1

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The Illusory Benefit of Working Longer on Financial Preparedness for Retirement

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share of households financially prepared for retirement by far less, chiefly because many older workers do not delay claiming Social Security benefits.

We do not claim the spreadsheet models' assumptions represent optimizing behavior or that failure to adhere to those assumptions is sub-optimal. Spreadsheet models assume away financial and labor market risk and can, at best, be regarded as a description of so-called optimal behavior under highly restrictive assumptions. However, we show that, for many, claiming may be consistent with optimizing behavior.

We acknowledge older households that work, but do not accumulate wealth, may prefer or need more consumption at their current age than at older ages. But our analysis shows that unsustainable pre-retirement consumption is not the norm. And we do not attempt to answer the counterfactual question – what would have happened to the wealth and preparedness of households that delayed retirement had they not delayed. Our contribution is to show that spreadsheet models do not describe actual behavior and that advice stemming from them has the potential to mislead both workers and policymakers.

Literature Review

In theory, working at older ages can substantially increase the likelihood of achieving a target retirement income. Claiming Social Security retired worker benefits at age 70 instead of age 62 increases benefits by at least 76 percent because workers avoid the reduction in benefits for claiming before the Full Retirement Age, currently age 66, and benefit from the Delayed Retirement Credit. The Social Security benefit boost is even greater if earnings past age 62 displace lower earning years in the calculation of Average Indexed Monthly Earnings (AIME) upon which Social Security benefits are based. In addition, workers who delay drawing down their 401(k) plans and instead continue to contribute will enjoy higher income from their plans in retirement because they can draw down a larger account balance over a shorter post retirement life-expectancy.

The advice to work longer in personal finance blogs e.g. Elkins (2019) often assumes older workers delay claiming and save more. All academic projections of the benefit of working at older ages -- for example, Bajtelsmit, Foster, and Rappaport (2013), Bronshtein, Scott, Sloven, and Slavov (2018), Butrica, Johnson, Smith, and Steuerle (2004), Butrica, Smith, Steurle and Schmidt (2007), Munnell, Golub-Sass, and Webb, (2011), Munnell, Hou, and Sanzenbacher (2019), and Munnell, Orlova, and Webb (2013) – also assume workers delay claiming Social Security. All except Bajtelsmit, Foster, and Rappaport (2018) assume increases in financial wealth, and only Butrica, Smith, Steurle, and Schmidt (2007) takes into account that earnings don't generally increase at older ages, instead parameterizing earnings projections to observed age-earnings profiles. Since the models use optimistic assumptions about claiming and saving it is not a surprise the studies project substantial increases in replacement rates – ranging from 5-9 percent a year (Bajtlsmit, Foster, and Rappaport, 2013; Butrica, Johnson, Smith, and Steuerle 2004; Butrica, Smith, Steurle and Schmidt, 2007), reductions in the share at risk of outliving their wealth (Bajtelsmit, Foster, and Rappaport, 2013), reductions in target savings rates from the impossible to the feasible (Munnell, Golub-Sass, and Webb, 2011), and substantial increases in the share of households able to achieve replacement rate targets (Munnell, Orlova, and Webb, 2013).

Data and Descriptive Statistics on Financial Preparedness for Retirement

The HRS is a nationally representative panel survey of household heads over the age of 50 and their spouses irrespective of age. The initial cohort comprised individuals born in 1931-41 or married to someone born between those years. These individuals have been re-interviewed every two years since 1992. The 1942-47 birth cohort was added in 1998, and subsequent birth cohorts were added in 2004, 2010, and 2016. We study individuals born 1931-47 who attained age 62 in 1993-2009 and who were also interviewed before and after their 62nd birthday.

The starting sample used in our analysis has 11,062 individuals. The sample is reduced by dropping 77 individuals who lack administrative and self-reported claims data as well as self-reported benefit receipt. We drop a further 974 individuals who have ever claimed Social Security Disability Insurance (SSDI), leaving a sample of 10,011, of whom 6,184 worked after age 62 and 3,827 never worked after age 62. Of the 6,184 workers, 2,655 were married men, 2,009 married women, 412 single men, and 1,108 single women, 2,434 were born in the 1931-36 cohort, 2,180 in the 1937-41 cohort, and 1,570 in the 1942-47 cohort. We follow these individuals until the earliest of death, exit from the survey without re-entry, and age 70 (in the wave closest to their 70th birthday).

We use administrative data on earnings and Social Security claim ages when available. The study classifies a person as working at each age from 62 to 70 if they do not report being fully retired at the interview date closest to the relevant birthday (workers are not asked what date they "retired"). We also consider individuals retired if they respond that the survey question eliciting retirement status is irrelevant. Self-reported retirement status is a good indicator of the strength of a person's attachment to the labor force. In the pooled cross section sample, of the 45 percent who report they were fully retired, only 4 percent worked for pay. Of the 26 percent who reported they were not retired almost all (91 percent) worked for pay. Another 17 percent report being partly retired, of whom 72 percent worked for pay. We treat this group as working. Finally, of the 12 percent who stated the question was irrelevant only 1 percent worked for pay. We treat this group as not working.

We follow Munnell, Orlova, and Webb (2013) and consider a worker financially prepared for retirement if they live in a household that could retire immediately on an income exceeding a replacement rate target drawn from the Georgia State University/AON RETIRE Project (Georgia State). We acknowledge heterogeneity in preferences and circumstances and that the Georgia State model makes many simplifying assumptions, so that achieving a

replacement rate target is not synonymous with utility maximizing behavior. We use replacement rate targets solely to benchmark age-related trends in financial preparedness for retirement. We chose the Georgia State target not because of any superiority to similar targets or to intertemporal optimization model such as Scholz, Seshadri, and Khitatrakun (2006), but to facilitate comparison with Munnell, Orlova, and Webb (2013) who use the same benchmark.

The Georgia State replacement rate targets vary with labor market earnings and household composition – for example, low earner households need higher replacement rates than higher earners (see Appendix Table 1). Georgia State use Consumer Expenditure Survey data to estimate age- and work-related expenses that vary with income, marital status, and number of earners. Georgia State replacement rate targets assume 2008 tax law, a retirement age of 65, and an actuarial reduction for early claiming relative to a Social Security Full Retirement Age of 66. The Georgia State denominator is pre-retirement earnings. For consistency with Munnell, Orlova, and Webb (2013) we use a slightly different denominator, the sum of Average Indexed Monthly Earnings (AIME) of both spouses at the time the head turns age 62.[2] For typical households, AIME approximates to the last five years of substantial earnings, essentially the Georgia State rate denominator (Goss, Clingman, Wade and Glenn, 2014). In retirement, households receive income from Social Security, employer pensions, annuitized financial wealth, and in one specification, income from a reverse mortgage. The construction of the income sources is described in the appendix.

We use an alternative absolute target of 200 percent of the Federal Poverty Level, $12,140 for a single individual and $16,460 for a couple in 2019. We view an income of 200

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[2] The AIME calculations are capped at the Social Security taxable maximum ($132,900 in 2019) and may therefore overstate the financial preparedness of very high earners. The Georgia State replacement rate targets will be too high for households whose earnings increase rapidly with age and too low for households whose earnings decline at older ages.

percent of the Federal Poverty Level as the minimum required to avoid de-facto poverty. The Federal Poverty Level excludes imputed rent and since homeowners need lower cash incomes than renters to stay out of *de facto* poverty we deduct imputed rent from our yardstick (we assume imputed rent is 4 percent of the house value).[3] Since deducting imputed rent may leave owners of valuable houses with inadequate cash incomes we cap the deduction for imputed rent at three sevenths of cash income, equivalent to spending 30 percent total income on housing, and to a house value of $350,000 for a couple with a cash income of 200 percent of the Federal Poverty Level.

We divided individuals over age 62 into four groups, those who are 1) financially prepared for retirement and working; 2) prepared for retirement and retired; 3) not prepared for retirement and working; and 4) retired and not prepared. Although we focus on individuals, we determine household financial preparedness for retirement at the household level. Among the sample of men and women ages 66, 11 percent are in the first group; 22 percent in the second; 24 percent in the third, and 43 percent in the last. At age 66, 67 percent, retired or not, are financially unprepared for retirement (see Table 1).

Insert Table 1

We examined the characteristics of each group and focus on educational attainment and race – used as proxies for socioeconomic class – and retirement plan coverage and type (see Appendix Table 2A and 2B for the sample descriptive statistics for men and women at ages 62, 66, and 70). In the following two paragraphs we focus on men. Women and men's patterns are similar. Unless otherwise noted, the highlighted differences are significant at the 5 percent level.

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[3] For a discussion of imputed rent, see Poterba and Sinai (2008). Our 4 percent is net of maintenance, insurance, and property taxes, which must be paid by homeowners, but not renters.

At all ages, workers who are financially prepared for retirement have the highest level of educational attainment (65 percent have a college degree). The next-highest group are financially prepared retirees (49 percent with a college degree), then unprepared workers (29 percent), and finally unprepared retirees (15 percent). The ordering is reversed for men with less than a high school education.

The share of men age 62 having both DB and DC plans follows the same ordering as for college education (39, 25, 24, and 14 percent; the middle two figures are not significantly different from each other), and the same reverse ordering is observed among men with no retirement plan at age 62 (8, 13, 27, and 37 percent). Among workers and non-workers, Blacks constitute a larger share of the financially unprepared. At age 62, black men constitute 9 and 7 percent of financially prepared workers and non-workers, respectively, but 18 and 12 percent of unprepared workers and non-workers.

Methodolog*y*

Econometric analysis. We investigate the impact of work at older ages on financial preparedness for retirement as follows: first, to identify correlates of preparedness in cross section, we estimate the following probit model using a cross section of workers at all ages:

$$P(Y=1 \mid X) = \phi(XB) \qquad \qquad (1)$$

where Y takes the value one if the household can meet its replacement rate target (and its absolute target of 200 percent of the Federal Poverty Level), zero otherwise, and X is a vector of socioeconomic variables that may be correlated with financial preparedness for retirement.

People working at older ages may become a more select group as they age, but the direction of bias is unclear. Older workers may be either highly-educated and financially well-prepared; or just as possible, those most desperate for extra income. To control for selection, our second analysis uses the HRS data in panel format to calculate the age-related