Revisiting Retirement Withdrawal Plans and Their Historical Rates of Return

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Abstract

This paper examines the historical record of the so-called 4 percent rule, the popular guideline for sustainable real annual withdrawals in a self-funded retirement.

Our findings indicate that a withdrawal plan following this rule ("4R") carries an historical risk of failure for a long retirement that is much higher than generally acknowledged. For example, we find that 15 percent of the historical 35-year retirements failed when funded with equal parts of stocks and bonds. The "real" withdrawal plans that generated no historical failures were all less than 4 percent, sometimes far less, when retirements exceeded 25 years. The historical failure rates that we find for a 5R plan are higher than a 4R plan by a factor of at least three for all retirement periods.

The historical failures are not random. Rather they occur in clusters of years in which the majority of new retirement withdrawal plans fail. A key driver of these failures was a rapid, significant and lasting increase in the rate of inflation—this event increased withdrawals and contributed to a declining real rate of return that was ultimately unable to support the withdrawal plan.

Although TIPS bonds and inflation-adjusted annuities are both too new for historical analysis, we note they may offer an opportunity to curtail income plan failures in the future. This is because they (1) offer a known real rate of return and (2) adjust for inflation close to the time at which inflation impacts withdrawals.

Our review of the prior literature and a detailed description of the methodology used in the study appear at the end of the paper, after the Summary and Conclusions.