



# Retiring In A Volatile Market

Adjusting spending can help with extending the life of a portfolio.

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## KEY INSIGHTS

- Investors nearing retirement—or newly retired—may be concerned about the timing of a market downturn and the effect it will have on their nest egg.
- We analyzed two time periods with market drops at the onset of retirement to gain insight on portfolio sustainability through an individual's projected retirement horizon.
- We found that an initial 4% withdrawal amount, increased to maintain purchasing power, produced good results in each scenario.

After almost 10 years of market gains, investors saw a sharp drop in the market—and their account balances—at the end of 2018. While the ups and downs of the market are natural, individuals near retirement may wonder how an increase in market volatility may impact their ability to retire.

When it comes to spending down one's nest egg in retirement, the sequence of returns (the order markets are rising and falling) is very important. Market declines within the first five years of drawing down retirement assets can significantly impact the chance of the portfolio lasting, especially when planning for a retirement horizon that could span decades.

As a result, retirees are hit with a double whammy: Their portfolio value declines, and withdrawing money to spend in retirement only serves to realize those portfolio losses.

To better understand the impact of market volatility on retirement security,

we examined historical bear markets to see the effect they have on retirees when markets drop early in the retirement horizon.

We analyzed retirees from two different time periods:

- Someone who retired January 1, 1973, the most recent 30-year period that started with a bear market.
- Someone who retired January 1, 2000, who has already lived through two recent bear markets and is more than halfway into their retirement years.

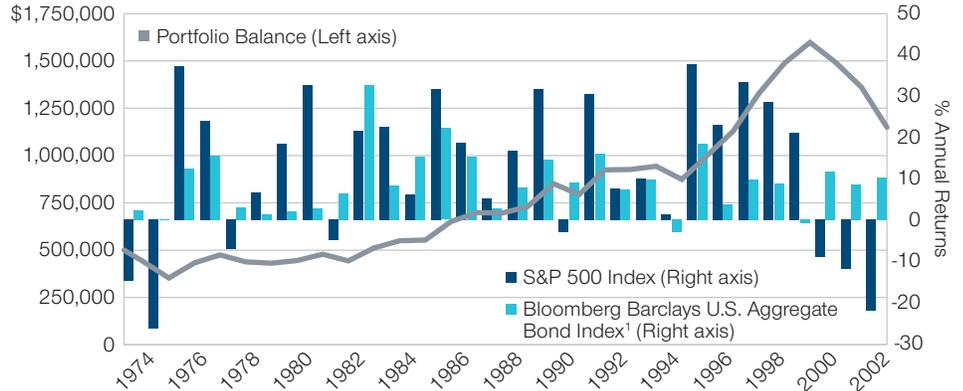
## The 1973 Retiree Scenario

In 1973, there was the onset of the oil embargo and energy crisis that sparked a recession. I remember gas shortages and rationing causing lines of cars circling the block and energy conservation attempts like year-round daylight savings time and a national speed limit.



**Judith Ward, CFP®**  
*Senior Financial Planner*

**(Fig. 1) Market Returns and Portfolio Balance Beginning in 1973**



Adding fuel to the fire (pardon the pun), the early 1970s was one of the highest inflationary periods in history, seeing prices more than double in 10 years.

We assumed a starting portfolio of \$500,000 with an asset allocation of 60% stocks and 40% bonds throughout the entire horizon using the S&P 500 Index and the Bloomberg Barclays U.S. Aggregate Bond Index.<sup>1</sup>

We tested the “4% rule” assuming the investor started with an initial withdrawal amount that was 4% of the starting portfolio balance (\$20,000 the first year). This amount was adjusted each year based on actual inflation<sup>2</sup> in order to maintain purchasing power over the 30-year spending horizon. Many experts consider the 4% rule a safe starting point that helps investors navigate an uncertain market environment, especially at the onset of retirement.

The beginning monthly withdrawal for the investor who retired in 1973 was \$1,667. But retirement would get off to a rocky start. This investor entered a bear market that would see the S&P 500 Index decline 48% within the next two years.

Not only did the investor have to cope with watching his portfolio shrink to

about \$328,500 by September 1974 (Figure 1), but inflation was also a huge factor. At the end of 1972, inflation was at 3.4%, but it had soared to over 12% by the end of 1974.<sup>2</sup> Money at that time wasn’t going as far as it used to when it came to paying for everyday expenses like gas and food.

But recovery was around the corner, and the investor’s balance began to grow again with the help of two subsequent bull markets. The account balance recovered to over \$500,000 about 10 years into retirement in December 1982 and actually hit \$1 million by the end of 1995.

When we saw a significant bear market in March 2000, those gains from the bull years helped the investor weather market swings.

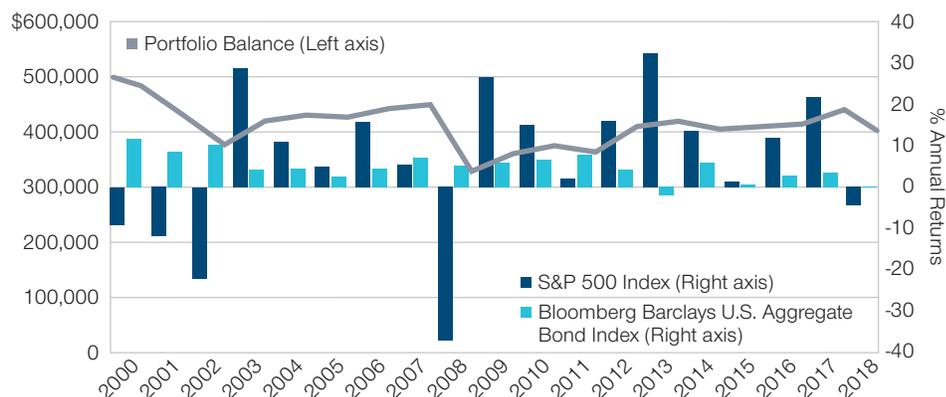
At the end of 30 years, the portfolio balance for the investor who retired in 1973 was well above \$1 million despite all the market volatility incurred during those decades.

Of course, this investor didn’t know after seeing the portfolio decline to \$328,500 just two years into retirement that the account would more than double after 30 years.

<sup>1</sup> Benchmark reflects the Bloomberg Barclays Government/Credit U.S. Bond Index for the period 1973–1975 and the Bloomberg Barclays U.S. Aggregate Bond Index from 1975 to the present.

<sup>2</sup> Consumer price index, seasonally adjusted.

**(Fig. 2) Market Returns and Portfolio Balance Beginning in 2000**



### The 2000 Retiree Scenario

Let's fast-forward to a more recent bear market scenario. Using the same assumptions from our first scenario, the investor who retired in 2000 is now just over halfway through a 30-year retirement period. And, again, consider the 4% rule, spending \$20,000 the first year of retirement and adjusting each year based on actual inflation to maintain purchasing power.

The investor who retired in 2000 encountered a bear market that started in March 2000 and also weathered the great financial crisis of 2008. The S&P 500 lost 49% between March 2000 and October 2002 and a bit over 56% between October 2007 and March 2009.

This investor, however, had a couple things working in her favor, like a benign inflationary environment. Inflation between 2000 and 2009 topped out at 4.1% in 2007 and was at 0% in 2008.<sup>3</sup> A strong bond market during this time also helped buoy returns.

Since this investor's retirement on January 1, 2000:

- The portfolio balance dropped to under \$365,000 in February 2003, just three years into retirement.
- The account rebounded to a high of almost \$463,000 in October 2007, before the next bear market would start in 2008.

The portfolio flirted with a \$300,000 balance in February 2009. However, the last nine years of market growth and strong rebound helped the balance grow to over \$442,000 as of year-end 2017. (Figure 2.)

While this investor is more than halfway into a 30-year retirement horizon, we wanted to analyze how well these assets would hold up over the next 11 years. We used the T. Rowe Price Retirement Income Calculator<sup>4</sup> and assumed the following:

- An 84-year-old living with no spouse/partner in retirement.
- A balance of \$403,739 as of year-end 2018.

<sup>3</sup> Consumer price index, seasonally adjusted.

<sup>4</sup> The T. Rowe Price Retirement Income Calculator is a T. Rowe Price investment tool that allows retirement savers to estimate the durability of their current savings across 1,000 randomly generated market scenarios, and to assess the impact of different savings rates, time horizons, and asset allocations on the projection of retirement income. The results generated are hypothetical and are not guaranteed. See page 7 of this paper for important information.

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— Judith Ward  
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- A hypothetical portfolio composed of 60% stocks and 40% bonds.
- Ongoing monthly withdrawals from the portfolio increasing 3% annually to account for inflation. We started year 2019 with a monthly withdrawal of \$2,523. This resulted in a simulation success rate of more than 90% (i.e., the investor has at least \$1 remaining in the portfolio at the end of retirement) for the investor based on 1,000 market scenarios.
- No Social Security or other income was considered as we were only assessing the impact of withdrawals on personal savings.

### Making Spending Adjustments

Hindsight is 20/20, and our analysis shows that in each scenario, retirees starting with a conservative withdrawal amount were able to maintain their purchasing power over each period and not run out of money.

But it doesn't mean the investors didn't have heartburn along the way. Imagine retiring in early 1973 to see your portfolio, just two years into retirement, drop by more than one-third. Or the investor in 2000 who saw her portfolio balance decline about 40% nine years into retirement.

It's human nature to adapt and adjust. Most likely, both retirees would feel the need to make some kind of adjustment when seeing this precipitous drop in their nest eggs. As a matter of fact, in our recent study that asked about investor behavior,<sup>5</sup> we learned this about retirees:

- 89% found they can adjust their lifestyle to their income
- 60% prefer to adjust spending (either up or down), depending on the market, to maintain the value of their portfolio
- 78% reduce spending immediately if spending exceeds their income

So if an investor in the throes of a bear market wanted to try to preserve their account balance by spending less, how would that affect his or her circumstances over time? What would be a trigger point for that response?

We looked at the same two retired investors again and assumed that once their original portfolio value of \$500,000 dropped by 30%—or below \$350,000—they would temporarily adjust their spending to help offset the steep loss.

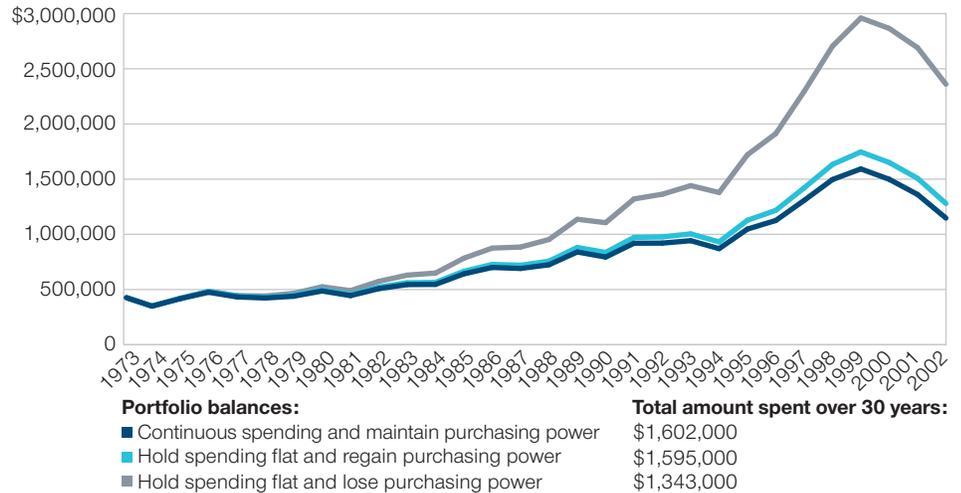
We assumed the investor who retired in 1973 would make spending adjustments at the end of 1974 for just two years. Instead of having a monthly withdrawal of \$2,035 starting in 1975, the monthly withdrawal would remain at \$1,816 and stay at that amount until the end of 1976. Though forgoing inflation adjustments sounds tame, this actually would have translated into a cut in spending because of the higher inflationary environment at that time.

This retiree would never have to take another cut in income for the remainder of the 30-year retirement period and by the end 2002, the portfolio had grown to over \$2 million. Sounds great, right? But consider that when this investor resumed taking inflation adjustments in 1977, those adjustments were based on a lower withdrawal amount than if he had never made any reductions in spending. This resulted in a permanent loss of purchasing power. While the investor spent considerably less money over time, he would have likely felt the pinch during high inflationary times. At the same time, he would have had considerably more breathing room and the ability to increase spending later in retirement.

But what if the same investor decided after two years of flat spending to increase annual withdrawals to the same level they would have been if no cuts had been made? In that case, the investor

<sup>5</sup> T. Rowe Price, "First Look: Assessing the New Retiree Experience" (2014).

**(Fig. 3) Portfolio Balances Over Three Spending Scenarios for a Retiree Beginning in 1973**



would have more to spend each year while regaining full purchasing power.

In this scenario, the investor's portfolio value would have been almost \$1.3 million after 30 years, and the investor would have been able to keep pace with inflation. (Figure 3.)

If we were to apply the same spending scenario to the investor who retired in 2000, she would not have experienced as severe a loss in purchasing power because inflation was relatively mild in the 2000s compared with the 1970s.

This retiree would not have to forgo annual inflation adjustments until 2009, after the second bear market in this time period. We assumed the annual withdrawals remained flat for four years, until 2013 when the portfolio value finally got back above \$400,000 in 2013.

There isn't as much difference between the end portfolio balances in this scenario, however, as inflation during this time remained well below 3%.

If the investor resumed taking inflation adjustments in 2013, the portfolio value at the end of 2018 would have been just over \$424,000 compared with about \$404,000 if no adjustments in

annual income had been made at all and close to \$410,000 if adjusting to regain purchasing power. The narrow difference reflects the impact that very modest inflation can have on spending rates in general. (See Figure 4 on page 6.)

### Approaching Retirement and the Unknown

We can't predict future markets. However, our analysis in applying an initial 4% withdrawal amount—and accounting for inflation adjustments—seems to be able to sustain multiple bear markets, even when a bear market happens early in retirement.

History has shown that bear markets have typically been followed by a healthy market recovery. But while investors are in the thick of market downturns, it may be difficult to stay the course and believe things will turn around.

When starting a drawdown strategy from a retirement nest egg, it's a good idea to start out with a conservative withdrawal amount. The first five years into retirement may be the most critical time period, especially if markets fall. Try to resist the urge to make drastic changes in portfolio strategy when markets become more volatile, especially early in your retirement horizon.

**(Fig. 4) Spending Scenarios for Someone Who Retired in 2000**

	Portfolio Balance		Total Amount Spent Over 19 Years
	Beginning 2000	Ending 2018	
Continuous spending and maintain purchasing power	\$500,000	\$403,739	\$473,920
Hold spending flat and regain purchasing power	\$500,000	\$410,161	\$470,287
Hold spending flat and lose purchasing power	\$500,000	\$424,170	\$458,514

If you do feel the need to make changes, temporary adjustments to spending can help sustain portfolio balances throughout retirement and they seem like actions most retirees expect to make. But it's also important to be aware of the inflationary environment. Over time, inflation can eat into your portfolio and impact your spending.

A conservative starting point allows much more flexibility later in retirement after weathering a bear market or if there isn't a bear market early on. As we saw in the 1973 scenario, balances doubled and the investor could have spent more.

The investor who retired in 2000 now has a success rate of over 90% and may be able to potentially spend more going forward.

The idea of retirement itself may cause anxiety for many investors. When someone finally makes the decision to retire, it can be unsettling to see the market tumble. By following a conservative withdrawal approach early in retirement and planning for temporary adjustments along the way (if needed) retirees can weather the markets and have a truly fulfilling and enjoyable next phase of life.

### ASSUMPTIONS

The hypothetical examples above are based on the performance of the S&P 500 Index, which tracks the performance of 500 large-company stocks, and the Bloomberg Barclays U.S. Aggregate Bond Index, which tracks domestic investment-grade bonds, including corporate, government, and mortgage-backed securities, for the time periods represented. Indexes are unmanaged, and it is not possible to invest directly in an index. These hypothetical examples are meant for illustrative purposes only and do not reflect an actual investment, nor do they account for the effects of taxes or any investment expenses. Investment returns are not guaranteed, cannot be predicted, and will fluctuate. All investments are subject to risk, including the possible loss of the money invested.

**IMPORTANT: The projections or other information generated by the T. Rowe Price Retirement Income Calculator regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. The projections are based on assumptions. There can be no assurance that the projected results will be achieved or sustained. The charts present only a range of possible outcomes. Actual results will vary with each use and over time, and such results may be**

**better or worse than the projected scenarios. Clients should be aware that the potential for loss (or gain) may be greater than demonstrated in the projections.**

Additional information about the Retirement Income Calculator is available under “Retirement Income Calculator Methodology and Assumptions” at [troweprice.com/ric](http://troweprice.com/ric). This document is also available upon request.

The results are not predictions, but they should be viewed as reasonable estimates. Source: T. Rowe Price Associates, Inc.

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