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The US savings rate is really low and has been for some time. For many years this was explained by the argument that people were getting wealthy through appreciation of their homes and stock portfolios, so the need for saving out of current income was low. And sure enough, household net worth did expand nicely through the decade up to 2007 even with the low savings rate. However, that story was shattered with the housing bust that began in 2007. Yet, while savings rates have picked up a bit since 2007, they still are very low both historically and relative to other countries.

Many observers are content with low savings today. Sure, they say, people have to eventually save more, but today there is a shortfall in aggregate demand so the last thing we need is expanded savings today. This is short-sighted. It would be desirable for savings rate to go up a lot, and the sooner the better.

In order to preserve real consumption in retirement, what savings rate is required during the working years? Well, the answer depends on several factors, the most important of which is the after-tax real return on your portfolio. Suppose your income at age 40 is \$50,000, you expect your real income to be stable for the next 25 years until you retire and you would like to maintain real consumption stable through the remainder of your working years and retirement. Further, your current net worth is zero and you have no retirement plan aside from social security. In that case, if the real rate of return is 6% (which is a bit below the long-term real equity return) then the savings rate must be 9% to achieve a stable consumption path. On the other hand, if the real rate of return is 2% (which is close to what many experts are currently projecting for balanced portfolios) then the savings rate must be 19%.

Although there are no doubt some households saving at this rate, it is not the norm. Is this a huge problem for baby boomer retirement? Well, maybe not. The analysis above is very simple and neglects a number of important issues including positive initial wealth (aside from social security) and the potential for lower expenses after retirement. For example, if the \$50,000 wage earner mentioned above had initial net worth of \$100,000, then the savings rate required to maintain real consumption drops to 12% assuming real returns of 2% per year, and drops to zero assuming real returns of 6% per year.

In its latest annual report on savings behavior, Vanguard¹ estimates that only 30% of households are saving adequately for retirement and that most households need to save between 12 and 15% of annual income in order to avoid a major reduction in their living standards in retirement. This required savings rate is lower for lower income households, due to the fact that social security replaces a greater proportion of income for a lower income person. Conversely, higher income people should be saving a greater portion of their income if

they are going to maintain the same standard of living in retirement as during the working years.

While it might be expected that savings recommendations from a large mutual fund management company would be biased upward, the Vanguard estimates seem reasonable to me. Again, the key is the long-term real rate of return on capital (i.e., the real after-tax investment return).

As mentioned above, the historical long-term real equity return is in excess of 6%. But, it has been widely documented that the typical household has achieved a much lower real return on investment. This is partly due to portfolio allocation into lower return asset classes like bonds and cash. In addition, management fees and transaction costs reduce the net return. Finally, poor timing and excessive trading further reduce the net return. While it is feasible to constrain expenses and resist over-trading, evidence suggests that it is prudent to assume a modest real return, like around 2% per year.

To determine the most appropriate savings and consumption behavior for a particular household requires a lot more information than is being considered in my simple calculations, and probably in the Vanguard model as well. You should consult with an advisor to obtain access to a sophisticated planning model. Still, without doing the detailed calculations, I believe that most people will find that they are going to have to increase their savings rate a lot, or work longer than “normal retirement” or adjust to lower consumption in retirement.

A Caveat

Many distinguished economists have published articles that contest my conclusion. For example, economist Laurence Kotlikoff² argues that simple estimates of required savings rates are often over-stated due to methodological flaws in the calculations. In particular, he points out that optimal consumption smoothing is generally achieved by varying savings rates over time and that calculating the optimal savings rate requires the use of a complex mathematical model. Kotlikoff argues that many households are saving too much and buying too much life insurance. They are living like misers today so that they can live like kings at age 80. In order to evaluate your own situation, you are encouraged to buy Kotlikoff’s online financial planning software. This software (ESPlanner) is based on the latest economic theory and can be used to trace out the optimal savings rate path for you.

It is not surprising to me that an efficient algorithm would produce savings rates that are on average lower than those calculated according to financial planning rules of thumb. However, I don’t believe most households are currently following savings profiles that are consistent with typical financial planning rules of thumb. Instead, they are systematically under-saving relative to such rules. Application of an efficient algorithm would likely reduce the degree of under-saving, but I don’t think it would change the sign. Bottom line: do the calculation but don’t be shocked if you find you are not saving enough.

¹“How America Saves 2011,” Vanguard, 2011.

²Laurence Kotlikoff, “Is Conventional Financial Planning Good for Your Financial Health?” Economic Security Planning, 2006.