

NBER WORKING PAPER SERIES

HOW IS ECONOMIC HARDSHIP AVOIDED BY THOSE RETIRING BEFORE THE
SOCIAL SECURITY ENTITLEMENT AGE?

Kevin S. Milligan

Working Paper 18051
<http://www.nber.org/papers/w18051>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
May 2012

This research was supported by the U.S. Social Security Administration through grant #5RRC08098400-03-00 to the National Bureau of Economic Research as part of the SSA Retirement Research Consortium. The findings and conclusions expressed are solely those of the author(s) and do not represent the views of SSA, any agency of the Federal Government, or the NBER. There are no other relevant or material financial relationships with respect to this paper.

The author has disclosed a financial relationship of potential relevance for this research. Further information is available online at <http://www.nber.org/papers/w18051.ack>

NBER working papers are circulated for discussion and comment purposes. They have not been peer-reviewed or been subject to the review by the NBER Board of Directors that accompanies official NBER publications.

© 2012 by Kevin S. Milligan. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

How is Economic Hardship Avoided by Those Retiring Before the Social Security Entitlement Age?

Kevin S. Milligan

NBER Working Paper No. 18051

May 2012

JEL No. J14,J26

ABSTRACT

Governments around the world are reacting to extended lifespans and troubled pension finances by increasing the age of retirement benefit entitlement. One concern that arises is how those who are not working before reaching entitlement age are able to bridge their consumption to the age of entitlement. This paper studies those who retire before the age of full pension entitlement in the United States using data drawn from the Health and Retirement Study. The major finding is that four out of five people who have zero earnings at pre-entitlement ages are able to find a way to lift their incomes over the poverty line. For men, pension and annuity income is important while for women, spousal income helps most to get them over the line. Reaching the early retirement entitlement age at 62 also has a significant impact on poverty avoidance.

Kevin S. Milligan

Department of Economics

University of British Columbia

#997-1873 East Mall

Vancouver, BC V6T 1Z1

CANADA

and NBER

kevin.milligan@ubc.ca

1. Introduction

Countries around the world are reacting to long-term balance problems in public retirement income programs with a variety of measures. Moving entitlement ages at which people begin to receive benefits is one of these measures. For example, Germany will be phasing in an increase from age 65 to 67 over the years from 2012 to 2029. In the fall of 2010, the French proposal to move the retirement age from 60 to 62 was met with widespread protest. Similar reforms have been contemplated or planned for Spain, Denmark, the United Kingdom and elsewhere. In the United States, the normal retirement moved from 65 to 66 over the previous decade and is scheduled to rise further to 67 for those born in 1960 or later. The early retirement age is scheduled to stay at age 62, however.

In all countries, concern about movements in the retirement age centers around a worry that those who are not working before the age of entitlement will suffer. The goal of this paper is to address the concern about hardship among those not working at ages before benefit entitlement in the United States. Specifically, the paper will address three questions. First, who retires early? Second, what are the sources of income during this transition to retirement—especially for those not working before the age of entitlement? Third, how do non-workers avoid hardship?

The approach taken here is to study cohorts of Americans working at late-career ages and follow them into retirement ages. The data set used for this analysis is the Health and Retirement Study, which focuses on older workers and the elderly over the time period from 1992 to 2008. These data combine information on the work environment with detailed income and wealth data, facilitating the answering of the questions posed.

There are several findings of interest. Foremost of these is that four out of five of those who have zero earnings in the age 55 to 66 age range are able to put together incomes to take them over the poverty line. For men, pension and annuity income is quite important, while for women spousal income sources play the largest role. Reaching the early retirement age for Social Security benefits at age 62 alleviates poverty among those with no earnings. Finally, there is some indication that assets are used to bridge consumption into retirement, as a notable fraction of those with higher asset levels report low levels of income at pre-entitlement ages.

The paper is structured as follows. I start by placing this research in the context of existing research on the incomes of the near-elderly. I provide a brief description of government income transfers to furnish the institutional context. I then describe the empirical approach and the data in more detail. With these steps complete, the results are then presented, looking sequentially at who retires early, the composition of incomes, and the avoidance of hardship.

2. Related research

Interest in this research question comes from two directions. First, there is concern that retirement before the age of public pension entitlement can lead to exaggerated economic hardship. (See, for example, Munnell et al. 2004.) Second, the ‘retirement consumption puzzle’ (see Banks, Blundell, and Tanner 1998; Hurst 2008) has focused economists’ attention on the particulars of the transition from work to retirement. In particular, Milligan (2008) and Baker, Gruber, and Milligan (2009) find evidence of a divergence between income and consumption based measures of hardship in Canada at near-retirement ages, suggesting that consumption smoothing through the transition may be occurring in spite of temporarily low income levels.

The question and methodology used in this paper is similar to the analysis performed on Canadian data in Milligan (2010) and Milligan (2011). Beyond the focus on American data and institutions in the current paper, this paper is also distinguished by the ability to include analysis of assets, since the Canadian data do not contain asset or debt information.

Engelhardt and Gruber (2004) also study poverty among the elderly and the role Social Security plays in poverty alleviation. However, the paper most similar to the work in the current paper is by Johnson and Mermin (2009), who also study economic hardship during the transition to retirement. The focus in that paper is on the impact of employment and health shocks on hardship in the pre-entitlement years. In contrast, in this paper I do not focus on the source of the lack of employment earnings but instead cast attention more directly on the sources of income used by those not working to understand how—and how much—hardship is avoided.

3. Benefit programs for older workers in the United States

In this section I briefly describe the different sources of government benefit income for older Americans. I focus in particular on the ages at which benefit entitlement is earned. The discussion begins with Social Security, and then moves on to unemployment insurance, workers' compensation, and other benefits.

The bulk of government-provided retirement income comes through Social Security retirement benefits. Earnings from the best 35 years are translated into a wage-adjusted average called the Average Indexed Monthly Earnings (AIME). This amount is then pushed through a progressive benefit formula that pays 90 percent for the first tier of AIME, 32 percent for the second, and 15

percent for the rest. The resulting Primary Insurance Amount is the benefit that would be paid if someone retired at the normal retirement age. For those retiring earlier, the Primary Insurance Amount is adjusted using an actuarial factor to account for the length of time benefits are expected to be received. The first age at which benefits can be taken is age 62, and the maximum adjustment is 30 percent. Retirement after the normal retirement age (up to age 69) generates entitlement to the delayed retirement credit, currently at eight per cent per year of delay. These benefits are partially taxable. Surviving spouses receive a partial benefit, and there is also a small death benefit. Around 94 percent of workers are covered by Social Security, with railroad and state and local government employees accounting for most of the uncovered. The average benefit for retired workers is around \$1180 per month.

In addition to retirement benefits, Social Security provides disability insurance (SSDI) to qualifying individuals unable to work. One needs to have worked a certain amount to become eligible, and also the disability must be deemed severe enough to warrant benefits.¹ At the normal retirement age, the SSDI payments are transformed into retirement benefits. Current average monthly benefits are around \$1,070.

The Supplemental Security Income (SSI) program is available to those without other resources who are age 65 or older, blind, or disabled. This program is subject to a tight asset test (\$2,000 for individuals; \$3,000 per couples) and also an income test. The average monthly benefit is around \$500.

¹ The two tests are a) inability to do any 'substantial work because of your medical condition(s)' and b) the condition(s) must be expected to last at least one year (or be expected to result in death).

In addition to the above federally-administered benefits, there are also several state-administered benefits for which older workers may be eligible. Those who have worked but are now out of a job can be eligible for state-run unemployment insurance schemes. Benefits are typically for a fixed duration.² Some states have public workers' compensation, but most states mandate private insurance coverage for employers.

4. Empirical Approach

In this section I set out my empirical approach and also some definitional issues. The empirical approach is straightforward and is guided by the questions posed in this paper. I form measures of retirement, income, and hardship. These measures are then analyzed through graphs and descriptive regressions.

The regression equation to be estimated is:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{i0} + e_{it}$$

where:

i indexes individuals

t indexes time

Y_{it} is the outcome, either retirement or hardship

X_{it} is a vector of characteristics at time t

² Extensions of unemployment insurance eligibility to 99 weeks and beyond happened after the last year I use for the HRS, which is 2008.

X_{i0} is a vector of characteristics at time 0, when the individual is first observed.

Estimation is by Ordinary Least Squares, which in the case of binary dependent variables becomes a linear probability model.³ The standard errors for the regressions are adjusted by clustering on individuals, and the use of the robust adjustment to account for heterogeneity.

The unit of observation for most of the analysis is the individual. This choice derives from the questions posed in the introduction. The goal of the paper is to examine the welfare of those who are not working in ages before public pension entitlement. Working (or not) is an individual concept, so the focus on the individual is natural. Information on the individual is supplemented by information on his or her spouse and some other family characteristics.

A vexing problem is the definition of retirement. Borland (2004) developed a conceptual framework for defining retirement, while Denton and Spencer (2009) review the issues that arise in choosing a definition. I guide my choice by the focus of the question posed in the introduction. The concern is for the wellbeing of those not working during their pre-entitlement years. Whatever the reason for not working, it is the set of people not working that is the target of policy concern. Whether they are not working because of unemployment or because of a choice to retire early, the source of income and wellbeing at these ages is the focus of this paper. This focus motivates the choice of a zero-earnings definition for retirement.

³ Estimation using a probit shows very similar parameter estimates.

I supplement this zero-earnings definition with two others. One is a self-assessed retirement measure, drawn from the question on labor force activity.⁴ The second is to allow for some earnings by marking as retired only those who have their major source of income from a category other than labor market earnings.⁵ I use these alternative definitions to check the sensitivity of the results.

5. Data

The dataset employed in this paper is the Health and Retirement Study (HRS). The HRS is a panel dataset that follows older workers from work into retirement. It combines information on labor market activity with questions on incomes health, and wealth, in addition to the normal demographic controls. Five cohort groups are stacked together within the HRS, providing a broader age range across years. I use the processed files for the HRS provided by RAND, version K. The RAND HRS is organized into 9 biannual waves, from 1992 to 2008.⁶ I use all of the available waves, and always use the provided sample weights.

For most of the analysis, the target range for ages is 55 to 66. Those under 55 are too far from retirement ages to be of interest for the questions posed here. Those over age 66 have reached the normal retirement age and are therefore outside the focus. For much of the analysis, I condition on having worked at ages 53/54. This allows me to capture the baseline work characteristics as the individuals enter the panel. Again, this is motivated by the focus of the paper—how people

⁴ Those out of the labor force are asked why. One of the coded responses is for retirement.

⁵ The two other categories I form are government incomes and non-labor private income (pension and capital income).

⁶ Data for the AHEAD cohorts from 1993 and 1995 is combined with the original HRS cohorts for 1994 and 1995.

who stop work before pension entitlement manage to survive. The welfare of those who were not working as they enter near-retirement ages is important, but not relevant for the question at hand.

From the raw data, I form the variables used for the analysis. Most variables are taken directly from the coding provided in the RAND K version. I make two noteworthy modifications. First, I capture work and some personal characteristics at ages 53/54 and attach these characteristics to all future observations available between ages 55 and 66. This allows me to control for these factors without worrying about the endogeneity of these factors to work decisions. Second, I create several aggregations of the provided income variables. These aggregations are earnings, non-labor private income, and government income.⁷ These aggregations together sum to the total income measure provided in the raw data.

Some descriptive statistics for the sample are provided in Table 1 and Table 2, for women and men respectively. All dollar values have been transformed to 2008 dollars using the CPI-U.

Income and wealth measures have both the mean and median reported, along with the standard deviation. For binary variables, I report just the proportion. Across the tables I show the values for the full sample of 55 to 64 year olds, (including only those who worked at ages 53-54), and then restrict the sample to zero earners for the second column. The third and fourth columns show values for further subsamples of zero earners: those under the poverty line and those who are covered by an employer-provided pension when they are observed at ages 53-54. Further

⁷ Earnings comprises wages, bonuses, tips, overtime, and commissions. For non-labor private income, I include capital income (including from a business), annuity and employer pension income, and ‘other’ income (includes pension and insurance lumpsums, alimony, and inheritance; does not include income from friends and family). Government income includes Social Security DI, Social Security retirement/widow/spouse, unemployment insurance / workers’ compensation, and other government transfers (food stamps, welfare, and veterans’ benefits).

descriptive statistics are provided in the Appendix tables. There are 3,351 women in total in the sample, with 14,644 total observations. For men, the numbers are 2,859 and 12,670.

At these ages, earnings for women represent over half of total income. Non-labor private income is another third, but government income plays a small role at the mean and median. Only 4.9 percent of these women live in families below the federal poverty line. Twenty-seven percent of the observations report zero earnings, but only 17 percent are self-reported retired. Over a third of the women have a source other than earnings as their major source of income.

The next set of variables looks at workplace characteristics. Workplace pensions are reported for 59.5 percent of women, and 28.5 percent have defined benefit pensions. These employed women are typically covered by employer-provided health insurance, with 84.8 percent coverage. Two thirds of the women report job-related stress, and 63.8 percent report their work has some physical aspect to it. On average, the women have worked for 27.9 years.

The same variables are reported for men in Table 2. Earnings overall are higher for men than they were for women, and earnings makes up a bigger share of total income at the averages. Poverty rates and the retirement measures are comparable to those reported by women. The job characteristics are also quite similar to those seen for the women, except for average years worked which is higher.

6. Results

The results are presented in a series of graphs and tables. The description of these results is organized corresponding to the three questions that motivate the paper: characterizing who

retires early, watching the evolution of income distribution and sources over these ages, and how hardship is avoided.

6.1 Who doesn't work before age 67?

A comparison of the proportion of women not working at each age is presented in Figure 1, using all three definitions. The sample here includes everyone age 51 to 70, including those who may not be working at age 53/54. The age trend of all three measures is similar, but the level for the major source definition is about twice as high. This results from people who are employed less than full-time, full-year who have other sources of income but have not completely withdrawn from employment. The zero-earnings definition shows a slightly higher rate than the self-reported definition. This is consistent with people who do not work at all but do not consider themselves retired, such as the long-term unemployed or people who are disabled. For the patterns through time, there is a quick rise around age 62, the age of Social Security retirement benefit entitlement, and a leveling out after age 65.

The same data for men are presented in Figure 2. The trends are, similar to the women, comparable for the three definitions. The jump at age 62 is a bit more pronounced for men than for women.

To delve further into non-work at these ages, I run regressions using the regression model explained earlier. The three columns in Table 3 use as dependent variables the three definitions of non-work for women. The coefficients and standard errors for the variables included in the

model are listed in the rows, spread across the two pages of the table. The first set of variables is a set of age dummies for ages 56 to 66, with age 55 left out. All three definitions show increasing propensity to stop work as people get older, and that the impact of aging is large. For the first model in Table 3 the r-squared is 0.163—but with only the age dummies the r-squared is still 0.083. The coefficients for race show no strong patterns, but education shows a sharp difference between high-school dropouts (the left-out category) and the other three categories, with higher education women being less likely to stop working. Having employer-provided pensions or health-insurance tends to decrease non-work, although defined-benefit pensions do increase non-work (likely because of the incentives embedded in the benefit formulas). Neither stressful nor physically demanding jobs predict exit. Having an employed husband tends to decrease non-work, but if he is employed full time the probability of not working increases. Finally, those with more non-housing net worth measured at age 53-54 are more likely to be not working, although the effect is rather small, at 6.8 percent points per million dollars in the zero-earnings definition.

The male results presented in Table 4 show some strongly different patterns. The results for age and race are very similar to women. However, there is no difference across education groups for men. The impact of spousal employment is also different for men, as there is no impact visible of having a wife who was working when the man was age 53-54 on non-work at older ages.

Overall, this evidence suggests that demographics and workplace characteristics other than pensions do a relatively poor job of explaining retirement at pre-entitlement ages. Breaking the sample into 55-61 and 62-66 blocks produces similar results to those presented here. The

dominant factor is age—capturing taste and wealth factors that are correlated with aging but not otherwise included in the model.

6.2 Income distribution before age 67

The next question to be addressed is the distribution and composition of incomes in the years before benefit entitlement age. How do these sources change as benefit entitlement age approaches? The analysis begins with a quick look at the overall total income distribution, and then proceeds to several graphs exploring the composition of income.

In Figure 3 and Figure 4, I show several moments of the distribution of total income for women and for men. At the median and above, there is a clear downward trend in incomes with age. In a further cut of the data not shown here, this is driven by those not working, who have lower incomes. For those still working, the income distributions look much more flat with age. At the bottom of the distribution, there is an increase starting at age 62—the age of Social Security retirement entitlement. The gap between the 10th and 25th percentiles closes noticeably.

Combined, the data exhibit a clear compression of the income distribution at older ages as retired higher earners begin living off their normally-lower retirement incomes and those at the bottom of the distribution reach ages of Social Security entitlement.

Having looked at the levels of income, I now turn to the composition of income. Figure 5 and Figure 6 show the breakdown of total income into the three aggregates of income at each age from 55 to 66. These graph the average income share across individuals. Earnings makes up the majority of income for women until age 60 and men until age 62. At age 62 for both men and

women, the share of government income starts growing strongly. Non-labor private income sees its share go down after age 62, but not substantially. The next graphs break down the government income and the private non-labor income to understand better the reasons for these patterns.

Figure 7 and Figure 8 look into the sources of government income for women and for men. The graphs show the proportion of women and men who are in receipt of any of the listed sources of income. Social Security DI, unemployment insurance, and other government sources are fairly constant for both men and women. The immediately obvious effect in both graphs is the widespread receipt of Social Security retirement benefits after age 62.⁸ It is Social Security retirement benefits that drive the government income shares seen in Figure 5 and Figure 6

The same analysis is repeated for non-labor private income in Source: Author's calculations using the HRS.

Figure 9 and Figure 10. Capital income is received by over 60 percent of both men and women.⁹ However, the amount of capital income is fairly small for most people. Among those with any capital income, the median for men is around \$3,000 at all the ages in this range, while for women it is around \$2,000. Pension and annuity income incidence grows steadily for both men and women across ages, but more sharply for men. The amounts of pension and annuity income are quite a bit larger than the other sources. At the median among those with any pension and

⁸ Recall that the HRS groups together retirement, spousal, and widow benefits as 'retirement'. Since more women outlive their husbands than the reverse, this explains why more women are receiving Social Security retirement before age 62 than are men.

⁹ For capital income and other income, only couple-level aggregates are provided. For people living in couples, I split the capital and the other income in equal halves for the husband and wife.

annuity income, men receive around \$20,000 across the ages of concern here, and women around \$10,000.

This analysis has revealed three major findings about the distribution and composition of income at ages approaching retirement. First, the income distribution compresses across ages as the retirement of those in the top half of the income distribution lowers their income and those at the bottom see their incomes rise when they reach age 62 and become eligible for Social Security retirement benefits. Second, government income is small in aggregate until age 62, when Social Security retirement benefits take a large and important position in total income. Third, non-labor private income is fairly widely held, but the distribution is skewed. This skewness is strong for capital income, but more muted for pension and annuity income.

6.3 How poverty is avoided

The analysis in the previous section makes clear the important role played by Social Security income after reaching age 62. However, a not insubstantial proportion of Americans are not working at ages earlier than 62. What sources of income are important for these early retirees? In this subsection, I examine this question. First, I show the rates of poverty for several interesting groups. I then conduct an accounting exercise to see what sources of income lift the non-working men and women in the sample above the poverty line. Finally, I run descriptive regressions to explain the characteristics of those who are more likely to be under the poverty line, among those not working.

The proportion of women living in families under the poverty line is graphed in Figure 11, and men in Figure 12. I show the level for all observations, and then just among zero earners. I also then split the zero-earners into those with and those without a workplace pension when observed earlier at age 53/54. For women, the rate of poverty across the entire age range is fairly constant at around 10 percent; although there is a slight increase at age 61 just before entitlement to Social Security Retirement benefits. For zero-earners, the poverty rate is more than twice as high until age 61 when the gap is narrowed somewhat. The poverty rate for those with a pension is substantially higher than those without. The trends for men in Figure 12 are very similar, except that there is no discernible dip at age 62 like there is for women.

To take another look at the poverty rates, I decompose the sample of women and men into groups by the level of non-real estate net wealth. This more liquid measure of wealth allows a view of which households have savings that can be more easily accessed to fund living expenses. It is possible that those retiring before the age of benefit entitlement are doing so because they have sufficient assets to draw down to allow them to live comfortably. These poverty lines are graphed in Figure 13 and Figure 14.

The non-working women in Figure 13 have an overall poverty rate declining from over 20 percent to 11 percent by age 66, with a particular jump up at age 61 and down at age 62. For those with less than \$20,000 in non-real estate net wealth (making up 55 per cent of the sample) the rate follows the same path—but at a higher level than the non-workers. For those with levels of non-real estate net wealth over \$20,000, poverty is under ten percent and doesn't change substantially with age.

The men are graphed in Figure 14. For the whole sample of non-workers, poverty is just under 20 percent across younger ages, declining noticeably after age 63. For the 53 percent of the sample with less than \$20,000 in non-real estate wealth, poverty rates are higher, but follow the same pattern with age. For those with greater levels of non-real estate wealth, however, the poverty rates are not monotonic with wealth. The rate among those with \$20,000 to \$100,000 of non-real estate wealth bounces between 0 and 10 percent. In contrast, for those with \$100,000 to \$300,000, more than 10 percent of those under age 62 are not reaching the poverty threshold. Poverty rates for the 10 percent of the sample with more than \$300,000 are very small. This suggests that there is a set of families who do use assets to bridge their consumption until reaching the age of Social Security entitlement. These families show up with incomes under the poverty line, but have fairly substantial levels of assets—the \$100,000 threshold is at the 76th percentile of the distribution of this measure of wealth.

To dig deeper into the avoidance of poverty at these ages, I conduct an accounting analysis on those who are not working at ages 55 to 66. The goal of the accounting exercise is to gain a deeper understanding of how the individuals who are not working are able to avoid living in poverty. The policy concern that motivated the paper was a worry that those retiring before the age of Social Security retirement might suffer until their Social Security benefits begin to flow. The accounting analysis addresses this question directly by showing whether and how poverty is avoided.

I take each source of income, and several aggregates, and see how important each source is to the avoidance of poverty. In doing so, I am limited in certain ways by the data available in the HRS as the income definitions differ from those used for the income definitions for poverty. For example, the other government income category contains income from food stamps, but this is not included in the income definition for poverty. Similarly, capital gains income should be excluded. Also, the HRS provides income data only for the couple, while the income definition for poverty includes other household members' income as well. These shortcomings must be kept in mind as the accounting analysis is interpreted.

Table 5 presents the accounting analysis for women. Going down the table, I list the income categories and the aggregates. As I reach the bottom of the table, I report the results both for total HRS couple income and for the income level used for the poverty line, as provided by the HRS. The columns of the table show first the proportion of women with a positive value for the income measure, and then the median among the positive values. The last three columns show the proportion of women for whom that income measure, taken by itself, lifts the family above the poverty line. This is shown for the whole age 55-66 sample, as well as for subsamples by age of 55-61 and 62-66.

Capital income assigned to the women is present for 64 percent of women, but the level at the median is fairly small. Still, 18.3 percent of women are lifted out of poverty by capital income alone. Other income is not widespread and lifts few above the poverty line. Pension and annuity income is received by 16.7 percent of women, and this lifts only 7.3 percent above the poverty line. Social Security DI and retirement benefits are received by around one fifth and one third of

women, respectively. However, neither plays a large role in lifting women out of poverty—although retirement benefits do much better after age 62, naturally. Total government income overall lifts only 9.8 percent out of poverty, although this source is more than twice as important after age 62 as before it. Much more important for women are spousal sources of income. Labor earnings, non-labor sources, and government income of the husband together lift 55.7 percent of women over the poverty line, with each of these three components making a substantial contribution. Using the total couple income as reported in the HRS, 74 percent of women overall are lifted out of poverty. In the last row, the income measure used for the official poverty line calculations is shown, which lifts a further 7.6 percent out of poverty.

The accounting analysis is repeated for men in Table 6 and the results are quite different. Capital income alone lifts 25.9 percent of men above the poverty line. Pensions and annuity income is more than twice as important for men as it was for women, with 16.9 percent overall and 22.7 percent of those over age 62 lifted above the poverty line. Social Security DI is a more important source for men than it was for women, with 8.5 percent lifted out of poverty on that source alone. Social Security retirement benefits are also more important for men than for women, with 27.9 percent (compared to 10.9 percent of women) lifted out of poverty. Spousal income for men, however, is less important than it was for women. In particular, the government income of wives is much less important to husbands as was the government income of husbands for their wives. Overall, 80.7 percent of nonworking men have HRS couple income above the poverty line. When using the official income measure for poverty, this proportion is increased further to 84.7 percent. As with women, roughly 4 out of 5 men who are not working at these pre-entitlement ages still find a way to have incomes above the poverty line.

The final step in the analysis of poverty here is to run regressions using the poverty indicator as the dependent variable and the same set of explanatory variables as was used in the previous regression analysis. I present these results separately for women and for men, using the full sample and the sample of zero-earners.

The regression results for women are in the first two columns of Table 7. In the full sample, age does not have a big influence on being in poverty. The one exception is a small spike at age 61, just before benefit entitlement for Social Security. In contrast, the pattern of age coefficients for the sample of zero-earners is stronger. There is a very large 11.6 percentage point spike at age 61. More generally, poverty appears to be more muted after age 62. Re-running this regression with the full set of age dummies replaced by an over/under age 62 dummy gives a significant coefficient of -0.057 (0.018). This suggests that zero earners before age 62 are more likely to end up in poverty than those after age 62. Among the other variables, education lowers the probability of being in poverty, as does being an immigrant. However, being black tends to increase poverty rates, all else equal. Being married has a strong negative effect on poverty in the zero-earning sample. This is consistent with the accounting exercise which found a very important role for spousal income. Workplace characteristics don't seem to matter much.

The male results are in the last two columns of the table. The results are very similar to the females, showing a stronger propensity of zero-earners under age 62 to be in poverty. Using the single over/under age 62 dummy again, the coefficient is -0.053 (0.021).

The analysis of poverty has revealed several important findings. Foremost is that around 4 out of 5 of people not working at ages 55 to 66 are able to avoid poverty through some combination of government and non-labor private income. For women, spousal income is quite important. For men, Social Security and pension and annuity income is important. There is some evidence that those with zero earnings before the early retirement age of 62 are more likely to suffer from poverty. Finally, there are indications that some families with high asset levels use the assets to bridge their consumption to pension entitlement ages and thus show up as being temporarily in poverty in spite of their high asset holdings.

7. Conclusions

This paper has addressed the wellbeing of Americans who are not working during the ages just before entitlement to Social Security retirement benefits. Early retirement (and non-work) is fairly prevalent, but is not easily explained by workplace characteristics or demographics. The incomes of those not working at these ages before entitlement are compressed. Social Security benefits play a large role for incomes after age 62, while pension and annuity income is more important for men than for women. Poverty among those who retire early is fairly high, but is mitigated in four out of five cases by some combination of non-labor private income and government benefits. Among those remaining in poverty, Social Security entitlement at age 62 offers some respite.

Future research will look more deeply at those who avoid poverty at pre-entitlement ages. How prevalent is asset draw down among this group? Does health play a large role? Answers to these

questions will help to understand the implications of future policy reforms that may change retirement benefit entitlement ages.

References

Baker, Michael, Jonathan Gruber, and Kevin Milligan (2009), "Retirement income security and wellbeing in Canada," NBER Working Paper No. 14667.

Borland, Jeff (2005), "Transitions to retirement: A review," Melbourne Institute Working Paper no. 3/05, pp. 1-34.

Denton, Frank T. and Byron G. Spencer (2009), "What is retirement? A review and assessment of alternative concepts and measures," *Canadian Journal on Aging*, Vol. 28, No. 1, pp. 63-76.

Engelhardt, Gary V. and Jonathan Gruber (2004), "Social Security and the evolution of elderly poverty," NBER working paper No. 10466.

Hurst, Erik (2008), "Understanding Consumption in Retirement: Recent Developments," in John Americks and Olivia Mitchell (eds.) *Recalibrating Retirement Spending and Saving*. Oxford: Oxford University Press.

Johnson, Richard W. and Gordon B.T. Mermin (2009), "Financial hardship before and after Social Security's eligibility age," manuscript. The Urban Institute.

Milligan, Kevin (2008), "The evolution of elderly poverty in Canada," *Canadian Public Policy*, Vol. 34, No. 4, pp. S79-S94.

Milligan, Kevin (2010), "Incomes in the transition to retirement: Evidence from Canada," manuscript for NBER/Retirement Research Consortium.

Milligan, Kevin (2011), "Employer-provided pensions, incomes, and hardship in early transitions to retirement," draft manuscript.

Munnell, Alicia H., Kevin B. Meme, Natalia A. Jivan, and Kevin E. Cahill (2004), "Should we raise Social Security's earliest eligibility age?" Center for Retirement Research Issue in Brief, Number 18.

Table 1: Descriptive Statistics for Women

		All	Just Zero-Earners		
		observations	All	Under Poverty Has pension	
Number of observations		14644	3676	347	1589
Earnings	Mean	28697	0	0	0
	Median	21656	0	0	0
	Std.Dev.	(35725)	(0)	(0)	(0)
Non-labor private income	Mean	16471	26343	1364	28082
	Median	1410	6267	0	6463
	Std.Dev.	(50702)	(68021)	(3015)	(84254)
Government income	Mean	1732	3858	3331	5123
	Median	0	0	158	158
	Std.Dev.	(4604)	(5974)	(4153)	(6587)
Total income	Mean	46899	30201	4695	33205
	Median	33000	12772	3919	14316
	Std.Dev.	(62731)	(67541)	(4540)	(83800)
Couple income	Mean	90231	75780	6415	77456
	Median	63428	44771	6141	44159
	Std.Dev.	(115445)	(120324)	(5061)	(131369)
Below poverty	Proportion	0.049	0.122	1.000	0.118
Zero earnings	Proportion	0.271	1.000	1.000	1.000
Self-assessed retirement	Proportion	0.171	0.475	0.530	0.677
Earnings not major source	Proportion	0.367	1.000	1.000	1.000
Workplace pension	Proportion	0.595	0.426	0.440	1.000
Defined benefit pension	Proportion	0.285	0.218	0.221	0.526
Government insurance	Proportion	0.037	0.053	0.064	0.031
Employer insurance	Proportion	0.848	0.762	0.660	0.979
Stress on job	Proportion	0.666	0.620	0.621	0.739
Physical job	Proportion	0.638	0.671	0.753	0.648
Years worked	Mean	27.9	26.6	25.6	28.8
	Std.Dev.	(8.9)	(9.9)	(10.3)	(7.9)
Non-housing wealth	Mean	83668	90727	44917	99484
	Median	13128	14528	8	19813
	Std.Dev.	(230308)	(249096)	(194398)	(222364)

Note: Data are from the HRS. Reported are descriptive statistics of several variables from the sample. The first column shows the whole sample of people working at age 53/54. The next three columns use a subsample of zero earners. The third column restricts the sample to those with zero earnings under the poverty line. The fourth column restricts the sample to zero earnings with a workplace pension at age 53/54. All workplace characteristics are recorded at age 53/54.

Table 2: Descriptive Statistics for Men

		All	Just Zero-Earners		
		observations	All	Under Poverty	Has pension
Number of observations		12670	3055	241	1527
Earnings	Mean	50277	0	0	0
	Median	37379	0	0	0
	Std.Dev.	(135928)	(0)	(0)	(0)
Non-labor private income	Mean	24473	43920	1033	49524
	Median	2741	21086	0	19130
	Std.Dev.	(120332)	(149958)	(2501)	(206597)
Government income	Mean	2802	6147	2930	8175
	Median	0	0	0	0
	Std.Dev.	(7836)	(10686)	(4136)	(11656)
Total income	Mean	77551	50066	3963	57699
	Median	53856	28038	2294	29300
	Std.Dev.	(221852)	(149523)	(4315)	(205996)
Couple income	Mean	115232	93055	5788	96188
	Median	78000	54495	5542	49787
	Std.Dev.	(288571)	(177584)	(5199)	(230632)
Below poverty	Proportion	0.045	0.115	1.000	0.099
Zero earnings	Proportion	0.268	1.000	1.000	1.000
Self-assessed retirement	Proportion	0.166	0.443	0.602	0.642
Earnings not major source	Proportion	0.345	1.000	1.000	1.000
Workplace pension	Proportion	0.675	0.496	0.461	1.000
Defined benefit pension	Proportion	0.336	0.274	0.256	0.560
Government insurance	Proportion	0.042	0.050	0.041	0.059
Employer insurance	Proportion	0.845	0.757	0.651	0.952
Stress on job	Proportion	0.660	0.667	0.580	0.697
Physical job	Proportion	0.657	0.678	0.733	0.613
Years worked	Mean	34.0	34.0	31.6	34.2
	Std.Dev.	(5.5)	(6.0)	(8.9)	(5.1)
Non-housing wealth	Mean	101174	139884	23879	184876
	Median	17088	21792	342	31701
	Std.Dev.	(389590)	(563510)	(68581)	(727097)

Note: Data are from the HRS. Reported are descriptive statistics of several variables from the sample. The first column shows the whole sample of people working at age 53/54. The next three columns use a subsample of zero earners. The third column restricts the sample to those with zero earnings under the poverty line. The fourth column restricts the sample to zero earnings with a workplace pension at age 53/54. All workplace characteristics are recorded at age 53/54.

Table 3: Transitions into non-work for women

	Zero Earnings		Major Source		Self Assessed	
Dependent variable mean	0.265		0.360		0.172	
Number of observations	11204		10945		11204	
R Squared	0.163		0.189		0.153	
Age 56	0.027	*	0.036	*	0.041	***
	(0.015)		(0.018)		(0.011)	
Age 57	0.035	***	0.060	***	0.046	***
	(0.014)		(0.016)		(0.009)	
Age 58	0.089	***	0.105	***	0.081	***
	(0.018)		(0.020)		(0.013)	
Age 59	0.096	***	0.100	***	0.101	***
	(0.017)		(0.019)		(0.013)	
Age 60	0.149	***	0.168	***	0.145	***
	(0.020)		(0.022)		(0.016)	
Age 61	0.184	***	0.159	***	0.184	***
	(0.020)		(0.022)		(0.018)	
Age 62	0.213	***	0.234	***	0.258	***
	(0.022)		(0.024)		(0.019)	
Age 63	0.251	***	0.304	***	0.305	***
	(0.025)		(0.027)		(0.023)	
Age 64	0.346	***	0.431	***	0.395	***
	(0.025)		(0.026)		(0.024)	
Age 65	0.362	***	0.441	***	0.423	***
	(0.027)		(0.028)		(0.025)	
Age 66	0.446	***	0.511	***	0.455	***
	(0.027)		(0.026)		(0.025)	
Black	0.003	***	-0.010		0.022	
	(0.020)		(0.022)		(0.018)	
Other race	-0.046		-0.036		0.019	
	(0.043)		(0.047)		(0.041)	
Hispanic	0.037		-0.029		-0.005	
	(0.032)		(0.035)		(0.029)	

continued on next page

Table 3 continued

High school graduate	-0.079	***	-0.054		-0.091	***
	(0.028)		(0.029)		(0.023)	
Some post high school	-0.078	**	-0.023		-0.086	***
	(0.031)		(0.032)		(0.024)	
College degree	-0.065	*	0.006		-0.098	***
	(0.034)		(0.036)		(0.026)	
Veteran	-0.041		0.052		0.035	
	(0.080)		(0.088)		(0.056)	
Immigrant	-0.037		-0.039		-0.055	**
	(0.028)		(0.029)		(0.023)	
Workplace pension	-0.117	***	-0.163	***	0.013	
	(0.019)		(0.021)		(0.014)	
Defined Benefit pension	0.034	**	0.057	***	0.062	***
	(0.016)		(0.018)		(0.017)	
Government insurance	0.060	*	0.065		0.110	***
	(0.036)		(0.040)		(0.033)	
Employer insurance	-0.049	**	-0.079	***	0.029	*
	(0.025)		(0.026)		(0.017)	
Stress on job	0.010		0.001		0.021	*
	(0.015)		(0.016)		(0.012)	
Physical job	0.013		0.017		0.001	
	(0.015)		(0.017)		(0.013)	
Years worked	-0.001		0.000		0.001	
	(0.001)		(0.001)		(0.001)	
Married / couple	0.034		0.015		0.004	
	(0.023)		(0.025)		(0.020)	
Spouse employed	-0.059	*	-0.041		-0.060	**
	(0.032)		(0.041)		(0.025)	
Spouse full time	0.074	***	0.084	**	0.055	***
	(0.029)		(0.037)		(0.022)	
Spouse age difference	0.000		0.000		-0.004	***
	(0.002)		(0.002)		(0.001)	
Non-housing wealth (millions)	0.068	*	0.263	***	0.073	**
	(0.036)		(0.038)		(0.035)	

Data are from the HRS. Reported are coefficients from linear probability model ordinary least regressions. Standard errors are robust corrected for heteroskedasticity and clustered by individual. Also included but not reported here are wave dummies (8), census divisions (11), occupation group dummies (17), and industry dummies (16). All demographic and job characteristics observed at ages 53/54. One asterisk indicates statistical significance at the 10 percent level, two asterisks for 5 percent, and three asterisks for one percent.

Table 4: Transitions into nonwork for men

	Zero Earnings		Major Source		Self Assessed	
Dependent variable mean	0.268		0.350		0.171	
Number of observations	9500		9359		9500	
R Squared	0.161		0.200			
Age 56	0.013 (0.017)		0.039 (0.019)	**	0.020 (0.010)	*
Age 57	0.060 (0.017)	***	0.065 (0.018)	***	0.067 (0.012)	***
Age 58	0.048 (0.019)	***	0.068 (0.022)	***	0.055 (0.013)	***
Age 59	0.113 (0.021)	***	0.153 (0.023)	***	0.118 (0.016)	***
Age 60	0.145 (0.023)	***	0.191 (0.025)	***	0.120 (0.018)	***
Age 61	0.178 (0.023)	***	0.229 (0.025)	***	0.187 (0.018)	***
Age 62	0.195 (0.024)	***	0.239 (0.026)	***	0.238 (0.020)	***
Age 63	0.263 (0.027)	***	0.339 (0.029)	***	0.370 (0.025)	***
Age 64	0.347 (0.028)	***	0.422 (0.029)	***	0.381 (0.025)	***
Age 65	0.397 (0.029)	***	0.530 (0.028)	***	0.455 (0.026)	***
Age 66	0.460 (0.029)	***	0.575 (0.029)	***	0.500 (0.026)	***
Black	-0.019 (0.028)		-0.015 (0.029)		0.007 (0.024)	
Other race	-0.022 (0.038)		-0.013 (0.040)		-0.002 (0.028)	
Hispanic	-0.002 (0.033)		-0.038 (0.036)		-0.006 (0.024)	

continued on next page

Table 4 continued

High school graduate	-0.026 (0.026)		0.011 (0.027)		-0.001 (0.021)	
Some post high school	-0.002 (0.029)		0.035 (0.030)		-0.036 (0.022)	*
College degree	-0.012 (0.033)		0.047 (0.034)		-0.051 (0.025)	**
Veteran	-0.016 (0.016)		-0.010 (0.017)		-0.005 (0.013)	
Immigrant	0.002 (0.032)		-0.026 (0.032)		-0.042 (0.021)	**
Workplace pension	-0.192 (0.022)	***	-0.236 (0.024)	***	0.019 (0.015)	
Defined Benefit pension	0.040 (0.016)	**	0.058 (0.018)	***	0.063 (0.016)	***
Government insurance	0.039 (0.042)		0.023 (0.042)		0.048 (0.030)	
Employer insurance	-0.065 (0.027)	**	-0.074 (0.029)	***	0.028 (0.018)	
Stress on job	0.030 (0.016)	*	0.028 (0.017)		0.005 (0.012)	
Physical job	0.006 (0.018)		0.013 (0.020)		-0.021 (0.015)	
Years worked	-0.001 (0.002)		-0.001 (0.002)		-0.001 (0.001)	
Married / couple	-0.032 (0.026)		-0.063 (0.027)		-0.028 (0.021)	
Spouse employed	0.024 (0.023)		0.042 (0.025)		-0.020 (0.020)	
Spouse full time	-0.010 (0.021)		-0.018 (0.022)		0.008 (0.017)	
Spouse age difference	-0.001 (0.001)		-0.002 (0.002)		-0.003 (0.001)	***
Non-housing wealth (millions)	0.077 (0.025)	***	0.112 (0.036)	***	0.016 (0.023)	

Data are from the HRS. Reported are coefficients from linear probability model ordinary least regressions. Standard errors are robust corrected for heteroskedasticity and clustered by individual. Also included but not reported here are wave dummies (8), census divisions (11), occupation group dummies (17), and industry dummies (16). All demographic and job characteristics observed at ages 53/54. One asterisk indicates statistical significance at the 10

Table 5: Proportion of women lifted out of hardship by income source

	Ages 55-66		Ages	Ages
	Proportion positive	Median if positive	55-61	62-66
Capital income	0.642	2670	0.183	0.166
Other income	0.091	7181	0.034	0.034
Pension / annuity income	0.167	11274	0.073	0.097
Non-labor private income	0.693	7476	0.273	0.274
SS Disability	0.193	7988	0.028	0.023
SS Retirement	0.320	8087	0.057	0.108
Unemployment / Workers' Comp	0.011	3204	0.001	0.001
Other government	0.111	1135	0.006	0.005
Total government	0.524	8484	0.098	0.144
Total income	0.911	10841	0.382	0.439
Spouse labor market	0.301	46000	0.242	0.157
Spouse non-labor private	0.550	14448	0.275	0.288
Spouse government	0.370	14400	0.190	0.283
Spouse total income	0.667	41651	0.557	0.547
Couple non-government sources	0.781	36439	0.563	0.530
Couple government sources	0.671	13499	0.325	0.490
Total couple income	0.974	37253	0.740	0.777
Official income for poverty line	0.982	44166	0.816	0.858

Data are from the HRS. Calculations by the author as described in the text. Each row shows a different measure of income.

Table 6: Proportion of men lifted out of hardship by income source

	Ages 55-66		Ages	Ages
	Proportion positive	Median if positive	55-61	62-66
Capital income	0.690	6034	0.259	0.211
Other income	0.091	7181	0.028	0.026
Pension / annuity income	0.275	18840	0.169	0.227
Non-labor private income	0.761	19223	0.432	0.445
SS Disability	0.221	12480	0.085	0.068
SS Retirement	0.297	13294	0.140	0.279
Unemployment / Workers' Comp	0.019	7000	0.004	0.003
Other government	0.150	4595	0.050	0.034
Total government	0.579	13620	0.276	0.382
Total income	0.959	22397	0.642	0.709
Spouse labor market	0.362	30000	0.270	0.218
Spouse non-labor private	0.585	10525	0.249	0.218
Spouse government	0.213	7655	0.018	0.028
Spouse total income	0.723	27090	0.470	0.432
Couple non-government sources	0.827	40200	0.626	0.613
Couple government sources	0.619	14621	0.328	0.463
Total couple income	0.978	42719	0.807	0.845
Official income for poverty line	0.985	47876	0.847	0.873

Data are from the HRS. Calculations by the author as described in the text. Each row shows a different measure of income.

Table 7: Who is below the poverty line

	Women		Men	
	All	Just zero-earners	All	Just zero-earners
Dependent variable mean	0.049	0.124	0.044	0.113
Number of observations	6951	2328	5324	1826
R Squared	0.087	0.139	0.113	0.236
Age 56	0.018 (0.011)	0.063 (0.045)	-0.001 (0.009)	0.010 (0.036)
Age 57	0.010 (0.011)	0.071 (0.050)	0.049 (0.015)	*** 0.105 (0.050) **
Age 58	0.027 (0.013)	0.067 (0.047)	0.022 (0.012)	* 0.073 (0.048)
Age 59	0.013 (0.012)	0.072 (0.046)	0.034 (0.016)	** 0.109 (0.056) *
Age 60	0.018 (0.013)	0.016 (0.043)	0.031 (0.014)	** 0.042 (0.040)
Age 61	0.052 (0.014)	*** 0.116 (0.043) ***	0.034 (0.014)	** 0.117 (0.045) ***
Age 62	0.034 (0.014)	** 0.044 (0.041)	0.027 (0.012)	** 0.036 (0.037)
Age 63	0.021 (0.012)	* -0.014 (0.037)	0.035 (0.013)	*** 0.070 (0.037) *
Age 64	0.025 (0.013)	** 0.010 (0.039)	0.011 (0.013)	-0.006 (0.035)
Age 65	0.013 (0.012)	-0.017 (0.038)	0.028 (0.013)	** 0.021 (0.036)
Age 66	0.016 (0.012)	-0.008 (0.037)	0.004 (0.011)	-0.027 (0.034)
Black	0.043 (0.013)	*** 0.094 (0.037) **	0.046 (0.020)	** 0.124 (0.050) **
Other Race	0.024 (0.030)	-0.014 (0.057)	-0.038 (0.015)	** -0.026 (0.036)
Hispanic	0.041 (0.025)	0.036 (0.043)	0.037 (0.019)	** 0.063 (0.046)

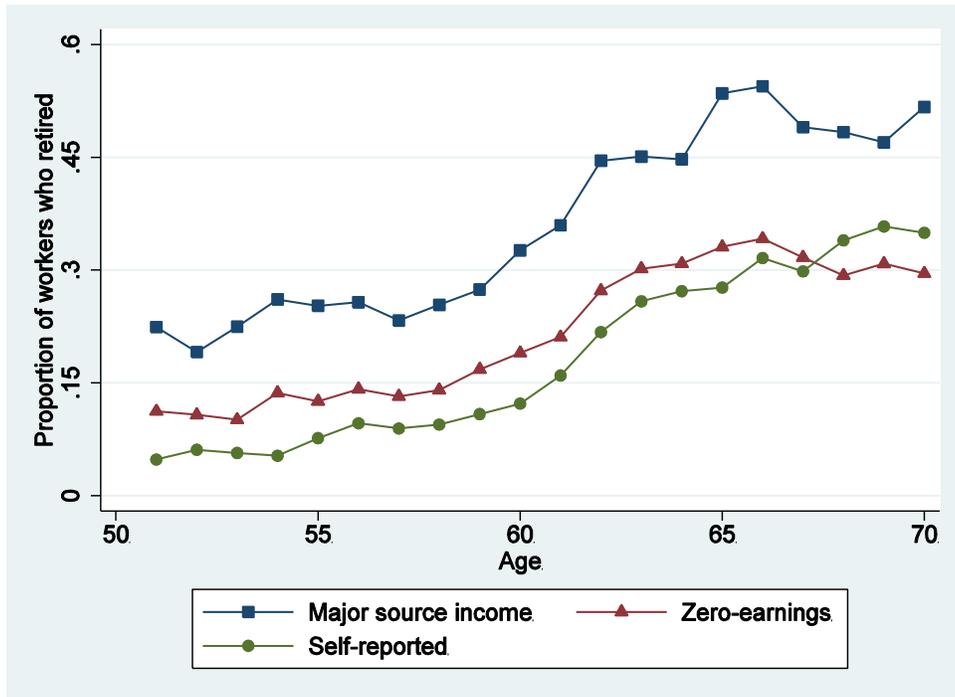
continued on next page

Table 7 continued

High school graduate	-0.057	***	-0.048		-0.064	***	-0.084	**
	(0.022)		(0.038)		(0.017)		(0.039)	
Some post high school	-0.061	***	-0.061		-0.098	***	-0.168	***
	(0.022)		(0.040)		(0.017)		(0.038)	
College degree	-0.073	***	-0.105	**	-0.104	***	-0.191	***
	(0.022)		(0.042)		(0.020)		(0.047)	
Veteran	-0.030		-0.072		-0.002		-0.015	
	(0.038)		(0.083)		(0.008)		(0.020)	
Immigrant	-0.038	**	-0.053		0.013		0.062	
	(0.016)		(0.033)		(0.017)		(0.041)	
Workplace pension	-0.001		0.039		-0.018	*	0.004	
	(0.008)		(0.029)		(0.010)		(0.026)	
Defined Benefit pension	0.004		-0.004		0.003		-0.025	
	(0.008)		(0.029)		(0.008)		(0.028)	
Government insurance	-0.011		-0.026		-0.018		-0.008	
	(0.020)		(0.039)		(0.015)		(0.037)	
Employer insurance	-0.065		-0.045		-0.032	**	-0.022	
	(0.016)		(0.028)		(0.014)		(0.024)	
Stress on job	0.010		0.026		-0.006		-0.014	
	(0.008)		(0.021)		(0.008)		(0.020)	
Physical job	0.000		0.003		-0.010		-0.021	
	(0.007)		(0.020)		(0.008)		(0.022)	
Years worked	-0.001		0.000		-0.003		-0.003	
	(0.000)		(0.001)		(0.001)		(0.002)	
Married / couple	-0.025	*	-0.104	***	-0.028	*	-0.123	***
	(0.013)		(0.033)		(0.016)		(0.038)	
Spouse employed	-0.030	**	-0.044		-0.033	***	-0.055	**
	(0.013)		(0.043)		(0.010)		(0.027)	
Spouse full time	0.001		-0.017		-0.005		-0.025	
	(0.011)		(0.038)		(0.007)		(0.023)	
Spouse age difference	0.000		0.000		0.001		0.003	*
	(0.001)		(0.002)		(0.001)		(0.002)	
Non-housing wealth (millions)	0.014		-0.013		-0.011	**	-0.026	***
	(0.011)		(0.035)		(0.005)		(0.009)	

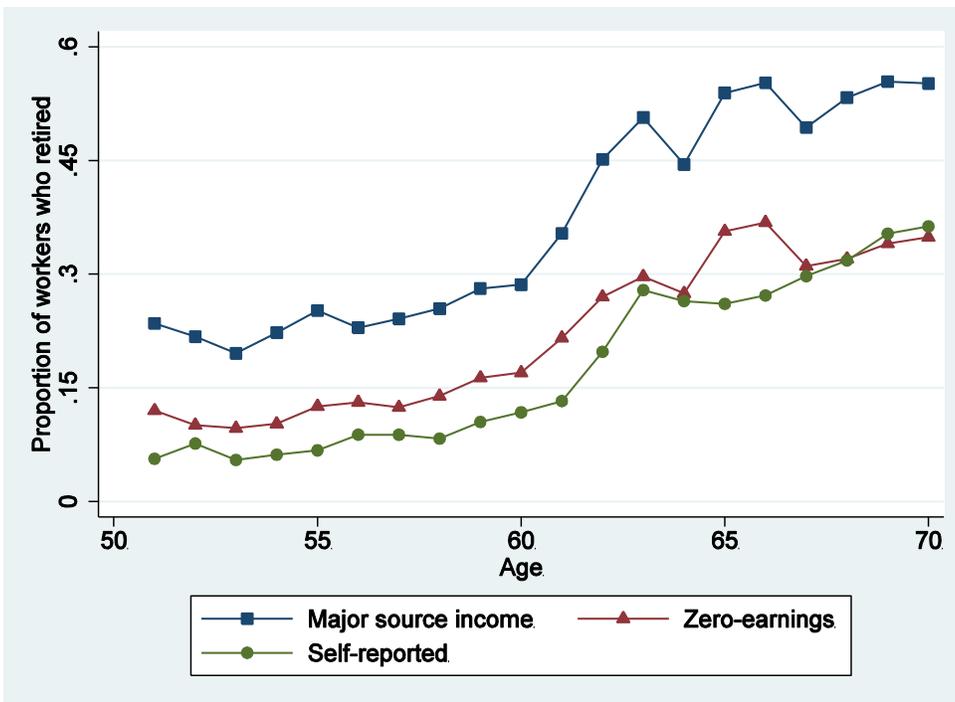
Data are from the HRS. Dependent variable is a binary indicator for living in family below poverty line. Reported are coefficients from linear probability model ordinary least regressions. Standard errors are robust corrected for heteroskedasticity and clustered by individual. Also included but not reported here are wave dummies (4), census divisions (11), occupation group dummies (17), and industry dummies (16). All demographic and job characteristics observed at ages 53/54. One asterisk indicates statistical significance at the 10 percent level; two asterisks for 5 percent; three asterisks for 1 percent.

Figure 1: Proportion of women not working by three definitions



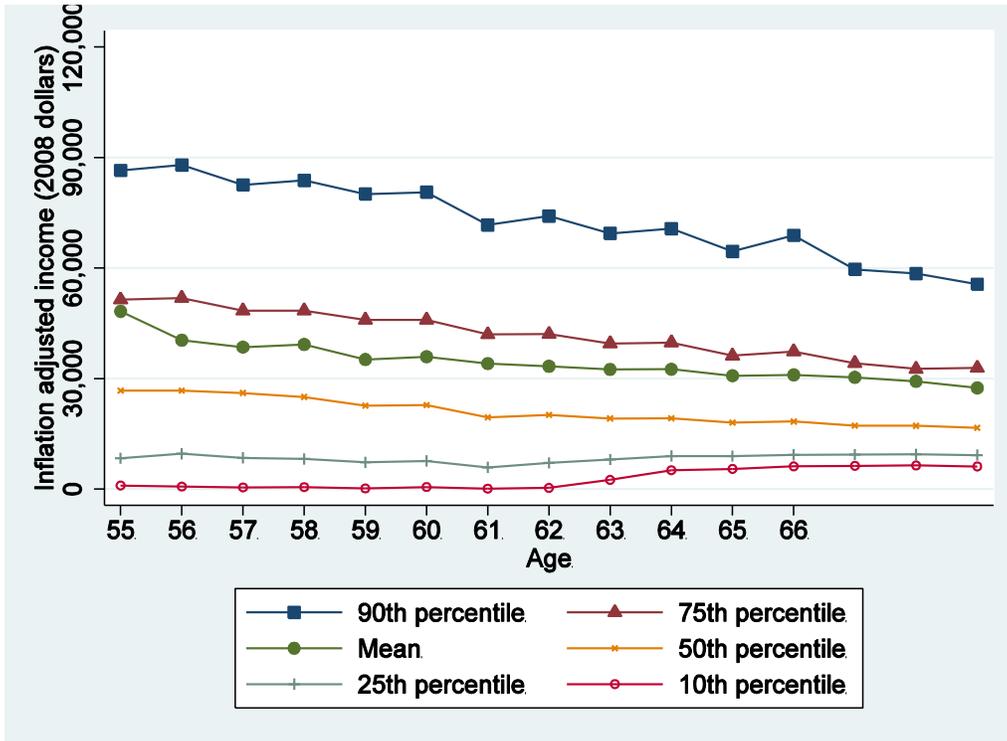
Source: Author's calculations using the HRS.

Figure 2: Proportion of men not working by three definitions



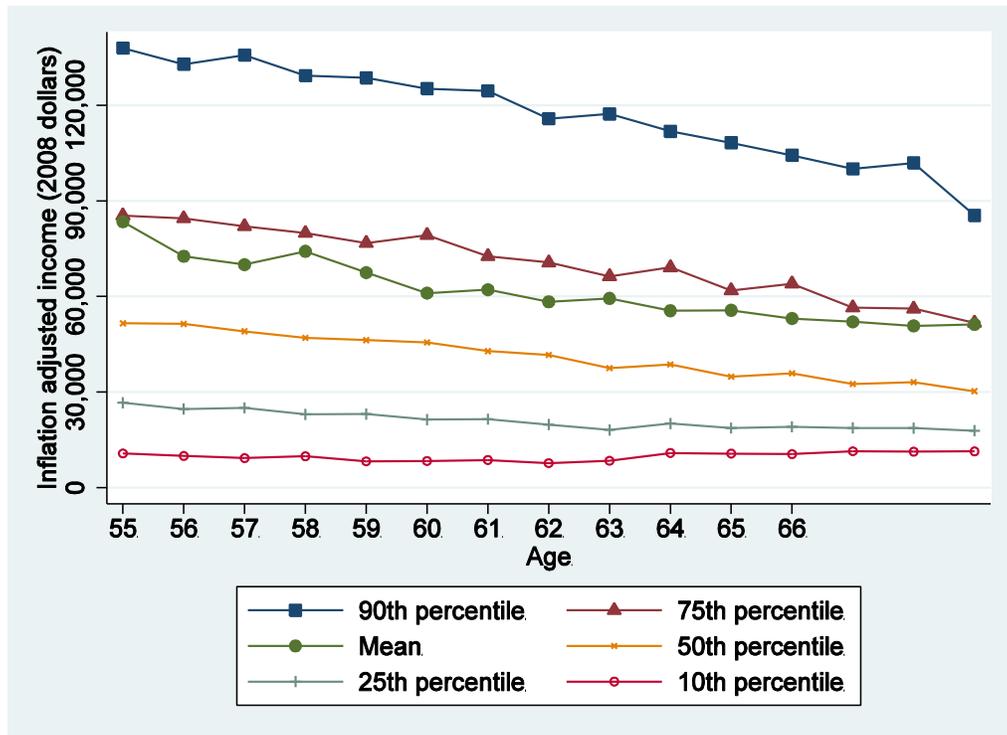
Source: Author's calculations using the HRS.

Figure 3: Distribution of total income for women



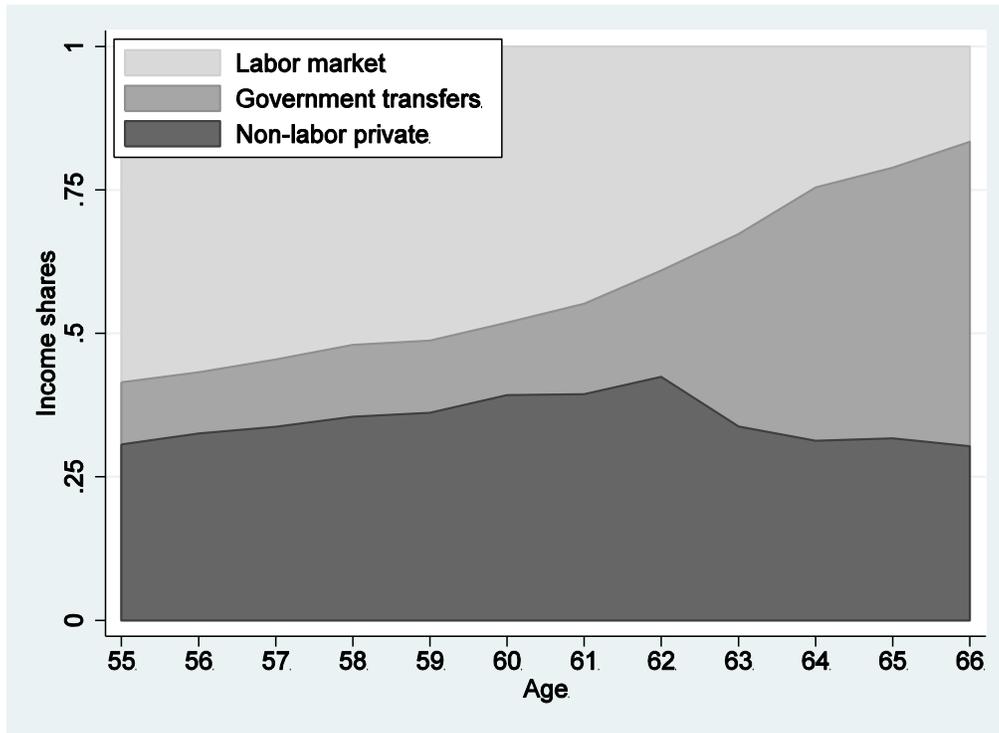
Source: Author's calculations using the HRS.

Figure 4: Distribution of total income for men



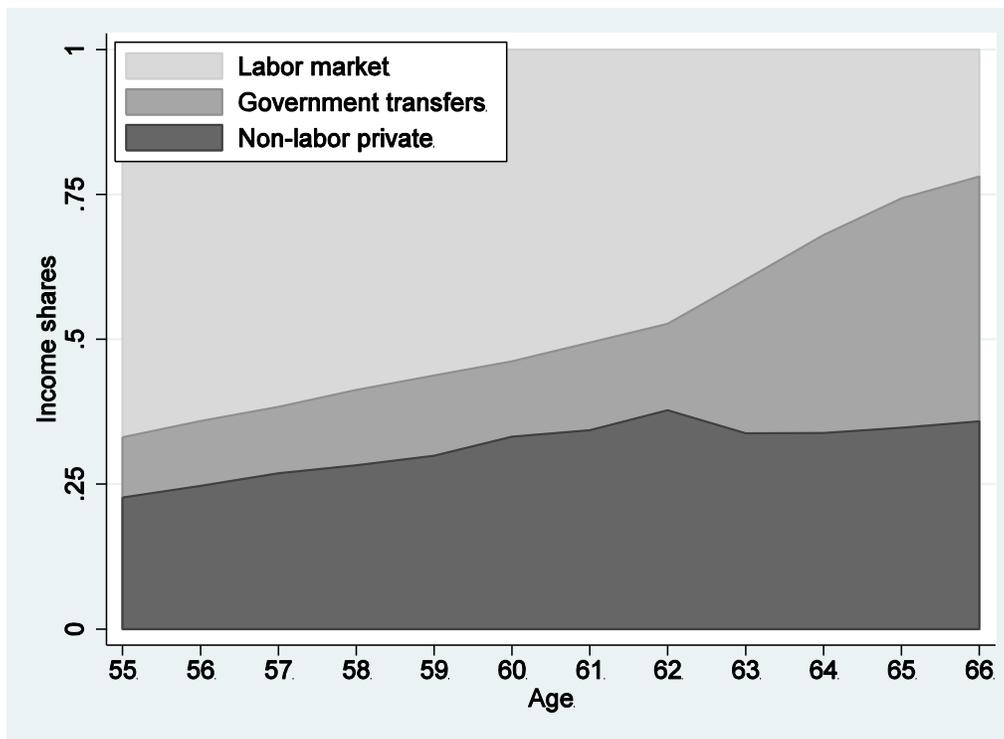
Source: Author's calculations using the HRS.

Figure 5: Income shares for women



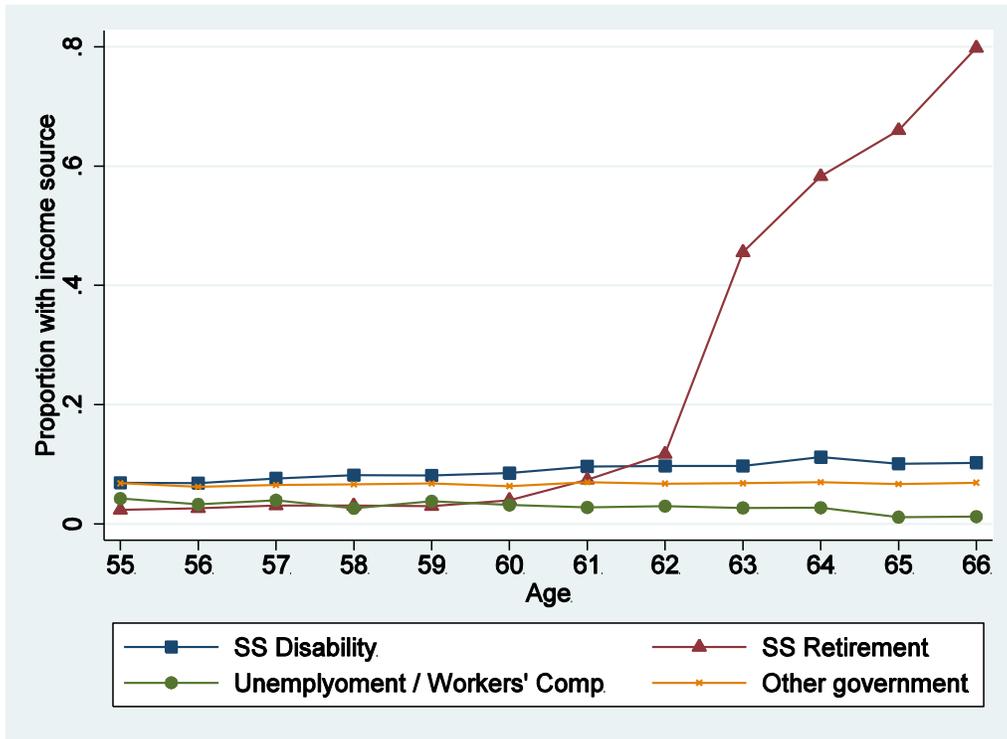
Source: Author's calculations using the HRS.

Figure 6: Income shares for men



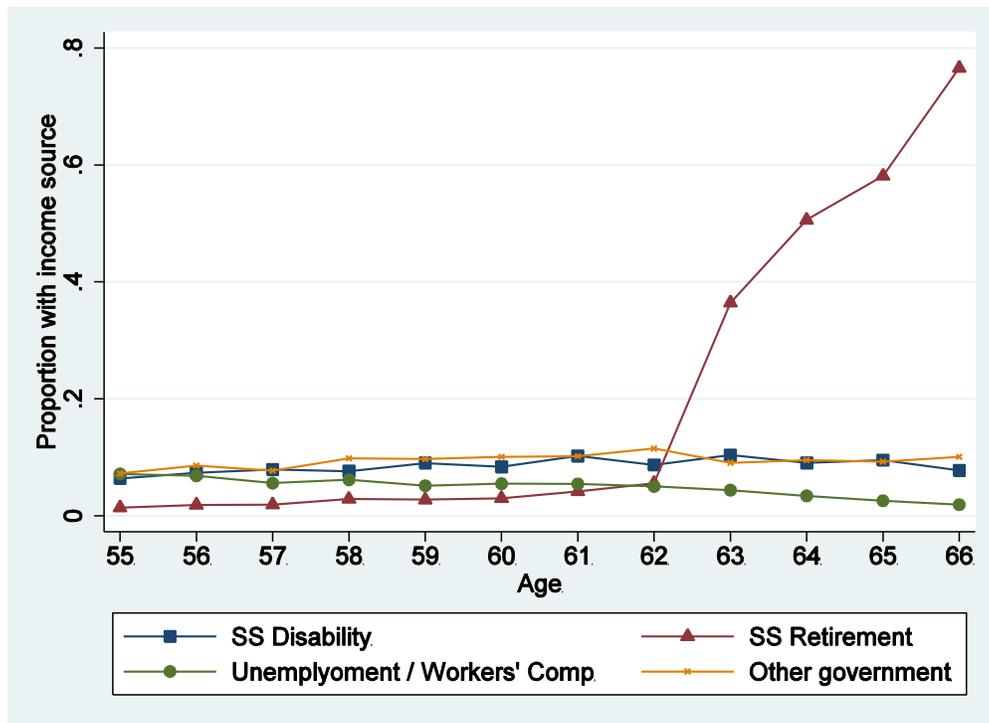
Source: Author's calculations using the HRS.

Figure 7: Sources of government income for women



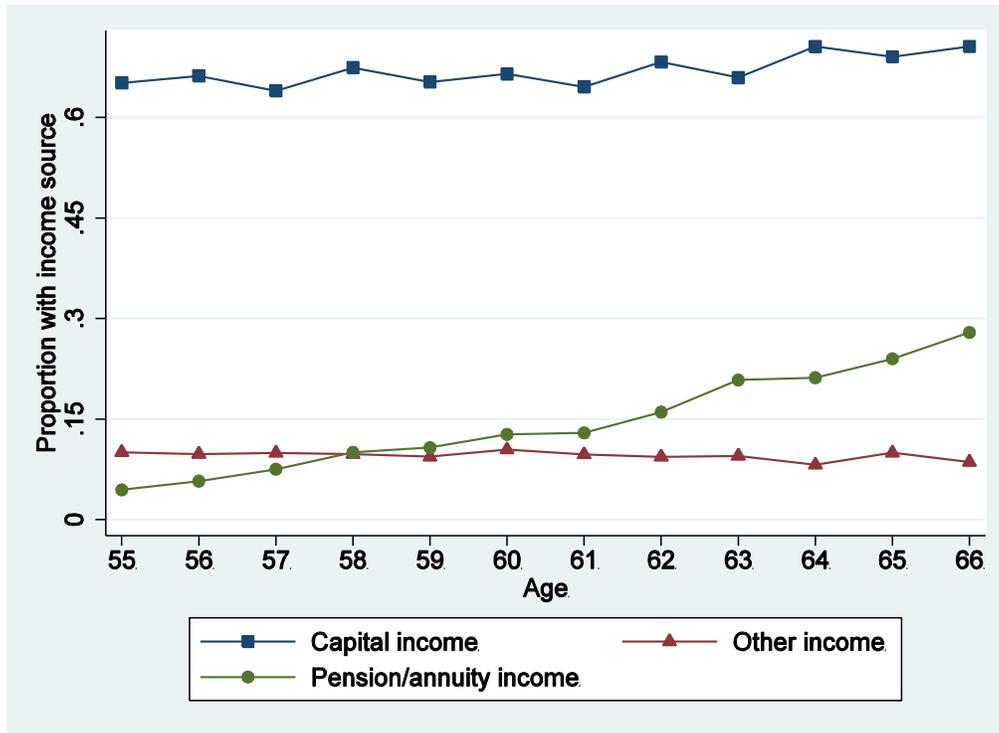
Source: Author's calculations using the HRS.

Figure 8: Sources of government income for men



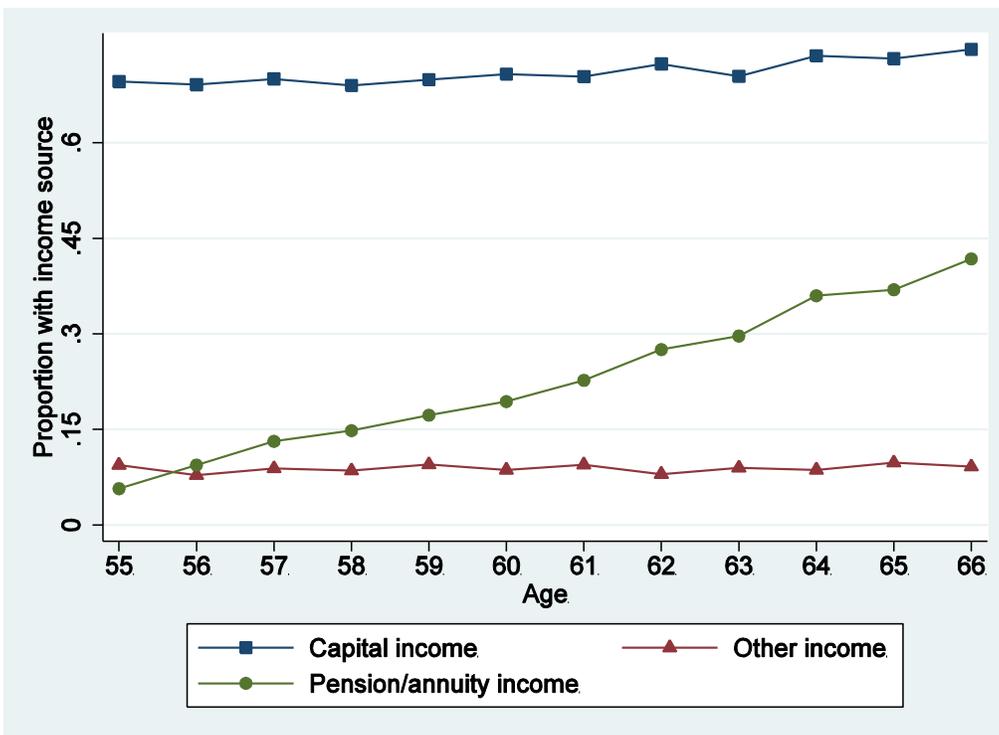
Source: Author's calculations using the HRS.

Figure 9: Sources of non-labor private income for women



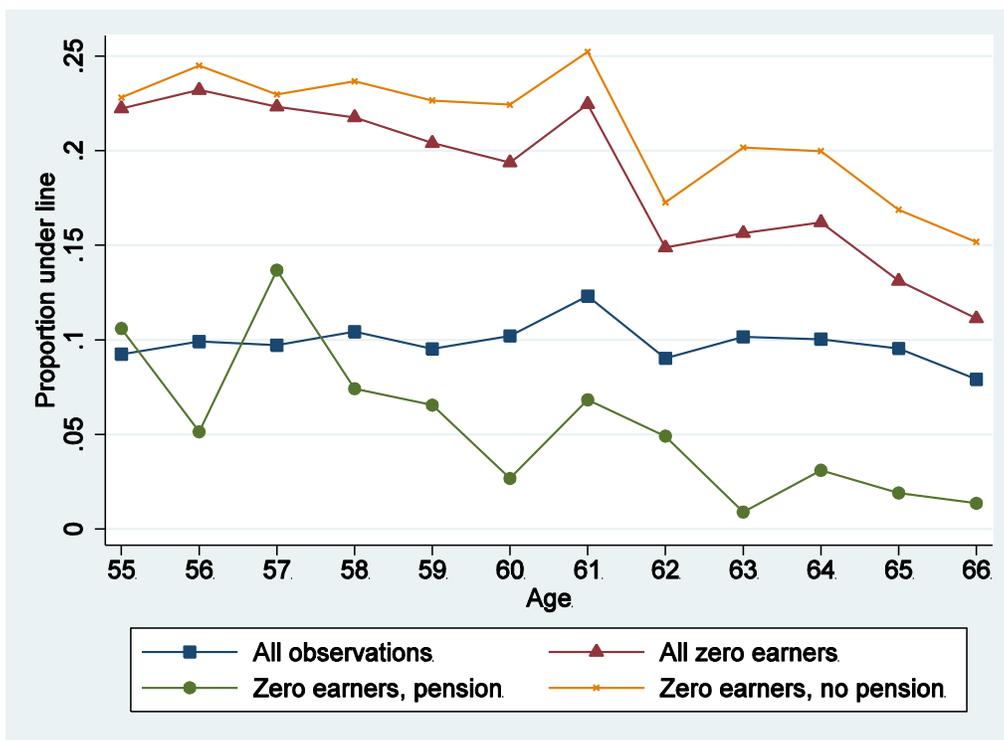
Source: Author's calculations using the HRS.

Figure 10: Sources of non-labor private income for men



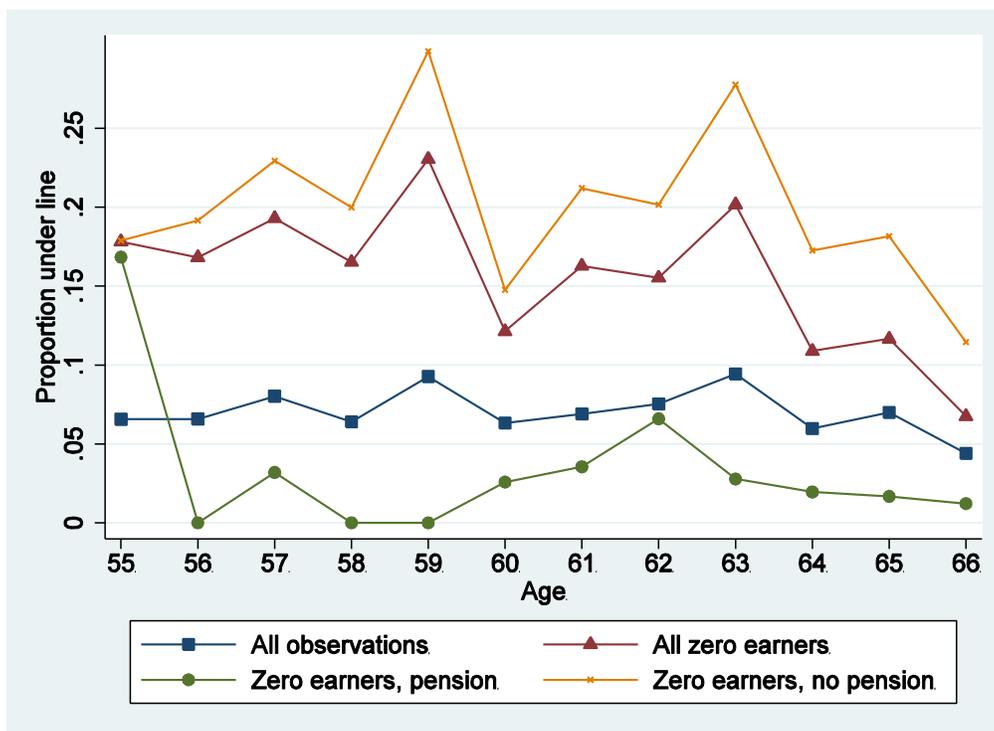
Source: Author's calculations using the HRS.

Figure 11: Proportion of women below poverty line



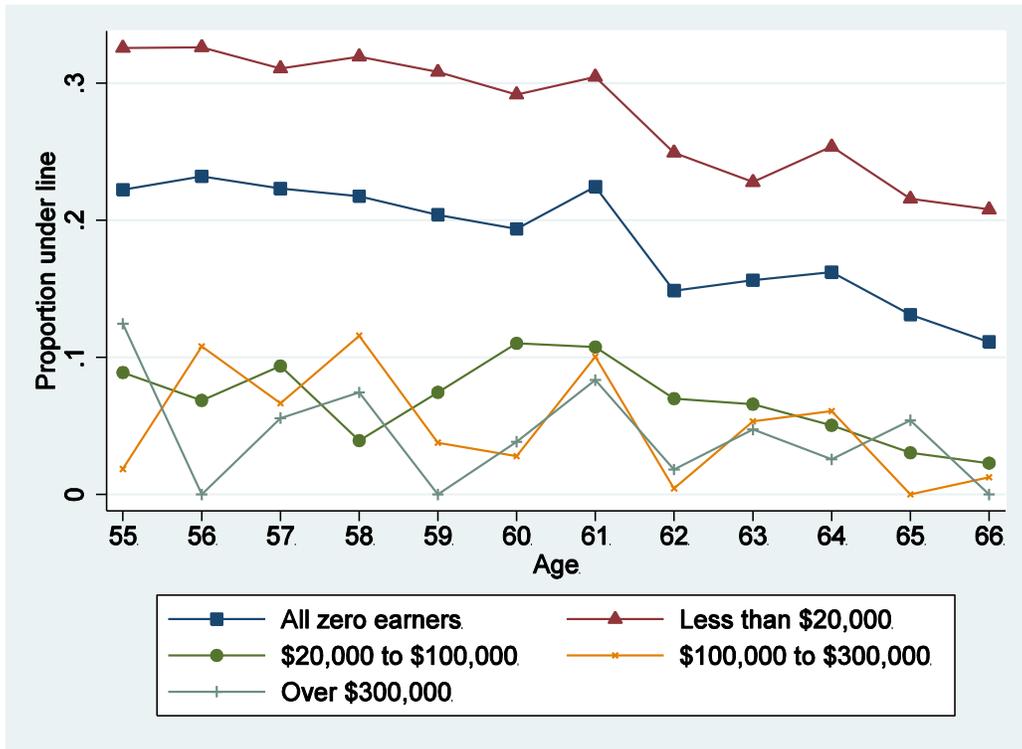
Source: Author's calculations using the HRS.

Figure 12: Proportion of men below poverty line



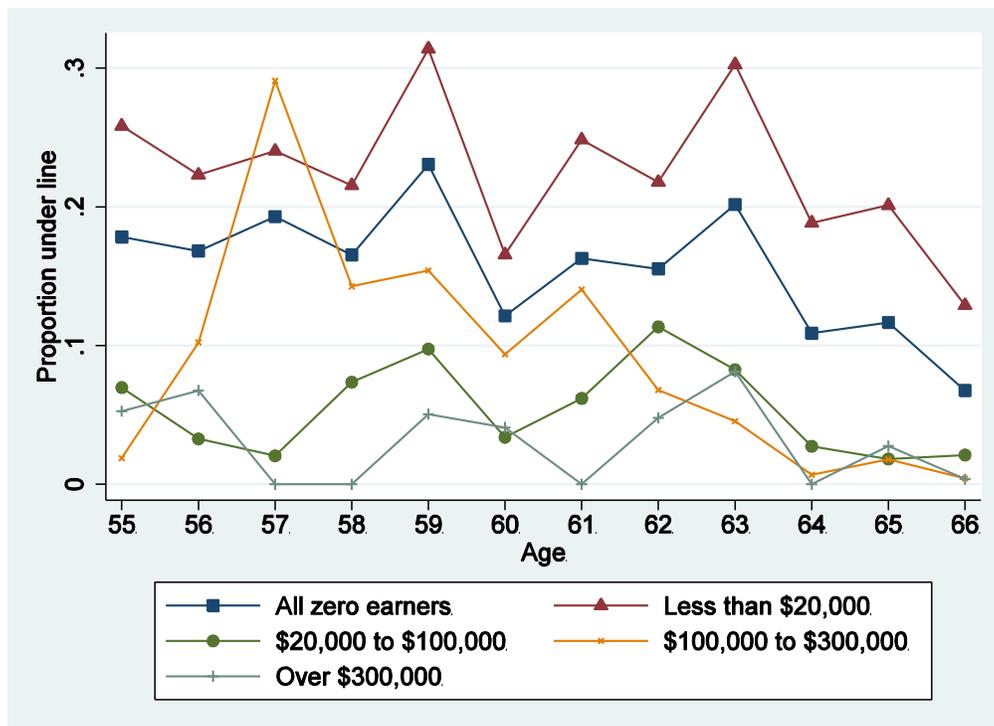
Source: Author's calculations using the HRS.

Figure 13: Poverty by net non-real estate wealth for women



Source: Author's calculations using the HRS.

Figure 14 Poverty by net non-real estate wealth for men



Source: Author's calculations using the HRS.

Appendix tables

Table A1: Extended descriptive statistics: Women

		All	Just Zero-Earners		
		observations	All	Under Poverty	Has pension
Number of observations		14644	3676	347	1589
Age	Mean	59.0	60.5	60.8	61.2
	Std.Dev.	(3.2)	(3.3)	(3.1)	(3.1)
Spouse age difference	Mean	-2.0	-2.2	-2.1	-2.3
	Std.Dev.	(4.8)	(5.3)	(4.5)	(4.4)
Spouse employed	Proportion	0.564	0.592	0.299	0.597
Spouse fulltime	Proportion	0.520	0.553	0.270	0.555
Married / couple	Proportion	0.731	0.767	0.514	0.769
Black	Proportion	0.096	0.091	0.196	0.125
Other race	Proportion	0.040	0.043	0.073	0.033
Hispanic	Proportion	0.065	0.088	0.156	0.063
High school graduate	Proportion	0.377	0.382	0.380	0.375
Some post high school	Proportion	0.272	0.245	0.225	0.251
College degree	Proportion	0.246	0.208	0.103	0.267
Veteran	Proportion	0.010	0.008	0.009	0.015
Immigrant	Proportion	0.079	0.096	0.105	0.072

Note: Data are from the HRS. Reported are descriptive statistics of several variables from the sample. The first column shows the whole sample of people working at age 53/54. The next three columns use a subsample of zero earners. The third column restricts the sample to those with zero earnings under the poverty line. The fourth column restricts the sample to zero earnings with a workplace pension at age 53/54.

Table A2: Extended descriptive statistics: Men

		All	Just Zero-Earners		
		observations	All	Under Poverty	Has pension
Number of observations		12670	3055	241	1527
Age	Mean	59.0	60.5	60.5	61.3
	Std.Dev.	(3.2)	(3.3)	(3.1)	(3.2)
Spouse age difference	Mean	2.6	2.5	1.8	2.4
	Std.Dev.	(4.8)	(4.8)	(4.1)	(4.7)
Spouse employed	Proportion	0.596	0.574	0.274	0.577
Spouse fulltime	Proportion	0.431	0.407	0.195	0.419
Married / couple	Proportion	0.841	0.824	0.584	0.844
Black	Proportion	0.069	0.066	0.182	0.072
Other race	Proportion	0.045	0.036	0.028	0.037
Hispanic	Proportion	0.071	0.077	0.180	0.049
High school graduate	Proportion	0.316	0.310	0.353	0.305
Some post high school	Proportion	0.235	0.238	0.133	0.228
College degree	Proportion	0.330	0.304	0.189	0.371
Veteran	Proportion	0.458	0.457	0.345	0.517
Immigrant	Proportion	0.087	0.095	0.161	0.057

Note: Data are from the HRS. Reported are descriptive statistics of several variables from the sample. The first column shows the whole sample of people working at age 53/54. The next three columns use a subsample of zero earners. The third column restricts the sample to those with zero earnings under the poverty line. The fourth column restricts the sample to zero earnings with a workplace pension at age 53/54. All workplace characteristics are recorded at age 53/54.