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Measuring Economic Preparation for Retirement: Income Versus Consumption

Michael D. Hurd and Susann Rohwedder *

The income replacement rate (IRR) — income immediately following retirement divided by income immediately preceding retirement — has been used as a measure of economic preparation for retirement. For example, various online financial calculators suggest that retirement income replacement rates should exceed 0.7. In an era when preretirement income was composed almost exclusively of earnings and when post-retirement income was composed of Social Security and defined pension benefits, the IRR may have been appropriate, and the simplicity and transparency of the concept have contributed to its use. Yet a number of issues relevant to economic preparation for retirement are not adequately captured by the replacement rate concept.

Most importantly, while the IRR accounts for the contributions to retirement of Social Security and DB pensions, workers today planning for retirement must account for other, often less predictable economic resources. The DB plans of the 20th century have been largely replaced by defined-contribution plans, whose values depend not only on contributions, but also on movements in the markets in which the plans are invested. Many people possess other forms of financial wealth that are not always thought of as sources of income but that could serve as such. Yet, in its simplest form the IRR has not been redefined to accommodate these other potential income sources. As a result, the IRR understates the degree to which workers have adequately prepared economically for retirement relative to enhanced forms that do account for those income sources.

Post-retirement income options have also diversified to the extent that one household may have two earners with retirement ages that differ, either because the two differ substantially in age, or because one prefers to retire at a different age than the other. Given the complexity that a second earner adds, determining the timing of a couple's retirement and quantifying their pre- and post-retirement incomes is a difficult planning problem that cannot be solved by a simple ratio with a few values.

In this paper we have consider two additional variations of the IRRs to account for some of the complexities of the contemporary labor and investment markets available to workers near retirement age. To address IRAs and other sources of wealth that could produce post-retirement income, we assumed an annual four percent drawdown of financial assets and

* **Michael Hurd** is a senior economist at RAND. **Susann Rohwedder** is a senior economist at RAND. This research brief is based on MRRC Working Paper 2015-332.

of IRAs—a rate considered prudent by financial advisors. This allowed us to account for possession of financial wealth, which results in considerable improvement to economic preparation for retirement. We also annuitized this wealth, but, although this resulted in even higher levels of preparation for retirement, annuitization of financial assets is rarely done. For the purposes of our analyses then, the four percent drawdown is more relevant, and that is what we have emphasized in comparisons.

To address the increase in two-earner households, we took two approaches to Health and Retirement Study (HRS) data. First, we treated each spouse separately as a single person, so each had his or her own IRR, drawn from his or her own preretirement earnings and post-retirement Social Security and pension income. Second, we treated the spouses as a couple, jointly. In this approach, each married individual existed for our purposes only as an element of a couple, which was indivisible until the marriage dissolved, through death or otherwise. There were only household preretirement earnings and household post-retirement income. This second approach was the one we preferred. It recognizes the realistic advantages of pooling income, and is likely to yield a more meaningful measure of economic preparation for retirement.

These adjustments to the IRR allow recognition of higher levels of preparation for retirement. For example, considering the post-retirement income sources recognized by the IRR as now in use, little more than a third of the respondents surveyed were economically prepared for retirement. But when IRAs and other wealth elements were recognized as potential income sources, a considerably higher 46 percent were prepared both for single and married persons. (The criterion for a single, a married person, or a couple to be regarded as “prepared” was possession of an IRR of more than 0.7.)

In the second part of this paper, we compared economic preparation for retirement based on the various IRRs with economic preparation based on a consumption-based measure of economic preparation. The consumption-based measure is theoretically preferable because consumption is more likely to translate directly into well-being than is income, which has to be consumed. Our estimated consumption-based measure indicates retirement preparation at 59 percent for single persons, well over the quantity derived from IRRs. For couples, the consumption-based retirement preparation rate is a much higher 81 percent.

It is noteworthy that only the consumption-based measure conveys the expected retirement-age financial advantage of couples over single people. The advantage that we see in retirement preparation reflects differences in both income and wealth. Mean reported post-retirement income is twice as high for couples as for singles. Mean reported financial wealth, including IRAs, is three times as much for couples as for singles. These multiples may actually understate the advantages accruing to couples. Because of returns to scale, couples do not need to spend twice as much as singles to be as well off.

The lack of a sensible or anticipated relationship between singles’ IRRs and those of couples argues against putting much stock in these ratios as indicative of retirement preparation adequacy. The consumption-based measure does differ in the expected way across singles and couples. Moreover, there is little relationship between the income replacement measures and the consumption-based measures. Adequacy of preparation, as measured by the consumption-based measure, does not increase substantially with increasing income replacement ratio, regardless of how it may be modified for improvement. We conclude that neither the IRR nor the modifications we considered is a good guide to economic preparation for retirement of a household as they may be quite misleading. Other consumption-based metrics should be put to wider use.

University of Michigan Retirement Research Center
Institute for Social Research 426 Thompson Street Room 3026
Ann Arbor, MI 48104-2321 Phone: (734) 615-0422 Fax: (734) 615-2180
mrrcumich@umich.edu www.mrrc.isr.umich.edu

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