LIFECYCLE WEALTH HOLDINGS BY LIFETIME INCOME

BY

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I. Introduction

A large body of literature has been devoted to examining the accumulation (across the lifecycle) and distribution (by income) of wealth and differences in portfolio shares (across the lifecycle, across countries, or by income).\(^1\) The general conclusion across most studies is that there exists large heterogeneity of ownership (whether to hold), asset composition (what to hold), and level of holding (how much to hold) across (annual or lifetime) wealth or income groups. Some studies find there is heterogeneity within annual or lifetime income groups as well. Knowledge of the accumulation and distribution of wealth and the differences in portfolio shares by age, income, and date is imperative to understanding the effects of a variety of public policy issues, especially the economic burden of taxes.

Venti and Wise (2000) examine wealth accumulation of households within the same lifetime earnings deciles so that they can effectively remove the influence of the earnings differential in explaining wealth accumulation. Their goal is to determine whether differences in wealth accumulation within a lifetime earnings group are a product of chance events or individual choices. Their findings suggest a very wide dispersion in the distribution of accumulated wealth both across and within lifetime earnings groups. Moreover, they conclude that only a small amount of the dispersion within lifetime earnings deciles can be explained by chance events that may have limited the ability to save out of income.

In general, we follow the approach by Venti and Wise (2000) in this paper. However, our methodology differs as follows: (1) we use the self-reported annual wage income over a long period to simulate the lifetime age-wage profile of each respondent in our sample; (2) we use multiple-imputation (MI) instead of the traditional hot-deck method to impute missing pension

\(^1\) For more information on the different methods and subject matter covered by the wealth distribution literature see the following papers. Milligan (2004) examines lifecycle patterns of accumulation and allocation of household portfolios, especially in terms of saving and holdings of risky assets across the lifecycle. Banks, Blundell and Smith (2002) examine the differences in household wealth across US and UK households, with an emphasis on explaining the difference in the pattern of lifecycle holdings of stocks and housing (steeper lifecycle accumulation of housing in UK). Carroll (2000) examines why wealthy households’ portfolio decisions are different from the rest of the population. Hurst, Luoh, and Stafford (1998) analyze the accumulation of household wealth from 1984 to 1994, the increase in equity share of wealth, and the cross section dispersion of wealth.
values, and (3) we use the Panel Study of Income Dynamics (PSID) instead of the Health and Retirement Survey (HRS) used by Venti and Wise (2000), since HRS only collects single cohort data from individuals between 51 and 61 years old in 1992. Our goal is to apply a panel approach to investigate household wealth accumulation across lifetime income groups and the lifecycle.

The paper is organized as follows. The following section discusses the data. Section III summarizes the methodology for simulating the value of the lifetime labor endowment and ranking households by the value of lifetime labor endowments (which is referred to as lifetime income for the remainder of this paper). Section IV describes the methodology for imputating pension wealth across lifetime income groups. Section V presents results on the accumulation and distribution and wealth and compares the results with other relevant findings in the literature. The final section states our conclusion and proposes a path for future research.

II. Data

We use the PSID to construct our asset and wealth profiles for two reasons. First, a panel dataset with high quality wealth data is required to estimate household asset and wealth accumulation over the lifecycle. Our main concern was the quality of the PSID wealth data, especially at the top end of the wealth distribution. However, there are several papers that evaluate the quality of single waves of PSID data and conclude that PSID is well suited for the purpose of measuring total wealth and the distribution of wealth. Second, even among several panel datasets, PSID still has the unique advantage of being an all-age-cohort, nationally representative survey. In the wealth-income literature, the most frequently used panel datasets are PSID, HRS, and National

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2 For a detailed comparison and the advantage of using a multiple imputation procedure see Chantala and Suchindran (2005). The basic approach is to stratify and sort the data by key covariates, replacing missing data from another record from the same strata, and repeat this procedure many times.

3 Hurst, Luoh, and Stafford (1998, p. 4) find that “wealth from the PSID appears to be in line with aggregate data once allowance is made for the fact that such surveys seem capable of providing good data for up to at least the 98th percentile of household wealth.”

4 See Curtin, Juster, and Morgan (1989) and Bound et al. (1989). Curtin, Juster, and Morgan (1989) give the 1983 Survey of Consumer Finance (SCF) a slightly higher rating than the PSID in terms of its wealth data, however, the SCF is a cross-sectional dataset.
Longitudinal Survey of Youth (NLSY), however, neither the HRS nor NLSY covers all age-cohorts.\(^5\) The benefit of the HRS is the availability of data on wealth and health.

The PSID is the longest panel dataset. It collects information on families and individuals of all ages starting from 1968. For the overall design, the PSID actually consists of two independent samples: the national sample drawn by the Survey of Research Center (SRC Sample) and the national low income families sample came from the Survey of Economic Opportunity (SEO sample) conducted by the Bureau of the Census for the Office of Economic Opportunity. Because of unequal selection probabilities that oversample the low income households, assigning sample weights is necessary to achieve a nationally representative sample. The PSID interviews all members within the household and it always assigns the male member to be the head of household (applies to cases of single male or married male with spouse present). If there is no male member, then the female is assigned as the head. The PSID follows the members of the original family units and their adult offspring to the living arrangements (except under institutional situations) they experience over the sampling period. For example, over time, a 1968 household member’s child could move out of the original household after he or she is 18 years or older, have a separate family unit, and still be qualified for interviewing. By using fairly simple tracking rules, we can link these ‘split family’ samples back to their original 1968 household.

Overall, due to both the reliable quality of the PSID wealth and income data (at least up to the 98\(^{th}\) percentile) and its all-cohort panel structure, the PSID is well suited for our purpose of estimating lifetime wage profiles and wealth holdings.

\(^5\) The NLSY data started in 1979 and surveyed 12,686 young males and females who were between age 14 and 21 in 1979. It provides rich demographic and childhood development data. The HRS is a biennial panel starting from 1992 with cohorts born before 1947 or earlier. The initial sample in 1992 includes individuals born between 1931 and 1941, while additional individuals were added in 1993 and 1998. Another popular data set is Assets and Health Dynamics of the Oldest-Old (AHEAD).
III. Lifetime wage profiles and the value of the lifetime labor endowment

In general, the method used to estimate wage profiles is similar to that used by Fullerton and Rogers (1993, hereafter FR), Johnson (2000)\(^6\), and Altig, et al. (2001), except where noted.\(^7\) The main differences in estimating lifetime wage profiles across these three studies are related to sample selection and the unit of analysis. FR used the household as the unit of analysis and chose observations that demonstrated stable marriage histories over the sample period, which restricts the sample in a non-random way since divorce and (low) wealth accumulation are correlated.\(^8\) Thus, restricting the sample by stable marriage would disproportionately drop low-wealth households from the sample. Altig, et al. (2001) used individuals as the unit of analysis and restricted their sample to individuals with more than one dollar in real earnings and stable educational attainment, regardless of marital stability. Under this method a disproportionate number of second earner spouses would be classified as low income households even though they are a member of a high income household. In addition, this deviates from the norm of using the household as the unit of analysis since welfare is normally defined by total household wealth rather than individual wealth. Johnson (2000) used heads of household as the unit of analysis and restricted the sample to observations with a stable head of household throughout the sample period. This method eliminates the potential for a second earner bias and reduces but does not eliminate the selection bias that results from restricting the sample to observations with stable marriage. However, we find evidence that there is still significant selection bias that results from restricting the sample by stability of the head of household throughout the sample; although this has a rather limited impact on wage profiles it has a more significant impact on our estimates of wealth profiles. Following Johnson (2000), we choose head of household as our unit of analysis. Our sample is all heads of households in 2001 (i.e. we do not restrict the sample by head stability) that worked a minimum of 500 hours at least one year in the sample period.\(^9\) For comparison, we also estimate lifetime wage profiles on a sample restricted for stable heads of households similar to Johnson (2000).

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\(^6\) We thank Johnson for providing his code used to estimate wage profiles.

\(^7\) The procedure used to estimate wage profiles is made up of four steps. First, estimate the log of the real hourly wage using age, education, sex, race, and a fixed effect for each person in the sample. Second, multiply the
Table 1 presents descriptive statistics for each lifetime income group. Educational attainment increases across lifetime income groups with the lowest income groups averaging slightly more than 12 years of schooling, or a high school education. The breakdowns by sex and race are consistent with the earlier work by Johnson (2000). The mean age of the head of household is slightly flatter, less U-shaped, across lifetime income groups than reported by Johnson (2000). Finally, the mean value of the wage and the value of the lifetime labor endowment increases across lifetime income groups and is consistent with previous findings. Figure 1 shows estimated wage profiles for all heads of households in 2001, without imposing a stable head restriction. Figure 2 shows wage profiles if the sample of observations is restricted to stable heads. As discussed above, the stable head restriction shifts the lifetime wage profile up because of a disproportionate reduction in the number of low wage households. The wage profiles, however, are very similar in terms of the shape of the wage profiles.

By comparison, Venti and Wise (2000) used the present value of social security earnings to rank households by lifetime earnings deciles. This approach raises a number of issues. First, they note that for persons with wage earnings above the wage cap, social security earnings may underestimate actual earnings; however, this would only affect the earnings for the individuals in the top income decile after 1981 since the percentage of respondents exceeding the wage cap was less than 10 percent. Second, they also note that some individuals do not report social security earnings because they were employed in a sector that did not report earnings to the social security system (either legally or illegally). Third, earnings are a result of a previous choice (or a result of chance or both) about the division of the labor endowment between labor supply and

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8 For example, see Smith (1995).

9 We intend to relax the one year restriction to be in the sample as the main effect of this restriction is to eliminate retired head of households from the sample.
leisure. It is not clear that persons or households with equal values of their lifetime labor endowments should be ranked in different lifetime income groups since leisure is a possible consumption choice. Finally, social security earnings records were available for only about 58 percent (4,376 households) of HRS households. Note that Venti and Wise (2000) include households that reported one or both members had not worked in the sample period.

IV. Imputation Procedure

After ranking the weighted (so that it is nationally representative) sample of households into ten deciles by the value of the labor endowment, we construct lifecycle wealth profiles for the ten lifetime income groups using the PSID Supplemental Wealth Files for 2001.\(^{10}\) Total wealth is comprised of the following categories: IRAs, 401(k) and 403 (b) and similar plans, defined benefit and defined contribution employer-provided pensions, net housing equity, bank accounts, bonds, and stocks, vehicles, business equity, and other real estate.\(^{11}\) In most cases the value of these assets is reported directly by respondents, however, in some cases asset values must be imputed. Imputations are most important in determining the value of employer-provided pensions. The imputation process relies on the respondent’s description of their pension plans to estimate the present value of their pension wealth. In the rest of this section, we provide a brief overview of the imputation procedure that is represented in Figure 4.

The first step is to determine if each member of a household is currently working and whether they are currently receiving pension income. For the currently working individuals, the PSID

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10 When combining lifetime wage profiles with wealth holding data, we have to drop some samples that do not report their wealth holdings or have very unusual wealth holding patterns.
11 Detailed definition of wealth data in the PSID Supplemental Wealth Files is available from the PSID website, however, brief definitions of each category are as follows. House value is how much you would get if you sold it today. Remaining mortgage principal (first and second) is equal to outstanding balances on all mortgages, home equity loans, and lines of credit used. Non-IRA Stock is the value of shares of stock in publicly held corporations, mutual finds or investment trusts, excluding stocks in IRAs. IRA is the value of personal retirement accounts, including IRAs and annuities. Financial assets equal the value of checking and saving accounts, money market funds, certificate of deposit, savings bonds, and Treasury bills. Bond is the value of other investment in trusts or estates, bond funds, life insurance policies, special collections. Pension equals the present value of promised defined benefit plan benefits and defined contribution plan balances. The present value of pension income is the present value of income streams for households currently receiving pension income. We also include wealth data on other real estate, vehicles, and business equity.
Lifecyle Wealth Holdings by Lifetime Income

asks if they are covered by a pension or retirement plan by their current employer (not including social security). Individuals that are working and report that they are covered by a pension are asked about the plan type: defined benefit (DB), defined contribution (DC), both, don’t know (DK), or refuse. Following Venti and Wise (2000), if the reported plan type is DB, both, refuse, or DK, then they are classified as working defined benefit current pension (WDBCP). If they can estimate their DB pension amount at retirement, they can choose to report this benefit in one of three forms: a lump-sum amount, a percentage of final annual salary, or an amount for a specified period of time (weekly, monthly, semi-annually, or annually). To impute pension benefits, we divide the WDBCP sample by eight variables: their expected age of receiving benefits, age, industry information, job duty, the number of years in the current plan, the lifetime income group they belong to, and (most importantly) whether they can estimate their benefit amount at retirement. We use a multiple imputation (MI) procedure that replaces each missing value with ten randomly selected values from “non-missing” sample respondents with similar characteristics and then takes the mean of the ten imputed values as the final result. The eight key variables used in the MI procedure are chosen to be consistent with Venti and Wise (2000) and Moore and Mitchell (2001), however, note that they used a single imputation procedure known as “hot decking.”

Individuals that report that they are covered by DC or both plan types are classified as working defined contribution current pension (WDCCP). If they can estimate the current balance of their account, then their estimates are recorded. To impute DC benefits for individuals that claim to have a DC plan but do not know the value we use the MI procedure. The key variables in this case are gender, number of plans, union status, job duty, industry, and the lifetime income group they belong to.

12 This includes individuals that are self-employed.

13 In the PSID, there are two similar questions asked about an individual’s retirement date: what is the expected age of retirement and what is the expected age that they will start receiving benefit. Since the mean answer to each of these two questions is very similar, we use ‘expected retirement age’ in the imputations reported in this paper.

14 In Venti and Wise (2000), if the answer is DC then question about the type of plan DC are asked. The questions are whether the plan is a traditional DC or a 401(k) (403(b)s), SRAs, and other types of DC plans are included in this
The PSID allows current workers to report up to two pensions from previous jobs. The imputation procedure for previous pensions is very similar to the procedure for imputing current pensions (i.e. DB or DC pensions of workers at their current job). However, one difference is worth mentioning. If respondents claimed they are covered by a DB plan or a DC plan from their previous job(s), they are asked about the status of the pension: expecting future benefits, receiving now, cash settlement, or rolled over to other accounts. We only impute values for respondents that give the first reply (expecting future benefits). Respondents that are expecting future benefits from a previous pension are classified into the following groups: *working defined benefit previous pension 1 (WDBPP1)*, *working defined contribution previous plan 1 (WDCPP1)*, *working defined benefit previous pension 2 (WDBPP2)*, and *working defined contribution previous plan 2 (WDCPP2)*. We impute DB and DC pension values for people that are expecting pensions from previous jobs but do not know the value using a MI procedure. Overall, in the case of currently-working individuals, we estimate DB or DC pension values for those who claim they are covered (or don’t know) but can not estimate its value, no matter whether this plan is provided by the current or previous employer.

Up to two previous pensions for nonworking respondents are reported. The imputation procedure is similar to that for current workers’ previous pension(s). Finally, individuals can be receiving pension benefits whether or not they are currently working. The following four income streams are considered: veterans’ benefits, annuity, pension, and any other form of pension retirement fund. Since there is no way to distinguish between DB and DC sources, we report these data as a separate category labeled the present value of pension income.

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15 Note that individuals whose response was “receiving now”, “cash settlement”, “or roll over to IRA” will be classified in other categories.

16 To impute the value of defined benefit pensions from previous jobs the key variables we use are type, expected age of retirement, annual benefit amount, age of head, union status, job duty, industry, and the lifetime income group information as key variables. To impute defined contribution pension benefits from previous jobs the key variables we use are age of head, job duty, industry, expected benefit balance, and the lifetime income group information as key variables.
Now we have the expected DB benefit value for all respondents at their retirement day, and DC value on the interview day. To facilitate comparison and correctly document the wealth holdings, we have to convert the value to the interview day (present). For DC pensions, the reported (or imputed) balance is our measure of pension wealth at the present day. For people expecting DB pensions or currently receiving pensions, we have to use some assumptions to calculate the present value. Specifically, we use Mitchell, Olson, and Steinmeier’s (1996) measure of mortality data based on population averages by gender, age, and birth cohort provided by the Social Security Administration. For earnings growth and discounting we use the intermediate interest rate assumption from the Social Security Administration, Board of Trustees (2001). Both of these assumptions are used in Venti and Wise (2000). The fraction of DB pension wealth ‘earned’ at the survey day is the present value multiplied by the ratio of years in the current plan to years of service at the expected date of retirement.17

V. The Accumulation and Distribution of Wealth

The following discussion examines household wealth holdings from several different perspectives. In particular, we discuss the distribution of wealth across lifetime income groups, portfolio holdings across lifetime income groups, the dispersion of wealth within lifetime income groups, and estimates of lifecycle wealth accumulation across lifetime income groups. We also compare our findings to several cross sectional studies that examine the accumulation and distribution of wealth. Our findings are most comparable with Venti and Wise (2000).

The Distribution and Dispersion of Wealth across Lifetime Income Groups

Venti and Wise (2000) found significant dispersion in the distribution of wealth within lifetime earnings deciles. Their results were based on wealth holdings of households with heads age 51-61 in 1992. We expand on their findings by examining the distribution of wealth across all age cohorts. However, we begin by comparing our results for the age cohort age 51-60 in 2001 with their estimates. The results are very similar in terms of the share of assets in total wealth. We do

17 Therefore, we implicitly assume respondents will stay with the same employer until they retire.
not compare the dollar value of wealth holdings since our samples are drawn from different dates and the age cohorts differ as well.

Table 2 presents our estimates of asset shares by lifetime income for the cohort age 51-60 in 2001. Table 3 presents asset share calculations by lifetime earnings for the cohort age 51-61 in 1992 from Venti and Wise (2000). The overall results are fairly similar except for a few notable differences. First, our findings suggest that financial assets generally increase with lifetime income, with the lowest lifetime income group holding only 9 percent of their total wealth in financial assets. Table 2 shows that Venti and Wise’s results suggest that financial assets decline with lifetime earnings, with the lowest lifetime earnings group holding 26 percent of its total wealth in financial assets. In addition, our findings suggest a more pronounced increase in personal retirement assets (denoted by IRA) in higher lifetime income deciles. The share of wealth held in pensions (DB, DC, or annuities) is generally higher in our sample, except for the highest lifetime income group that holds 24 percent of total wealth in the form of pension wealth relative to 30 percent for Venti and Wise's results. We also find a smaller share of business equity and other real estate in total wealth and the share of business equity in total wealth declines as lifetime income increases. Housing equity is generally higher for each lifetime income group in our sample and the lowest lifetime income group in our sample holds a much higher proportion of total wealth in terms of housing equity.

Figure 5 shows the dispersion in total wealth for the cohort age 51 to 60 in 2001. For each of the lifetime income deciles, the figure shows accumulated wealth holdings are reported for five percentiles: 10\textsuperscript{th}, 25\textsuperscript{th}, 50\textsuperscript{th}, 75\textsuperscript{th} and 90\textsuperscript{th}. Half of those in the lowest three lifetime income group have accumulated less than $10,000 by age 51 to 60, while 10 percent of households in the lowest lifetime income group have over $180,000 in total wealth. In the highest lifetime income group, 10 percent of the households have accumulated less than $50,000, while 25 (10) percent have accumulated more than $900,000 ($1.4 million) in total wealth. Half of those in the highest lifetime income group have accumulated approximately $400,000 in total wealth. For the most part, these results are very similar to the results of Venti and Wise (2000).
However, there are two primary differences between our results and those estimated by Venti and Wise. First, except for the highest lifetime income group, the bottom 10 percent of households (in terms of total wealth holdings) across each lifetime income group have accumulated very little total wealth. Second, our wealth profiles for the cohort age 51 to 60 are not as steep than those presented in Venti and Wise (2000).

Similar to Venti and Wise (2000) there is also a significant dispersion of total wealth in the top 10 percent of each lifetime income group. Figure 6 shows the 90th, 95th and 99th percentiles of wealth in each lifetime income group. In general, the dispersion in wealth increases with lifetime income between the top 1 percent and the top 10 percent of wealth holders. The difference in total wealth in the lowest six lifetime income groups between the top 10 percent and the top 1 percent is less than a factor of two. For the highest four lifetime income groups, total wealth in the top 1 percent is more than a factor of two greater than for the top 10 percent. While this is still a significant amount of dispersion, it is slightly less than that found by Venti and Wise (2000). We also found a significant amount of dispersion in the holdings of financial and personal retirement assets similar to Venti and Wise.

**Lifecycle Wealth Profiles by Lifetime Income Group**

This section documents the lifecycle patterns of household wealth portfolios across the 10 lifetime income deciles. The estimated lifecycle wealth profiles are based on the total wealth holdings of six cohorts broken down by age as follows: less than 30, 31-40, 41-50, 51-60, 61-70, and over 70. The allocation of wealth across various asset types is also examined. Table 3 reports the share of various assets in total wealth by lifetime income and age.

Consistent with Milligan (2004) we find that the share of financial assets increases with age across all lifetime income groups. This may reflect an increasing preference for liquidity and decrease in the tolerance for risk. Personal retirement assets generally increase early in life and then decline later in life, however, in the highest income group personal retirement assets continue to increase across all age cohorts. Pension assets decrease significantly in the oldest two age cohorts for all lifetime income groups. This result is consistent with the suggestion by Browning and Crossley (2001) and the empirical estimates of Milligan (2004) that including
assets that are essentially annuities (like pensions) would likely increase the support for the decumulation hypothesis. The importance of vehicles in total wealth declines over the lifecycle, with the largest declines occurring in the lowest lifetime income groups. The share of home equity in total wealth increases over most of the lifecycle for middle and lower lifetime income groups but decreases in the latter stages of the lifecycle, which is also consistent with the decumulation hypothesis.

Figure 7 shows that mean assets peak in the 51-60 age range at approximately $391,726 and median assets peak at $248,675. After the peak, mean assets fall by 35 percent to $254,461 and median assets fall by 33 percent. This is consistent with the findings of Milligan (2004) and suggests that asset decumulation in the later stages of the lifecycle may be significant. However, this evidence is anecdotal in nature and thus will serve as an impetus for a more in-depth study of the existence and importance of lifecycle asset decumulation. Figure 8 examines the asset ownership rate in 2001. Vehicles are held constantly across the lifecycle at high levels. The rate of ownership of personal retirement assets (IRA) and other real estate increases moderately in the early stages of life before falling slightly near the end of life. The ownership rate of housing assets increases across the lifecycle and then holds steady near the end of the lifecycle. Business equity is held by only a small proportion of households at any given point in the lifecycle and begins to drop after age 60. The rate of ownership of DB and DC pension plans increases slightly over the beginning of the lifecycle, before falling sharply near the end of the lifecycle.

Our findings in this section are generally consistent with the three main findings by Milligan (2004): (1) total assets decline more sharply in retirement when annualized assets are included; (2) the portfolio share of liquid assets increases at older ages, and (3) the share of wealth and rate of ownership of less risky financial assets appear to increase in retirement.

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18 This implies that if we also impute social security wealth we should see more decumulation of assets near the end of the lifecycle.
19 The evidence on the decumulation hypothesis is mixed at best. For a survey of the literature see Browning and Lusardi (1996) and for more recent evidence against the decumulation hypothesis see Borsch-Supan (2003).
VI. Conclusion

This paper focuses on measuring household wealth profiles for households that are classified into different groups according to a measure of potential lifetime earnings. This allows for an examination of the differences of household asset accumulation behaviors within lifetime income groups and over the lifecycle. Our findings in this section are generally consistent with the estimates of Venti and Wise (2000) on the dispersion of wealth within lifetime income groups. In addition, we examine differences in wealth profiles by lifetime income groups and age cohorts. Our results are consistent with the findings of Milligan (2004) on the accumulation of wealth over the lifecycle. In future work, the estimated wealth profiles will be used as imputes into a computable general equilibrium model to calculate the economic burden of various tax reform proposals.
## Appendix

<table>
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<th>LI</th>
<th>Observations</th>
<th>PV of Labor Endowment</th>
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<th>Gender (fem=1)</th>
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Figure 1: Lifetime Wage Profile (No Stable Head Restriction)
Figure 2: Lifetime Wage Profile (Stable Head Restriction)
Figure 3: Lifetime Wage Profiles Scaled by First Year Wage
Figure 4: Pension Imputation

Covered by current pension?

Type?

Can est. benefit?

Y

DB

LS, %, amt

N

DC

Imputation

Y

N

Balance amt*

Imputation

Y

N

Est ben?

Imputation

Y

N

LS, %, amt

Imputation

Y

N

Est ben?

Imputation

Y

N

LS, %, amt

Covered by previous pension?

No, assign zero

Number of plans

Y

N

Assign zero

Assign zero

Working?

Y

N

Receiving?

Y

N

PV of income streams

Covered by current pension?

w/ Prev1

w/ Prev2

0

Type w/ Prev1

Can est. benefit?

Y

N

Est ben?

Imputation*

Y

N

LS, %, amt

Imputation*

Y

N

Balance amt*

Can est. benefit?

Y

N

Est ben?

LS, %, amt

Imputation

Y

N

Est ben?

Imputation

Y

N

LS, %, amt

Imputation

Y

N

LS, %, amt

Type?
### Table 2: Asset Shares by Lifetime Income for Cohort Age 51-60

<table>
<thead>
<tr>
<th>Category</th>
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<td>0.07</td>
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<td>0.08</td>
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<td>0.33</td>
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<td>0.22</td>
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<td>0.02</td>
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<td>0.06</td>
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<tr>
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<td>0.06</td>
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<td>0.04</td>
<td>0.04</td>
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<td>0.08</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.05</td>
<td>0.04</td>
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<td>0.07</td>
<td>0.06</td>
<td>0.08</td>
<td>0.06</td>
<td>0.04</td>
<td>0.06</td>
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<td>0.24</td>
<td>0.27</td>
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<td>0.28</td>
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<td>-0.14</td>
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<td>-0.24</td>
<td>-0.13</td>
<td>-0.14</td>
<td>-0.15</td>
<td>-0.13</td>
<td>-0.08</td>
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### Table 3: Asset Shares by Lifetime Earnings for Cohort Age 51-61 (Venti and Wise)

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<td>0.18</td>
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<td>0.17</td>
<td>0.16</td>
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<tr>
<td>IRA</td>
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<td>0.04</td>
<td>0.04</td>
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<td>0.06</td>
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<td>0.07</td>
<td>0.09</td>
</tr>
<tr>
<td>Total Pension</td>
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<td>0.22</td>
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<td>0.20</td>
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<td>0.27</td>
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<td>0.06</td>
</tr>
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<tr>
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<td>0.06</td>
<td>0.04</td>
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<td>0.04</td>
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<tr>
<td>Real Estate</td>
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<td>0.14</td>
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<tr>
<td>Home Equity</td>
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<td>0.21</td>
<td>0.20</td>
<td>0.20</td>
<td>0.17</td>
<td>0.17</td>
</tr>
<tr>
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<td>0.30</td>
<td>0.48</td>
<td>0.41</td>
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<td>0.29</td>
<td>0.30</td>
<td>0.29</td>
<td>0.29</td>
<td>0.23</td>
<td>0.25</td>
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<tr>
<td>Mortgage</td>
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<td>-0.09</td>
<td>-0.09</td>
<td>-0.06</td>
<td>-0.07</td>
</tr>
</tbody>
</table>

Source: Authors calculations from Table 4 of Venti and Wise (2000).
Figure 5: Wealth Quantiles—Total Wealth

Total Wealth

Lifetime Income Decile

LI 1
LI 2
LI 3
LI 4
LI 5
LI 6
LI 7
LI 8
LI 9
LI 10

10th
25th
50
75th
90th
1. The share of pension wealth equals the sum of PV benefit, DB, and DC divided by total wealth.


2. The share of home equity equals home value minus mortgage divided by total wealth.
Figure 7: Total Assets 2001--Accumulation

Figure 8: Total Asset 2001--Ownership
References


