

Factors In Focus



The Biggest Financial Risk In Retirement

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A significant concern among investors is “sequence-of-returns” risk in retirement. In short, this concept says that the *pattern* of returns you achieve on your investment portfolio, not just the *average* long-term return, plays a significant role in whether you will meet your income goals or fall short (run out of money). Said differently, your retirement portfolio could earn satisfactory returns over your lifetime, but if the results are very poor in the early years, you may not have money left over to experience the eventual good times.

What are the biggest risks in retirement and how important is your “sequence of returns?”

The Data

In contrast to a similar *Factors* article from October 2014, [“There’s Never Been a Bad Time To Retire.”](#) this study is restricted to the last 20 years, for two reasons. First, we have live, net-of-fee mutual fund data from DFA going back to 1995. Second, with two of the worst five bear markets since the 1920s occurring since 2000, we have ample data to study.

In each case we will model a \$1M portfolio invested in one of three different allocations: all stock, balanced (65% stocks, 35% bonds), and short-term bonds. Each mix will include the expenses of the actual mutual funds used as well as a 1% per year advisory fee. Withdrawals in every example will start at 4% (\$40k) in year one and increase every year after by the rate of inflation. For portfolio details, refer to the footnotes.

The Evidence

Retiring in 2000

The year 2000 was a tough time to retire. A bursting technology bubble sent the S&P 500 down almost 40% from 2000-2002. The real estate market collapsed a few years later, leading to similar losses in 2008.

Portfolio Mix	2014 Year-End Value (\$1M starting value)	Worst Peak-to-Trough Decline	2014 Year-End Withdrawal Rate
All-Stock Mix	\$1,597,460	-\$742,475	3.5%
Balanced Mix	\$1,407,101	-\$432,558	3.9%
Short-Term Bonds	\$766,610	-\$249,320	7.2%

The all-stock portfolio, including withdrawals, was off \$220,596 between 2000 and 2002 and \$742,475 between 2006 and 2008. However, in each case, stocks recovered and the portfolio soon reached new highs. As of year-end 2014, the portfolio had grown to the point where the annual withdrawal amount (\$55,389) represented only 3.5% of the portfolio’s value. In purchasing power terms, it was the safest allocation.

The balanced mix, aided by 35% in short-term bonds, had smaller declines between 2000-2002 and 2008, losing \$121,666 and \$432,558. But it also ended 2014 with almost \$200K less value compared to the all-stock mix. This lower accumulated value was still enough to keep the 2014 year-end withdrawal rate to below the 4% starting level.

The short-term bond portfolio, which had no “sequence-of-returns” risk (short-term bond returns are very stable and don’t typically experience the large losses we see with stocks), had the worst retirement result. By 2014, because its long-term returns did not keep pace with the yearly spending rate, the portfolio had diminished to only \$766,610 and the year-end withdrawal amount represented over 7% of the remaining funds. In purchasing power terms, this portfolio was by far the riskiest of the three.

Retiring in 2008

2008 was even worse than 2000 for retirees. The bear market happened over a much shorter period of time, and there were no places to hide. From 2000-2002, smaller and more value-oriented stocks notched small gains, offsetting some of the losses from large cap, blue-chip growth stocks. This helped to lessen the overall declines for diversified portfolios. During 2008, outside of high-quality bonds, *every* asset class collapsed.

Portfolio Mix	2014 Year-End Value (\$1M starting value)	Worst Peak-to-Trough Decline	2014 Year-End Withdrawal Rate
All-Stock Mix	\$952,265	-\$445,300	4.7%
Balanced Mix	\$1,002,092	-\$293,310	4.4%
Short-Term Bonds	\$882,693	-\$117,307	5.0%

But even starting in 2008, the all-stock portfolio, which is the most sensitive to return sequences, finished about where it began. The \$952,265 ending value was only \$47,735 off its starting value and included cumulative withdrawals of \$293,989. The 2014 year-end withdrawal rate was 4.7%, only fractionally higher than the 4.0% starting rate seven years earlier.

The balanced mix fared slightly better as the 35% allocation to short-term bonds again helped buffer the bear market. By 2014, it had fully recovered from the 2008 declines and the year-end withdrawal rate was almost the same as the starting level—4.4%.

Once again, it was the “safest” portfolio in terms of volatility and sequence-of-returns risk that proved to be the most risky from a cash-flow perspective. In almost every single year, the retirement withdrawal rate outstripped the gains from short-term bonds, and by year-end 2014 it was almost \$120k below its original starting value, with annual withdrawals now 5% of the remaining principal.

The Conclusion

There are a few important conclusions for retirees based on the bear markets of 2000-2002 and 2008. First, your portfolio’s sequence of returns is not necessarily a risk to your long-term spending ability.

Instead, the return pattern seems to impact more the amount of wealth you’re able to leave behind as a financial legacy when you pass away—more if you start with a favorable sequence, less if you start with an unfavorable one (such as the 2000 and 2008 examples).

Second, we frequently hear that paying a financial advisor for their ongoing advice and investment management services can cripple your long-term retirement prospects. Nothing could be further from the truth. As a matter of fact, left on their own, many investors bailed out of stocks during the 2000-2002 and 2008 bear markets, missing the eventual recoveries and costing themselves many times more in missed-out-on returns than they would have paid in modest investment advisor fees.

Finally, the most significant financial risk in retirement is not the one most people understand or acknowledge. Low-risk asset classes like high-quality bonds or portfolios that place an extreme emphasis on low-risk asset classes (such as asset allocation formulas like “age in bonds”) expose retirees to significant long-term, purchasing power risk. They have low volatility, but even lower-relative returns compared to stocks and stock-based allocations. Low returns for a long enough period of time can result in the most significant retirement risk of all—a lifetime return that is greatly exceeded by an investor’s income requirements, especially after accounting for the risk of higher-than-expected inflation or spending needs.

Source of asset class return data: DFA Returns 2.0

All-Stock Mix = 21% DFA US Large Company fund, 21% DFA US Large Value fund, 28% DFA US Small Value fund, 18% DFA Int’l Value fund, 12% DFA Int’l Small Value fund; rebalanced annually. Net of 0.25% quarterly fee.

Balanced Mix = 65% All-Stock Mix, 35% Short-Term bonds; rebalanced annually. Net of 0.25% quarterly fee.

Short-Term Bonds = 100% DFA Five-Year Global Bond fund. Net of 0.25% quarterly fee.

Past performance is not a guarantee of future results. There are limitations inherent in model performance; it does not reflect trading in actual accounts and may not reflect the impact that economic and market factors may have had on an advisor’s decision-making if the advisor were managing actual client money. Model performance is hypothetical and is for illustrative purposes only. Model performance shown includes reinvestment of dividends and other earnings but does not reflect the deduction of investment advisory fees or other expenses except where noted. This content is provided for informational purposes and is not to be construed as an offer, solicitation, recommendation or endorsement of any particular security, products, or services.

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