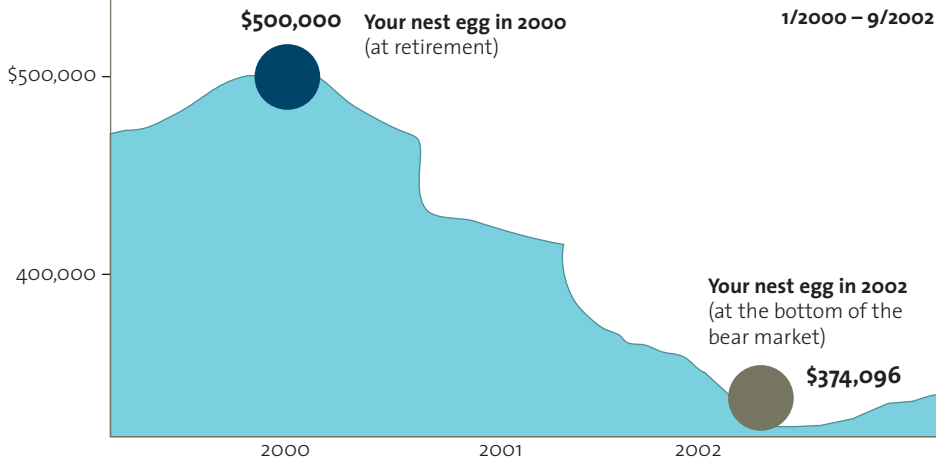


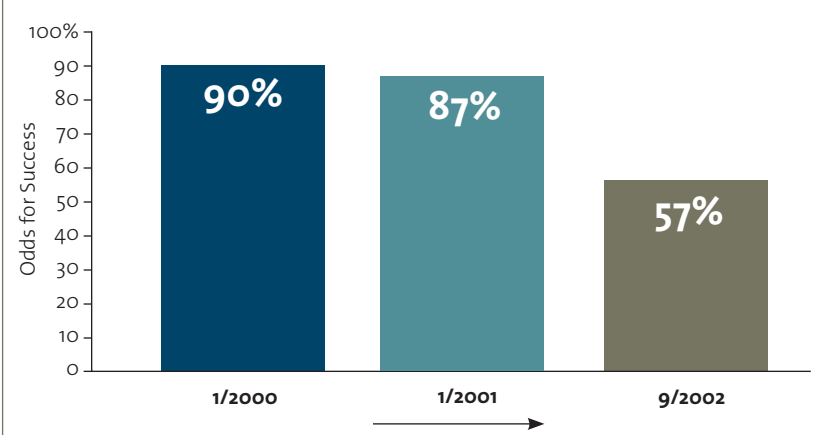
# Retiring Into a Down Market? You May Not Need to Take Drastic Measures.



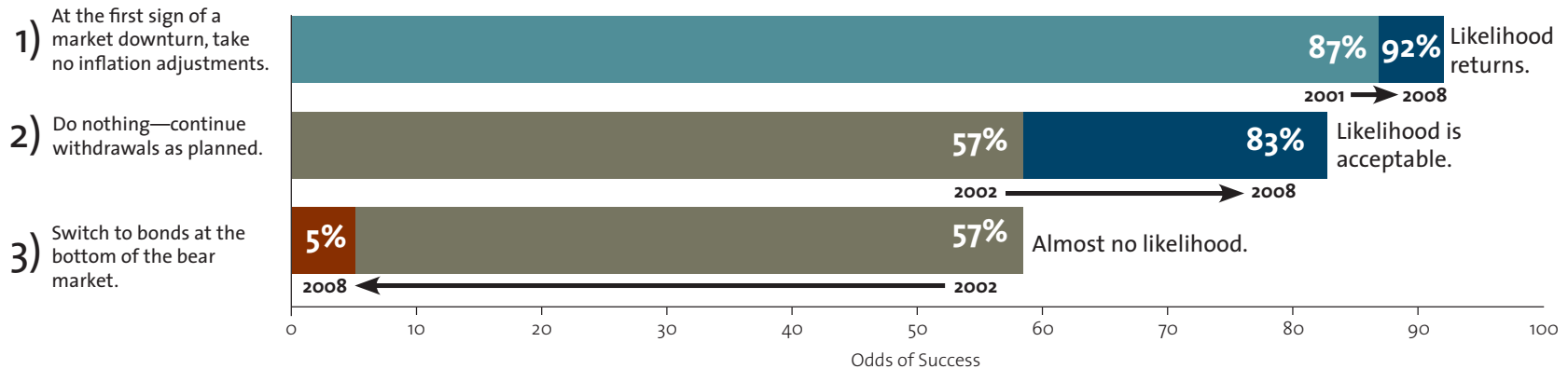
Bad Timing: Retiring Into the 2002 Bear Market



What Is the Likelihood That Your Money Would Last to Age 95?



Three Options You Could Have Taken—And Where They Would Have Put You Now (2002–2008)



These charts outline three options for handling a 30-year retirement account, starting January 1, 2000, with an account balance of \$500,000 invested in a 55% stock/45% bond portfolio. Stocks are represented by the S&P 500 Index, which tracks the performance of 500 large-company U.S. stocks. Bonds are represented by the Lehman Brothers U.S. Aggregate Index, which tracks investment-grade corporate and government bonds. By September 30, 2002, stocks (as measured by the S&P 500 Index) had declined 42.4%, and the investor's diversified portfolio had declined by 15.3% due to investment performance (assuming that the 55%/45% asset allocation was maintained), with the balance of the decline due to the monthly withdrawals.

The three options assume the investor retired on January 1, 2000, just before the start of a severe bear market. In the base case and in option 2, the retiree withdraws 4% (or \$20,000) the first year and increases that withdrawal amount by 3% annually to keep up with inflation. In option 1, the retiree takes no annual inflation adjustments from January 1, 2001 to January 1, 2004. In option 3, the retiree switches to a 100% bond portfolio on January 1, 2003. Actual returns for stocks and bonds are used for the period January 1, 2000, through January 31, 2008, and projections thereafter are based on 10,000 simulations of possible future market scenarios.

# Monte Carlo Simulation

Monte Carlo simulations model future uncertainty. In contrast to tools generating average outcomes, Monte Carlo analyses produce outcome ranges based on probability—thus incorporating future uncertainty. In this example, historic returns are used to model results from January 1, 2000 to January 31, 2008. Subsequent analysis is based on 10,000 simulations of future market scenarios.

## Material Assumptions Include:

- Underlying long-term expected annual returns for the asset classes are not based on historical returns, but estimates, which include reinvested dividends and capital gains.
- Expected returns—plus assumptions about asset class volatility and correlations with other classes—are used to generate random monthly returns for each class over specified time periods.
- These monthly returns are then used to generate thousands of market scenarios, representing a spectrum of possible performance for the modeled asset classes. Success rates are based on these scenarios.
- Taxes aren't taken into account, nor are early withdrawal penalties. But fees—average expense ratios for typical actively managed funds within each asset class—are subtracted from the expected annual returns.

## Material Limitations Include:

- Extreme market movements may occur more often than in the model.
- Some asset classes have relatively short histories. Expected results for each asset class may differ from our assumptions—with those for classes with limited histories potentially diverging more.
- Market crises can cause asset classes to perform similarly, lowering the accuracy of projected portfolio volatility and returns. Correlation assumptions are less reliable for short periods.
- The model assumes no month-to-month correlations among asset class returns. It does not reflect the average periods of “bull” and “bear” markets, which can be longer than those modeled.
- Inflation is assumed to be constant, so variations are not reflected in our calculations.
- The analysis does not use all asset classes. Other asset classes may be similar or superior to those used.

## Portfolio Construction and Withdrawals

One fixed asset allocation (55% equities and 45% bonds) was used for illustration purposes.

The initial withdrawal amount is the percentage of the initial value of the investments withdrawn on the first day of the first year. In subsequent years, the amount withdrawn grows by a 3% annual rate of inflation. Success rates are based on simulating 10,000 market scenarios and various withdrawal strategies. The underlying long-term expected annual return assumptions (without fees) are 10% for stocks and 6.5% for bonds. Net-of-fee expected returns use these expense ratios: 1.211% for stocks and 0.726% for bonds.

**IMPORTANT:** The projections or other information generated by the T. Rowe Price Investment Analysis Tool 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 simulations are based on assumptions. There can be no assurance that the projected or simulated 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 simulated scenarios. Clients should be aware that the potential for loss (or gain) may be greater than demonstrated in the simulations.

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