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Comment David Laibson

Poterba, Venti, and Wise (PVW) provide a wealth of analysis that insightfully and painstakingly describes the financial state of aging US households. Their chapter uses the Health and Retirement Study (HRS), a biannual longitudinal survey of middle-aged and older adults. Poterba, Venti, and Wise cut the data in many different ways, revealing a grim picture of financial vulnerability for the bottom half of the population of US households. In this discussion, I summarize some of their most important findings and then ask whether the ongoing expansion of the defined-contribution savings system holds out hope for improvement among future cohorts of retirees. I reach

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the disappointing conclusion that the picture that PVW paint for the current cohort will continue to apply for generations of retirees to come.

A Perspective on Savings Adequacy

Poterba, Venti, and Wise provide several perspectives on the financial state of retired households. First, they look at balance sheet information, incorporating all sources of household claims, including financial wealth, net housing wealth, the net present value of Social Security claims, and the net present value of other defined-benefit claims. Their net worth variable is a comprehensive measure of claims that support consumption.[1] Among single-person households aged sixty-five to sixty-nine (surveyed in the 2008 wave of the HRS), median net worth is $414,435 (all quantities are in 2008 dollars). Assuming a 4 percent expenditure rate,[2] this amounts to annual expenditure of $16,577. Among single-person households aged sixty-five to sixty-nine, the twenty-fifth percentile of net worth is $237,154. Assuming a 4 percent expenditure rate, this amounts to annual expenditure of $9,486. To provide context, the 2008 poverty threshold for a one-person household is $10,326.[3]

By comparison, two-person households are better off. Among two-person households aged sixty-five to sixty-nine, median household net worth is $1,015,317. Assuming a 4 percent expenditure rate, this amounts to annual per capita expenditure of $20,306. Among two-person households aged sixty-five to sixty-nine, the twenty-fifth percentile of household net worth is $609,949. Assuming a 4 percent expenditure rate, this amounts to annual per capita expenditure of $12,199.

While these absolute expenditure equivalents are informative, it is important to evaluate retirement resources relative to the life cycle benchmark of pre-retirement expenditure/income. The authors do this toward the end of the chapter. Specifically, the authors compare annualized total income[4] in retirement (at the last biannual observation wave before death) to pre-retirement labor income (ages fifty-seven to sixty-two). To do this, the authors use Social Security linkages (focusing on the HRS subsample with these linkages). These comparisons are fraught with both conceptual and measurement issues, including the problem that consumption can be supported by income as well as asset sales (if there are assets left to sell), so

1. Two important exceptions should be highlighted: intergenerational transfers (which flow both to and away from these households), and antipoverty programs (especially Medicaid).

2. At the time of this writing, a competitive real annuity (with no survivor benefits and no period-certain payout) for a sixty-five-year-old had a 4 percent payout rate. Many financial advisors also advocate a 4 percent payout rule among retirees who have not annuitized.

3. US Census Bureau.

4. Total income includes benefits from Social Security and defined-benefit pension plans, government transfer income, and dividends, interest payments, rent received, and other income from assets.

income will be lower than consumption for some elderly households. However, the authors point out other problems that lead to a *downward* bias in measured pre-retirement labor income, which would create an upward bias in the implied income replacement ratio.

Although the tug of war among dueling biases makes interpretation difficult, the results of this analysis are nevertheless eye-opening. For example, consider men who (a) are in single-person households in the HRS, and (b) have matched Social Security records. Before retirement, their median labor income is $25,604. Deep into retirement (in essence, a couple of years before they die), their median total income is $15,213, representing a 40.6 percent decline. Tables 1.2 and 1.6 provide more tabulations of this sort. However, these kinds of calculations need to be interpreted with a grain of salt, since the method for inferring "pre-retirement income" involves many approximating assumptions and since expenditure and income are not necessarily one and the same.

Poterba, Venti, and Wise also evaluate wealth trajectories over the course of retirement. As one would expect, low levels of retirement income in the last few years of life coincide with low levels of retirement assets in those years. Indeed, many households hold no assets other than their Social Security claims. For example, among single-person households, 57.0 percent are last observed with less than $10,000 in financial assets. Of these households, 61.2 percent also have no home equity. Aggregating across all types of families, 46.1 percent are last observed with less than $10,000. Of these households, 51.7 percent also have no home equity.

These results raise fundamental questions about the health of the US retirement savings system. On one hand, economic models can rationalize the low wealth/income levels of retirees. Households may be optimally spending down their assets because of (a) predictable mortality events, (b) Medicaid means testing, (c) standard time preference effects[5] (and some reason for resisting annuitization), (d) lower expenditure needs in retirement relative to pre-retirement, and (e) an expectation of financial support from their children. On the other hand, steep life cycle declines in expenditure may result from less sanguine mechanisms, like bounded rationality or self-control problems. The identification of mechanisms will be advanced by papers like the current chapter, which characterize the key data that needs to be explained.

Will the Modern 401(k) Increase Wealth Accumulation?

I now turn to a related question. How will these patterns change for younger cohorts who are spending most of their working lives in firms with

5. In a classical model without liquidity constraints, a high rate of time preference (relative to the rate of interest) implies a falling level of consumption and wealth.

Table 1C.1 Net worth excluding Social Security and DB claims, Survey of Consumer Finances

	Median ($)	Mean ($)
1983	123.4	450.4
1992	142.8	414.6
1995	150.0	471.4
1998	186.5	594.2
2001	207.9	793.5
2004	208.8	758.8
2007	239.4	1,015.7

Note: Households age sixty-five to seventy-four at time of survey; 2007 dollars.

401(k) plans? Will these new "DC cohorts" have more to retire on? The new cohorts are likely to look different in many ways, since defined-benefit (DB) pensions are rapidly shrinking as a fraction of the total pool of retirement assets. At year-end 2010, DC retirement accounts represented over two-thirds of the total pool of US retirement assets ($16.6 trillion).[6]

A first glance, the answer is not encouraging. Table 1C.1, derived from the Federal Reserve's triannual Survey of Consumer Finances, reports net worth (this time excluding DB and Social Security wealth) for households with a head aged sixty-five to seventy-four (all in 2007 dollars).[7] From 1983 to 2007,[8] mean net worth has more than doubled, but it has only kept pace with real GDP. Moreover, median net worth has not kept pace with real GDP. The final numbers are taken from year-end 2007, just before household net worth fell very sharply. In conclusion, looking across cohorts, recently retired cohorts look no better off (scaled by income) than cohorts that retired a generation ago.

There is also no ground for optimism if one studies the US gross and net savings rates, which have been trending down since the 1960s. The gradual switch from DB to DC systems (from 1980 to the present day) has done nothing to perturb this forty-five-year trend. For example, the net national savings rate was negative in 2009 (as well as 2010), for the first time since 1934 (see fig. 1C.1).

Finally, one can use a simple simulation model to see why 401(k)s probably will not change the patterns that PVW have documented. This simula-

6. Investment Company Institute.

7. These numbers are similar to the numbers in the 2008 HRS, which reports median net worth (excluding SS and DB wealth) of $221,700 and average net worth (excluding SS and DB wealth) of $567,500. The HRS numbers are lower partly because of the timing of the survey. By 2008, the financial crisis was under way and asset markets (including the housing market) had fallen considerably from the levels of one year earlier.

8. At the time of writing, the 2010 data was not yet available.

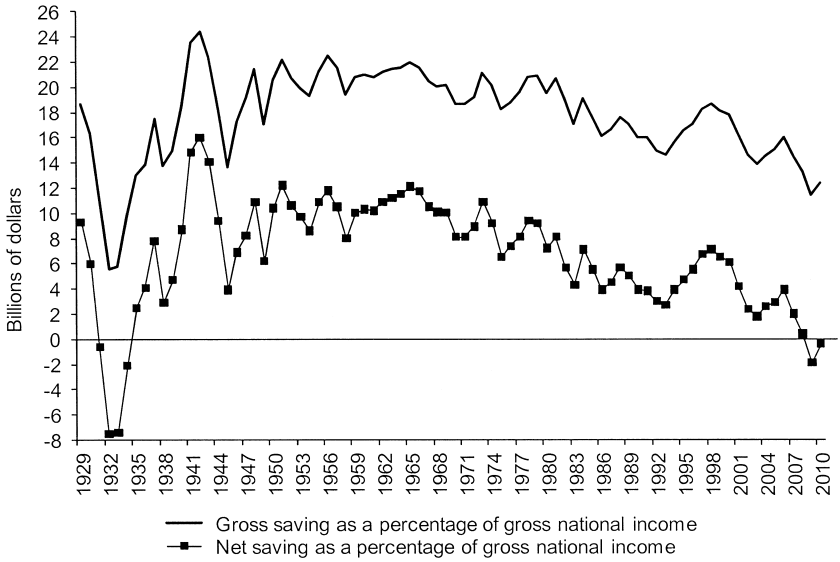

Fig. 1C.1 Gross and net saving as a percentage of gross national income

tion model shows why 401(k)s will not make a big difference unless they are reengineered in the future.

To begin this analysis, consider an illustrative benchmark case. We will soon see that this benchmark is far too optimistic. I make the following assumptions for the benchmark:

- 6.5 percent guaranteed nominal return (risk-adjusted rate of return)
- 2 percent inflation rate
- All employees contribute 6 percent of their income to a 401(k) (or equivalent individual account)
- 100 percent employer match of this 6 percent contribution
- No leakage before retirement
- Everyone starts working at age twenty-two (and starts participating at the same age)
- Starting job pays $35,000 (2011 dollars)
- 1 percent real wage growth until retirement at age sixty-seven
- 50 percent Social Security replacement rate
- 4 percent expenditure rule (i.e., retiree spends 4 percent of his accumulated financial assets)

These assumptions imply a total inflation-adjusted accumulation of 401(k) assets of $719,275 (2011 dollars), and a total replacement rate of 103 percent of final income. At this point, the situation looks promising.

Now let's make the simulation more realistic, by incorporating the following assumptions that better characterize the "representative" US worker:

1. Each year, 3.5 percent of the money in retirement accounts of *nonretirees* is withdrawn.[9] In practice, these *pre-retirement* withdrawals are comprised of cash distributions after an employer-employee separation, 401(k) loan defaults, 401(k) hardship withdrawals, and all types of IRA withdrawals (including nonpenalized withdrawals—e.g., certain expenditures on health, education, or home purchase—as well as penalized withdrawals).
2. Savings flows do not start until age thirty (instead of age twenty-two).
3. Forty percent of US workers do not have workplace access to a DC savings plan. I assume that these "no-access" workers have only a 33 percent participation rate—i.e., in any given year, one-third of these households make self-directed IRA contributions—and those who do contribute to IRAs save 5 percent of their income.
4. Among workers with a workplace DC plan, the match rate is 50 percent, not 100 percent.
5. Among workers with a workplace DC plan, 20 percent of workers (thirty years old and above) do not participate.
6. The (risk-adjusted, net-of-fees) return is 5.5 percent, not 6.5 percent.
7. The Social Security replacement rate will eventually be 45 percent, not 50 percent (for the representative worker that we are studying).

With all of these assumptions, total (real) savings falls drastically from the benchmark case. Specifically, total inflation-adjusted accumulation of 401(k) assets falls from $719,275 (2011 dollars) to $86,732, and the total replacement rate (including Social Security) falls from 103 percent to 51 percent of final labor income. This representative scenario implies very little wealth accumulation, and generates accumulation patterns that look remarkably like the financial wealth claims of the current cohort of retirees. For example, in the 2007 Survey of Consumer Finances, the median holding of financial assets is $68,100 (2007 dollars).

Many of the quantitative assumptions in this "representative" simulation are debatable, but tweaking them within the range of empirical plausibility barely affects the result. Moreover, these assumptions are probably still too rosy, since the calculations gloss over new challenges that will confront later cohorts of retirees, including rising longevity (which will decrease the

9. Estimates of leakage are still quite crude, since it is difficult to measure asset flows among accounts at different financial service firms. For one recent set of analysis, see "Leakage of Participants' DC Assets: How Loans, Withdrawals, and Cashouts Are Eroding Retirement Income," Aon Hewitt, 2011. http://www.aon.com/attachments/thought-leadership/survey_asset_leakage.pdf. See also, "401(k) Plans: Policy Changes Could Reduce the Long-Term Effects of Leakage on Workers' Retirement Savings," GAO-09-715, August 28, 2009. http://www.gao.gov/products/GAO-09-715.

sustainable payout rate) and rising out-of-pocket health costs (which will increase the optimal income replacement rate).

If policymakers want to address the financial vulnerabilities that PVW document, they are going to need to change the DC savings system going forward. Leading candidates include: (a) raising the net rate of return by reducing asset management and record-keeping fees (e.g., by agglomerating smaller plans and thereby exploiting scale economies); (b) raising participation within firms that offer 401(k)s; (c) raising the fraction of firms that offer workplace savings plans; (d) raising the typical 401(k) contribution rate by adopting more aggressive default contribution rates and using default auto-escalation; (e) reducing leakage by making defined contribution plans more illiquid.[10]

The important financial vulnerabilities that PVW have documented are likely to characterize generations to come, unless firms and policymakers revamp the retirement savings system.

10. For example, consider the following adjustments to the "representative" case described earlier: (a) raising the nominal (after-fee, risk-adjusted) return from 5.5 percent to 5.75 percent; (b) raising the participation rate from 80 percent to 95 percent in firms with 401(k) plans; (c) raising the fraction of workers that have a workplace 401(k) from 60 percent to 85 percent; (d) raising the worker contribution at firms with 401(k)s from 6 percent to 10 percent, and (e) cutting leakage from 3.5 percent to 0.5 percent. These five changes would jointly raise (inflation adjusted) 401(k) wealth accumulation to $463,673, implying a 74 percent income replacement ratio.