

# BEAR MARKET STRATEGIES: WATCH THE SPENDING, HOLD THE STOCKS

If you have a higher withdrawal rate or a longer time horizon, the asset allocation decision becomes critical. Under these circumstances, a recent analysis showed that retirees should generally have no more than 20% to 30% of their assets in cash, and they should keep at least 30% to 40% in equities.

After experiencing one of the worst bear markets in history, many investors are naturally inclined to reduce their risk exposure, especially those depending on investment assets to meet retirement expenses.

But abandoning stocks or retreating to a significantly more conservative portfolio strategy has its own risks, even for recent retirees and those nearing retirement.

A primary goal for most retirees is to maintain a certain level of income throughout retirement, and to not run through all investment assets prematurely.

To achieve this goal, there are two key considerations:

- Establishing an appropriate withdrawal rate, and
- Determining the appropriate asset allocation strategy.

And these two considerations are interrelated, as shown by recent analyses by T. Rowe Price Associates.

## PORTFOLIO "SUCCESS" RATES

The T. Rowe Price study examined the effect of withdrawal rates and asset allocations on the "success rates" of various portfolios—the ratio of the number of times a portfolio was able to make annual withdrawals without running out of assets, relative to the number of total scenarios.

The study assumed an average rate of return for stocks (10%), bonds (6.5%) and cash (4%) over the entire time period. However, the scenarios simulated thousands of different market performance patterns—a total of 5,000 different scenarios—including return pattern sequences in which the first years of withdrawal were severe bear markets. The results, though, are not infallible and should be considered estimates rather than predictions.

The analysis did not take into account the impact of taxes on earnings or distributions, which, of course, would reduce net income or require higher initial withdrawal rates to offset tax payments. However, the study did take into consideration expenses—typical mutual fund management fees—1.2% for stocks, 0.8% for bonds and 0.7% for cash.

## REALISTIC WITHDRAWAL RATES

The study found that an initial withdrawal rate of around 3% to 5% of portfolio assets in the first year of retirement, with annual inflation adjustments, is crucial to meeting retirement goals over a 20- to 25-year time horizon. For those with a 30-year horizon, a 4% initial withdrawal rate, with annual 3% inflation adjustments, would be the most realistic.

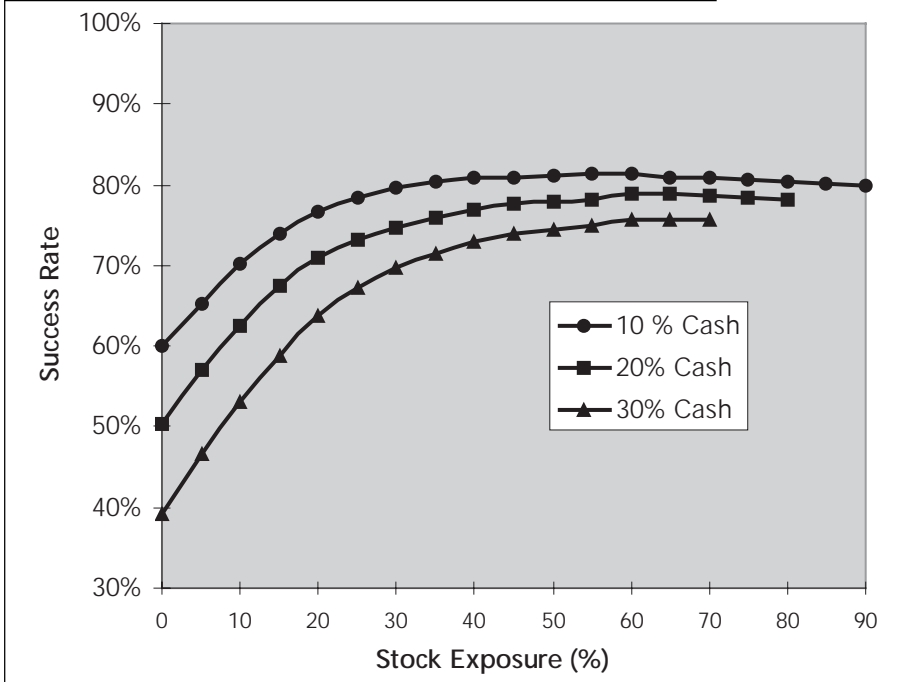
Spending at higher rates significantly increases the probability of outliving your assets, especially for those who encounter a bear market—or even mediocre investment returns—in the early years.

The other key consideration is the appropriate asset allocation strategy. Many investors nearing or in retirement focus on preservation of capital, so

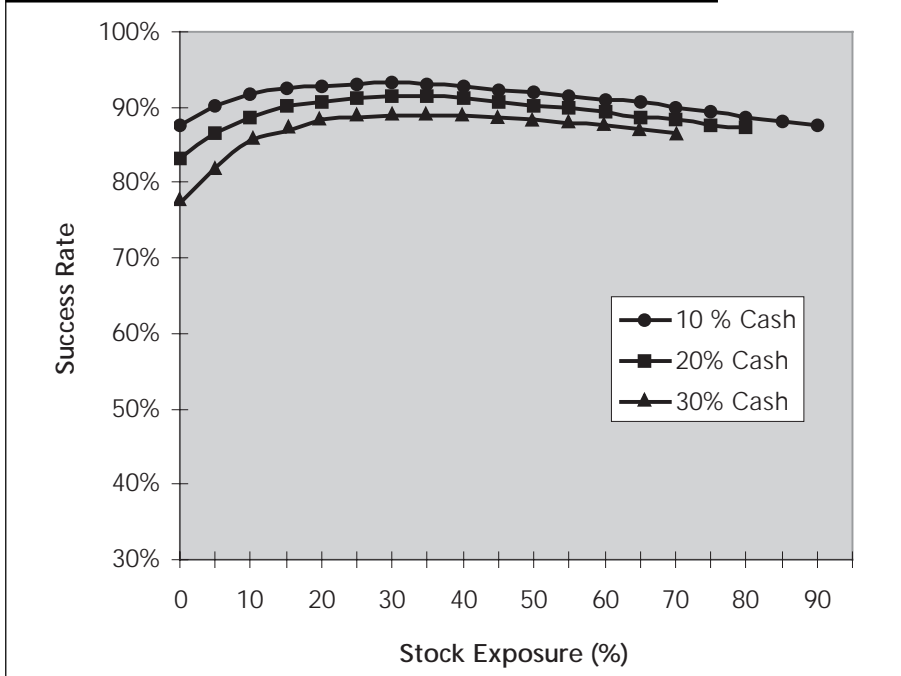
---

*This article is based on a study conducted by T. Rowe Price Associates, and an article that appeared in the T. Rowe Price Report, Winter, 2003.*

**FIGURE 1. THE IMPACT OF ASSET ALLOCATION ON RETIREMENT INCOME: 4.5% WITHDRAWAL RATE OVER 30 YEARS**



**FIGURE 2. THE IMPACT OF ASSET ALLOCATION ON RETIREMENT INCOME: 4.0% WITHDRAWAL RATE OVER 30 YEARS**



**Notes for both figures:**

- The balance of each portfolio is invested in intermediate-term bonds.
- The withdrawal rate indicated is the first-year amount that is withdrawn as a percentage of total portfolio assets; in subsequent years that amount is increased by 3% for inflation.
- Taxes are not applied to current earnings or withdrawals, but management fees are included.
- The portfolios are rebalanced annually to maintain the designated asset allocation.
- The Success Rate indicates the percentage of scenarios in which the given asset allocation was able to maintain the indicated withdrawal amount throughout the entire 30-year time period.
- Probabilities are based on simulating thousands of possible market scenarios and various asset allocation strategies.

Source: T. Rowe Price Associates.

they tend to pursue a more conservative strategy, especially after suffering significant losses in their portfolio. That is understandable and sometimes appropriate.

The analysis, however, shows that those who place too much emphasis on cash (short-term fixed-income securities), while maintaining limited or no exposure to stocks, could increase the risk of depleting their assets prematurely.

The study also showed that the asset allocation issue is interrelated to the issue of withdrawal rates. It found that those who can plan for modest withdrawal rates do not necessarily need to assume much risk in their portfolio strategy to have a high probability of not outliving their assets. In the study, this translated into a 4% initial withdrawal rate of assets with annual inflation adjustments of 3% and a 20- to 25-year time horizon. Under those assumptions, the portfolios achieved high rates of success even when they had only 15% to 20% in equities.

**CASH vs. EQUITIES**

For investors who want to have a higher withdrawal rate, who have a longer time horizon, or who want to create a cushion for emergencies or to leave to heirs, the asset allocation decision becomes more critical.

Under these circumstances, the analysis showed that retirees with long time horizons (about 30 years) should generally have no more than 20% to 30% of their assets in cash, and they should keep at least 30% to 40% in equities.

If they have a much bigger cash position than that and consequently trim their equity exposure, they increase the likelihood of failing to maintain income throughout their retirement years. What might seem like a conservative and prudent investment approach might actually prove more risky in the long run.

Figures 1 and 2 show how withdrawal rates and portfolio strategy can affect the success rate for

maintaining retirement income.

The figures illustrate the probability of success in maintaining retirement income over a 30-year period, assuming different levels of stock investment, and three different cash positions in the portfolio. The balance of each portfolio is invested in intermediate-term bonds. The “success rate” indicates the percentage of scenarios in which retirement income was maintained throughout the 30-year period, based on simulating 5,000 potential market scenarios.

Figure 1 assumes the investor withdraws 4.5% of portfolio assets the first year of retirement, and increases that amount by 3% each year for inflation. Figure 2 assumes a 4% initial withdrawal, with the same inflation adjustment. The portfolios are rebalanced annually to maintain the designated asset allocation. Taxes are not taken into consideration, but management fees are.

In both figures, as the bond position is increased and the equity allocation reduced (moving to the left of the charts), the chances of maintaining a rising income stream that can last over the 30-year projected retirement period declines. Similarly, as the cash position is increased (moving from the top circle-line to the bottom triangle-line), the chance of success declines.

In Figure 2, the use of a 4% initial withdrawal rate increases the success rate and allows for a somewhat more conservative strategy. With the portfolio allocation of 40% stocks, 30% bonds and 30% cash, the success rate over a 30-year retirement period was 89% of the simulated scenarios.

In contrast, in Figure 1 with a 4.5% initial withdrawal rate, this same portfolio strategy of 40% stocks, 30% bonds and 30% cash, saw the success rate drop to 73%.

However, with a decreased cash position and higher allocation to stocks—a 50% stock, 30% bond and 20% cash position—the success rate for the 4.5% initial withdrawal rate

**TABLE 1. PORTFOLIO SUCCESS RATES**

30-Year Time Horizon							
Stock Exposure	4.5% Initial Withdrawal Rate			4% Initial Withdrawal Rate			
	Cash Exposure			Cash Exposure			
	10%	20%	30%	10%	20%	30%	
0	60%	50%	39%	88%	83%	77%	
10	70%	63%	53%	92%	89%	85%	
20	77%	71%	64%	93%	91%	88%	
30	80%	75%	70%	93%	92%	89%	
40	81%	77%	73%	93%	91%	89%	
50	81%	78%	74%	92%	90%	88%	
60	81%	79%	76%	91%	89%	88%	
70	81%	79%	76%	90%	88%	87%	
80	80%	78%	—	89%	87%	—	
90	80%	—	—	88%	—	—	

25-Year Time Horizon							
Stock Exposure	4.5% Initial Withdrawal Rate			4% Initial Withdrawal Rate			
	Cash Exposure			Cash Exposure			
	10%	20%	30%	10%	20%	30%	
0	91%	88%	85%	99%	99%	98%	
10	94%	92%	89%	99%	99%	99%	
20	95%	93%	91%	99%	99%	99%	
30	95%	93%	91%	99%	99%	99%	
40	94%	93%	91%	99%	98%	98%	
50	93%	91%	90%	98%	97%	96%	
60	92%	90%	89%	97%	96%	95%	
70	90%	89%	87%	95%	95%	94%	
80	89%	88%	—	94%	93%	—	
90	88%	—	—	93%	—	—	

Table shows the success rates for various portfolios with indicated allocations to stocks and cash, with the remainder invested in intermediate-term bonds. Success rates indicate the percentage of times the portfolio was able to maintain the annual withdrawal rate throughout the indicated time horizon, based on 5,000 simulated market scenarios. Portfolios are rebalanced annually. Amounts withdrawn are the percentage amounts indicated as a percentage of the initial portfolio value, with 3% increases in that amount annually for inflation.

Source: T. Rowe Price Associates.

rises to 78%.

The highest success rate (81.4%) for the 4.5% withdrawal rate over 30 years was achieved at a mix of 55% stocks, 35% bonds and 10% cash.

The 4% withdrawal rate over 30 years achieved its highest success rate (93.2%) with a more conservative mix of 30% stocks, 10% cash and 60% bonds.

Most retirees want a strategy that offers at least a 90% chance of success. Over 30-year periods, none of the 4.5% withdrawal rate portfolio strategies were able to match that success rate. For the 4%

withdrawal rate portfolios, most of the allocations that maintained only 10% in cash achieved 90% or greater, while none of the allocations with 30% or greater cash positions were able to match this success rate. Table 1 shows the actual success rates for the portfolios illustrated in the figures, as well as the success rates for portfolios over a 25-year time horizon.

The negative impact of cash allocations on the success rates for longer-horizon portfolios is illustrated most dramatically in Figure 3. This figure shows the success rates for the portfolios with a 4.5% initial

withdrawal rate (with annual increases for inflation) over a 30-year time horizon at varying levels of cash, with the remainder of the portfolio split between stocks and intermediate-term bonds. For the portfolios with cash positions of greater than 30%, the success rate drops below 70%.

Of course, there is no absolute certainty. The question is, how can you increase the chance of success?

**WEATHERING BEAR MARKETS**

For many young retirees, a 40% equity allocation (with the balance divided between cash and bonds) might seem too risky. This strategy, along with a cautious 4% withdrawal rate, however, weathered the severe 1973–1974 bear market and the worse 2000–2002 bear market fairly well, according to the T. Rowe Price study.

For example, consider an investor with this allocation who retired at the end of 1972 with a \$1 million portfolio and who withdrew \$40,000 the first year of retirement (a 4% initial withdrawal rate).

If this investor increased the amount withdrawn each year to keep pace with the actual rate of inflation (in which case the 2002 withdrawal would have been \$167,000), the account generated all the payments and still had a balance of \$1.1 million as of December 2002, based on *actual market returns*. This performance was achieved despite steep declines in the S&P 500 index of 14.6% in 1973 and 26.5% in 1974, and the substantial losses of the past three

years. Since the portfolio was well-balanced, it declined only 3.3% in 1973 and 8.8% in 1974, and had modest losses in the past two years.

The strategy was successful primarily because:

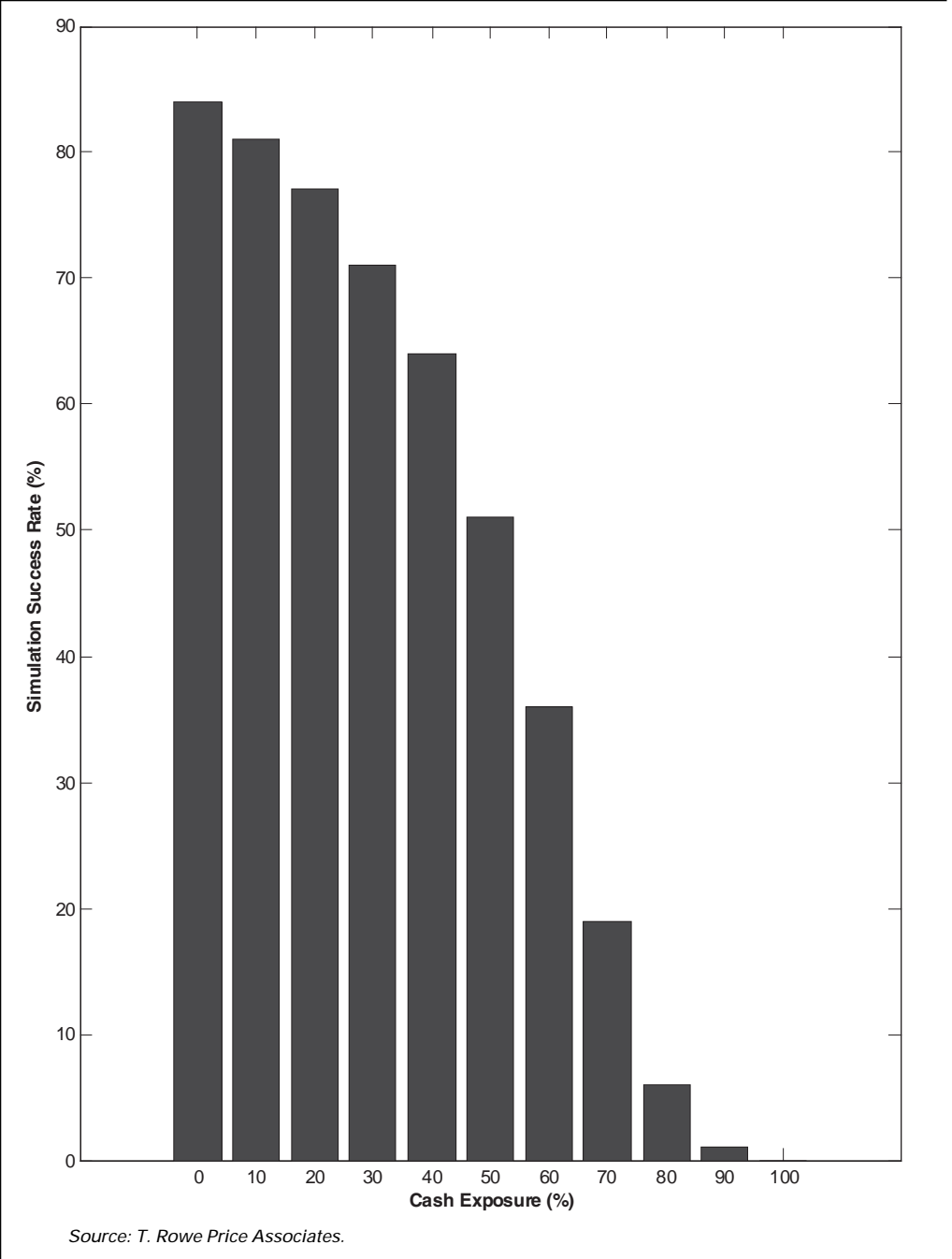
- The 4% initial withdrawal rate was reasonable, and
- The 40% stock allocation enabled the investor to benefit from the

market’s recovery after 1973-1974, and strong performance in the 1980s and 1990s.

However, the stock market over the next 10 to 20 years is unlikely to match the 12.7% average annualized returns earned over the 20 years ended 2002.

What if this investor had pursued a more conservative portfolio

**FIGURE 3. SUCCESS RATES AND CASH EXPOSURE:  
NON-CASH SPLIT EVENLY BETWEEN STOCKS AND BONDS  
(ASSUMING A 4.5% WITHDRAWAL RATE OVER A 30-YEAR TIME HORIZON)**



strategy at retirement in 1972, with 20% in stocks, 30% in bonds and 50% in cash? Even with this reduced equity exposure, the portfolio still provided all the annual withdrawals, making the same other assumptions. However, the ending balance was about half of that provided with the more aggressive strategy, providing much less of a cushion.

## RETIREMENT STRATEGIES

For a financially successful retirement portfolio, retirees must consider both investment risk and

inflation risk, and balance those against the possibility of living longer than expected.

The study's bottom line is that realistic withdrawal rates combined with prudent asset allocation is key to maintaining your assets throughout retirement.

Here are some guidelines to keep in mind concerning retirement strategies:

- For individuals in retirement, maintaining at least a 40% stock exposure is desirable.
- Cash positions should be lower for those with longer investment horizons, but even for retirees with

shorter 20- to 25-year horizons, they should probably be not much greater than 30%.

- If you are withdrawing from your portfolios, keep the withdrawal rates realistic—from 3% to 5% of initial portfolio value (with annual inflation increases); for longer-term (30-year) horizons, the withdrawal rates should be lower.
- Make sure you rebalance annually to maintain your proper asset allocation strategy.
- The portfolios in the T. Rowe Price study were all well-diversified, and your portfolios should be the same. ♦

# AAll.com

## American Association of Individual Investors

The following retirement planning resources may be helpful to you. Links to AAll articles and Web sites are provided at the online version of this article.

AAll Journal Articles (available online at AAll.com):

- “Will Their Retirement Assets Last? Analyzing the Chances for Success,” by Dennis Stearns April 2003.
- “Liquidating Retirement Assets in a Tax-Efficient Manner” by William A. Raabe and Richard B. Toolson, May 2002.
- “Retirement Withdrawals: A Real-World Case Study” by J. David Lewis, September 1999.
- “Retirement Spending Rules: What Can Go Wrong?” by Maria Crawford Scott, July 1998.
- “Retirement Savings: Choosing a Withdrawal Rate That Is Sustainable” by Philip L. Cooley, Carl M. Hubbard and Daniel T. Walz, February 1998.
- “Establishing a Spending Account to Manage Income During Retirement” by Maria Crawford Scott, January 1998.
- “Living off Retirement Savings in a World of Uncertain Return Patterns,” by Maria Crawford Scott, August 1996.

On the Web:

Several useful sites can help you evaluate your asset allocation and spending plan during retirement.

Finaceware.com

[www.finaceware.com](http://www.finaceware.com)

Retirement planning, analysis and forecasting system measures

the likely success of any financial plan, based on personal financial information (including savings and investments, your salary, rate of savings, etc.). Probability analysis is used to determine the likelihood of meeting your retirement goals. Subscription service allows free trial use for short time period.

T. Rowe Price Funds

[www.troweprice.com](http://www.troweprice.com)

The Retirement Income Calculator shows how market uncertainty can affect your retirement income strategy, and whether your current strategy can meet your goals. Go to the Individual Investors section, then select Investment Planning and Tools, Tools & Calculators, and then Retirement Planning Tools.

Vanguard Funds

[www.vanguard.com](http://www.vanguard.com)

The Can I Afford to Retire? tool helps you assess your retirement expenses and income, and helps project how long your retirement savings will last. In the Planning & Advice tab at the Personal Investors section of the site, go to the Planning Tools under Investor Resources.

Strong Funds

[www.strong-funds.com](http://www.strong-funds.com)

The Living in Retirement tool helps you analyze whether your current assets will maintain your desired standard of living throughout retirement. Go to Tools under the Retirement tab of the Individual Investors section of the site.