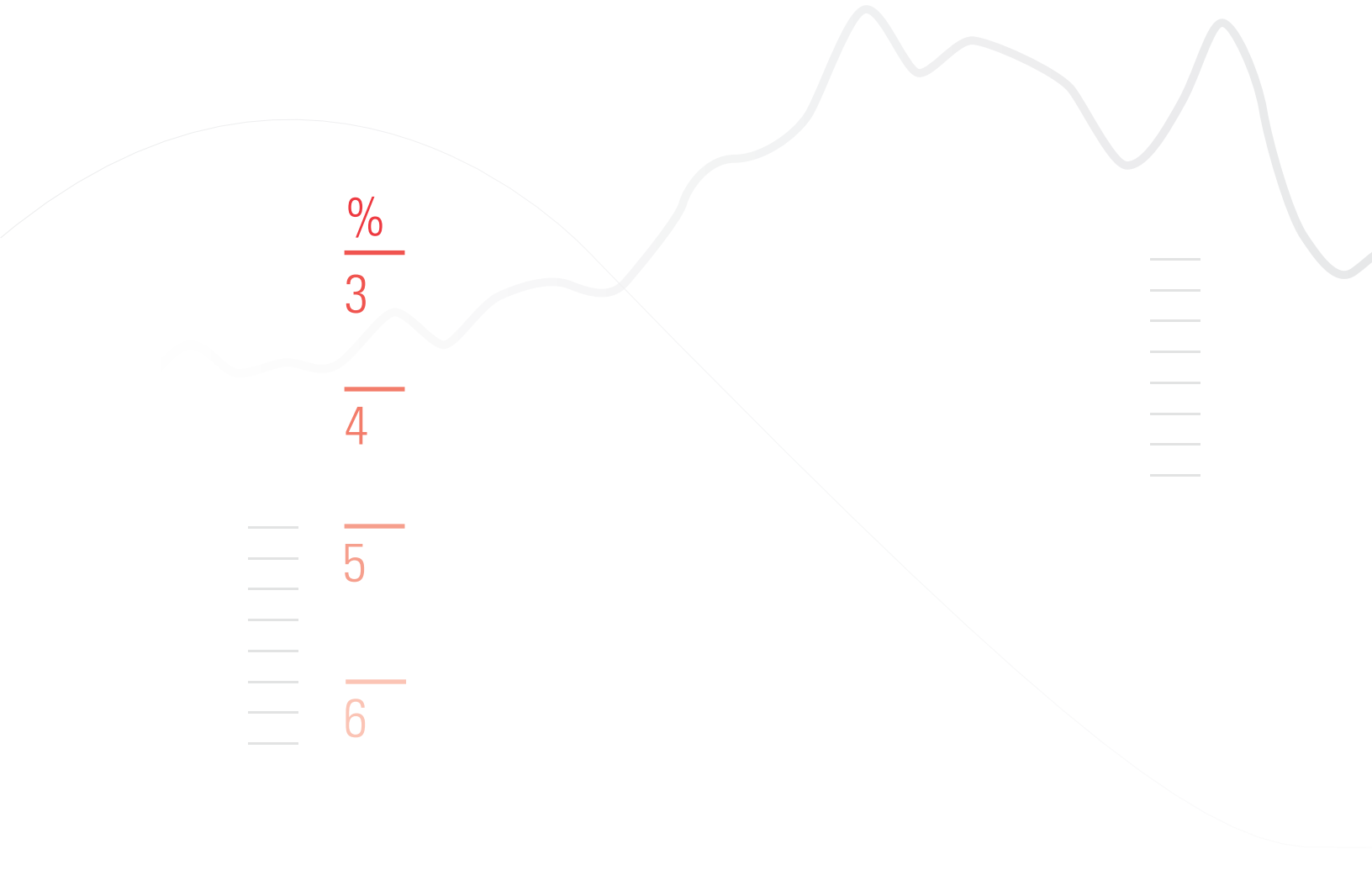
Morningstar Investment Management
Retirement Abstract

For financial professional use only.

Low Bond Yields: The Effect on Portfolio Withdrawal Rates

Yields on government bonds are well below historical averages, a fact that has a significant effect on retirees, particularly those in early retirement years. We examine what this means for the annual rates at which retirees can safely withdraw from their portfolios.



Key Findings

These are trying times for bond investors. The yield on 10-year government bonds is approximately 1.8% and the yield for the High Quality Market Corporate Bond Yield Curve at 10 years is approximately 3.2%. These are both considerably below long-term averages.

These lower bond yields have important implications for different types of investors, especially older investors, who tend to invest more conservatively than younger investors.

We wanted to test what the current bond market means to portfolio withdrawal rates, given that retirees tend to invest heavily in bonds. Note that portfolio returns in the early years of retirement have a greater effect on the probability of successfully funding all the retirement years than returns in later years do. This concept is known as sequence risk, and can be seen in Figure 1.

Most of the research on sustainable withdrawal strategies (including the 4% rule) has used a stochastic (Monte Carlo) simulation process based on long-term averages, where the expected return of an asset class is the same for each year of the simulation. This approach is reasonable when markets are near long-term averages, but we believe it is less useful when there is a significant and sustained deviation such as the current low bond yield market.

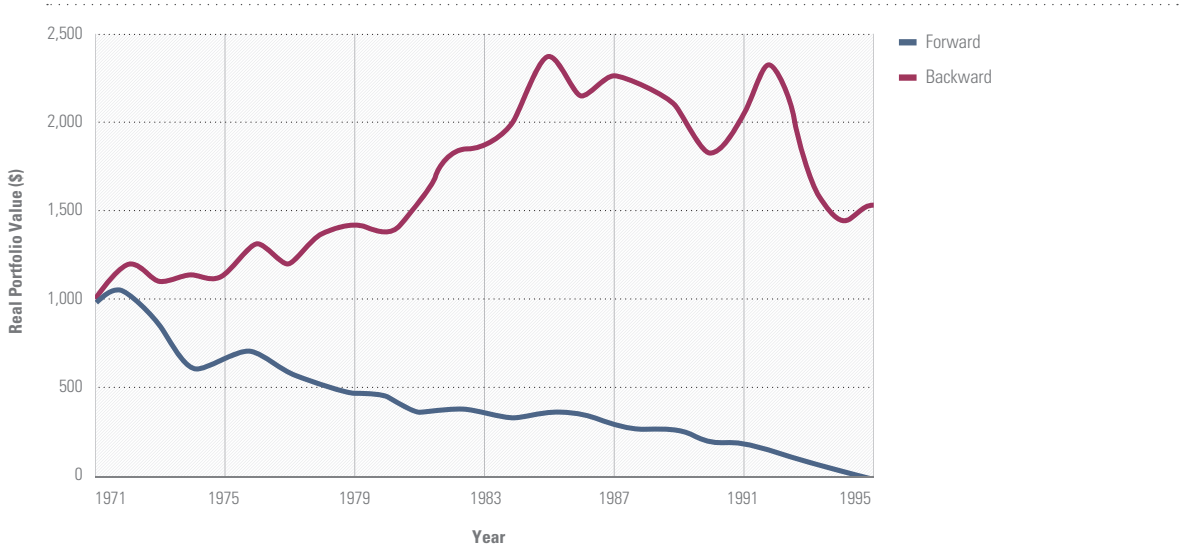
Our research introduces a model that takes into account current bond yields and allows them to "drift" toward a higher value during retirement using an autoregressive model based primarily on historical relationships between asset classes. This approach is designed to better replicate the actual bond returns a current or near retiree can expect during retirement both now and in the future.

Using this model, we found a significant reduction in "safe" initial withdrawal rates, with a 4% initial real withdrawal rate having approximately a 50% probability of success over a 30-year period.

We find a hypothetical retiree who wants a 90% probability of achieving a retirement income goal with a 30-year time horizon and a 40% equity portfolio would only have an initial withdrawal rate of 2.8%. Such a low withdrawal rate would require 42.9% more savings to achieve the same dollar value income out of the portfolio annually as he or she would get with a 4% withdrawal rate from a smaller portfolio.

Figure 1: Sequence Risks

This chart shows the balances over time of a sample portfolio that experiences the same overall average real returns, but in the reverse order. The Forward scenario depicts lower returns at the beginning; the Backward scenario shows the portfolio if the same returns occur in reverse: higher returns at the beginning and lower returns at the end. The outcomes are very different.



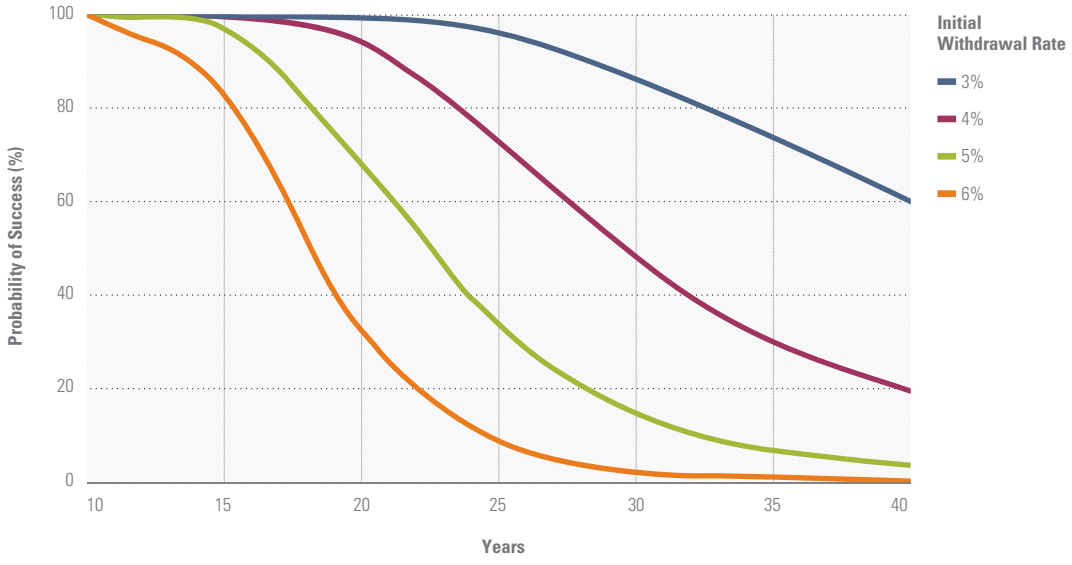
Conclusion

This paper introduced a model that takes into account current bond yields when determining the probability of success for different initial withdrawal rates over different time periods and for different equity allocations. We believe using a model that incorporates how bond yields are likely to move through time is a better approach to modeling returns retirees are likely to experience than assuming the same average return for each year of the simulation as previous studies have done. This is especially important because the order of returns experienced during retirement can significantly affect the likelihood of a retiree achieving his or her income goal (something known as sequence risk).

We found that a 4% initial withdrawal rate has approximately a 50% probability of success over a 30-year period. This success rate is much lower than past studies, which have typically noted a probability of success above 80%. This has significant implications on the likelihood of success for retirees today and for how much those nearing retirement need to have saved to ensure a successful retirement.

For example, we found a hypothetical retiree who wants a 90% probability of achieving a retirement income goal with a 30-year time horizon and a 40% equity portfolio would only have an initial withdrawal rate of 2.8%. Such a low withdrawal rate would require 42.9% more savings if the retiree wanted to pull the same dollar value out of the portfolio annually as he or she would get with a 4% withdrawal rate from a smaller portfolio.

Figure 2: Probabilities of Success for Various Initial Withdrawal Rates for a 40% Equity Portfolio
Below are the probabilities of success for various initial withdrawal rates for a 40% equity portfolio from 10 to 40 years.



This piece is a summary of "Low Bond Yields and Safe Portfolio Withdrawal Rates," by David Blanchett, CFA, CFP®, Head of Retirement Research, Morningstar Investment Management; Michael Finke, Ph.D., CFP®, Professor and Ph.D. Coordinator at the Department of Personal Financial Planning at Texas Tech University; and Wade D. Pfau, Ph.D., CFA, Professor of Retirement Income at the American College. You can read the entire paper at http://global.morningstar.com/research

Important Disclosuures

The information, data, analyses, and opinions presented herein do not constitute investment advice; are provided solely for informational purposes; and are not warranted to be correct, complete or accurate. The opinions and estimates noted herein are accurate as of a certain date and are subject to change. The charts and graphs within are for illustrative purposes only.

Monte Carlo is an analytical method used to simulate random returns of uncertain variables to obtain a range of possible outcomes. Such probabilistic simulation does not analyze specific security holdings, but instead analyzes the identified asset classes. The simulation generated is not a guarantee or projection of future results, but rather, a tool to identify a range of potential outcomes that could potentially be realized. The Monte Carlo simulation is hypothetical in nature and for illustrative purposes only. Results noted may vary with each use and over time.

The results from simulations used for research within are hypothetical in nature and not actual investment results or guarantees of future results. Results noted may vary with each use and over time. This should not be considered tax or financial planning advice. Please consult a tax and/or financial professional for advice specific to your individual circumstances.

About Our Research

The research team within the Morningstar Investment Management division pioneers new investment theories, establishes best practices in investing, and develops new methodologies to enhance a suite of investment services. Published in some of the most respected peer-reviewed academic journals, the team's award-winning and patented research is used throughout the industry and is the foundation of each client solution. Its commitment to ongoing research helps maintain its core competencies in asset allocation, manager research, and portfolio construction. Rooted in a mission to help individual investors reach their financial goals, its services contribute to solutions made available to approximately 25.5 million plan participants through 212,900 plans and 25 plan providers.

The Morningstar Investment Management division creates custom investment solutions that combine its award-winning research and global resources together with the proprietary data of its parent company. This division of Morningstar includes Morningstar Associates, Ibbotson Associates, and Morningstar Investment Services, which are registered investment advisors and wholly owned subsidiaries of Morningstar, Inc. With approximately $157 billion in assets under advisement and management, the division provides com-prehensive retirement, investment advisory, portfolio management, and index services for financial institutions, plan sponsors, and advisors around the world. Data as of March 31, 2013. Includes Morningstar Associates, Ibbotson Associates, Morningstar Investment Services, OBSR Advisory Services, and Ibbotson Australia. Our research has practical applications.

For more information, please visit http://global.morningstar.com/mim.

MORNINGSTAR®

22 West Washington Street
Chicago, Illinois 60602 USA
+ 1 877-525-3275
global.morningstar.com/mim