself.

10 We use administrative benefits and claiming data for individuals who can be linked and self-reported data for those who cannot be linked. While the CAMS was first administered in 2001, consumption categories were not consistent until 2005.

11 Guo, Skinner, and Zeldes (2018) included time relative to retirement dummies. Since our interest is in the consumption paths, rather than the difference between waves in retirement, we used a time trend with a quadratic term instead. For more details on the methodology, see Chen and Munnell (2021).

12 Durable goods represent a small share of consumption for most households.

13 Guo, Skinner, and Zeldes (2018) examined consumption paths for different adequacy groups, but other constraints may also influence households' consumption paths. The authors' definition of adequacy groups is similar to replacement rates. Lower-income households have higher replacement rates from Social Security. Since they are less likely to be able to cut back and have few outside assets to allow for consumption increases, mixing in low-income households with high-income households may make consumption paths for high adequacy groups look flatter than preferred. That is why our analysis uses wealth terciles instead.

14 The results from the PSID could not indicate whether the speed of decline changed through retirement, likely due to a smaller sample size.

15 These results are consistent with Guo, Skinner, and Zeldes (2018).

16 The results from the PSID did not show statistically significant differences in paths, likely due to limited sample size. We also looked at the top 20 percent and top 10 percent of the wealth distribution but, again, did not have enough power.

17 Individuals with good health also might have low discount rates if good health reflects health investments, which would also result in flatter consumption paths (see Grossman 1972).

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