

# **“Flight to Quality”**

Simulation of Investor Response to  
US Stock Market Downturns

1926-2008

For illustrative purposes only. Performance data shown represents past performance. Past performance is no guarantee of future results and current performance may be higher or lower than the performance shown.

# Introduction

- A major stock market downturn is a painful experience, especially when stock losses are extreme and prolonged.
- Investors watch their wealth evaporate in plummeting stock values.
- As market returns worsen, even disciplined, long-term investors are tempted to cut their losses, go to cash, and wait for a rebound.
- Since markets are pricing securities based on forward-looking expectations, what returns would an investor receive by selling after experiencing negative performance? How would this performance compare to simply staying invested in the market?

This study simulates what happens to investors who give up on stocks at different levels of negative performance in the market. The first step is to define the points at which an investor will exit and re-enter the market, and then apply this rule to actual market returns.

# Defining the Rule

- During a stock market downturn, investors may leave stocks for the perceived safety of cash. This is called a “flight to quality.”
- An exit and re-entry rule quantifies how much negative performance an investor can endure before selling stocks—and at what percentage rebound the investor is willing to buy stocks again.
- To illustrate, let’s consider the following rule as one version of “flight-to-quality” behavior:
  1. Sell stocks once the market has declined 40% or more from its peak.
  2. Invest the idle cash in one-month T-bills.<sup>(1)</sup>
  3. Buy stocks after the market has risen 40% or more from the bottom.
- Although this “flight rule” is arbitrary, it describes one version of investor response to a market decline.

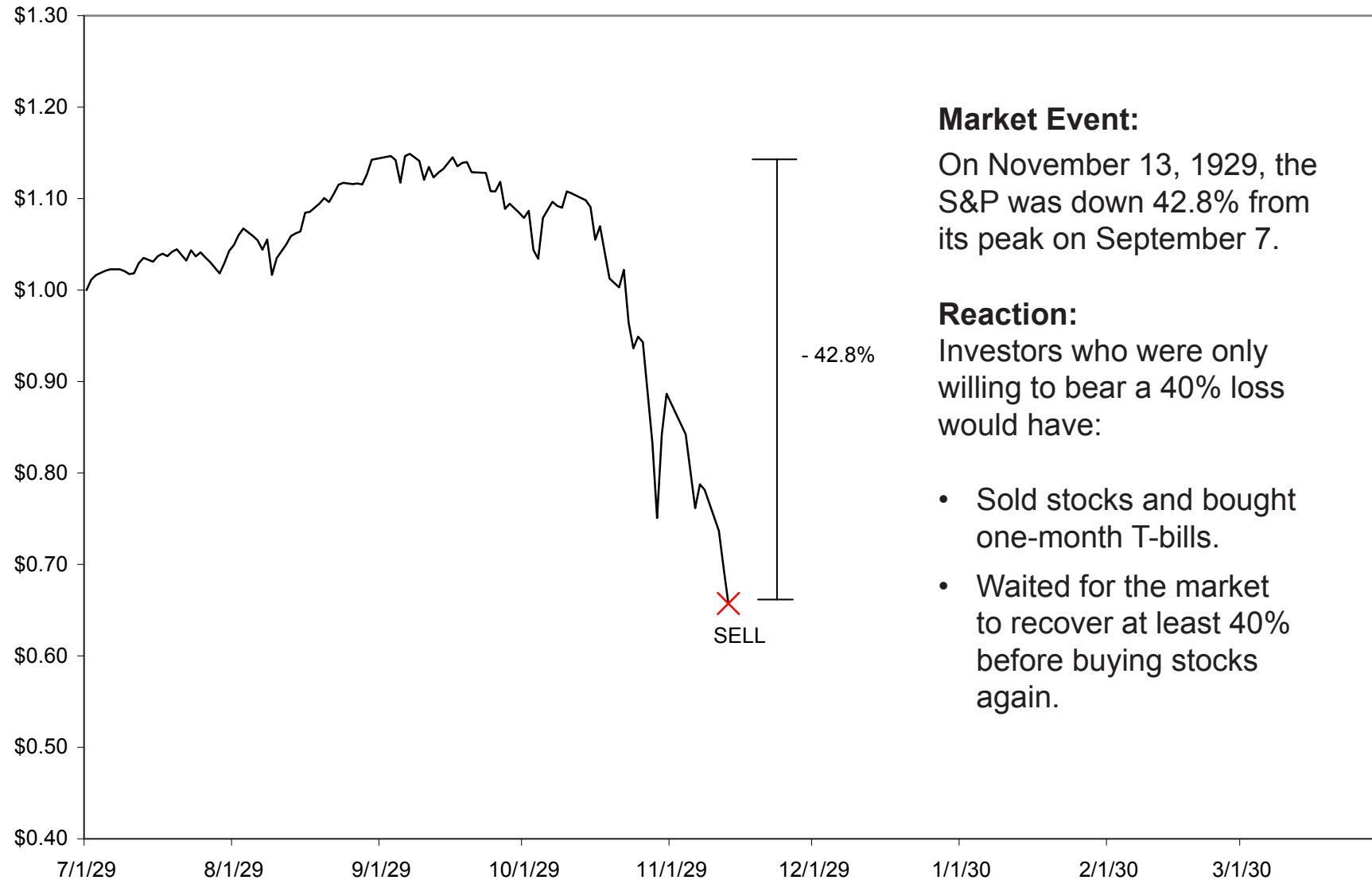
In the next few pages, the 40%-40% rule is applied to actual US stock market returns, beginning in 1929.<sup>(2)</sup>

(1) The daily Treasury bill return is the simple daily rate that, over the number of trading days in the month, compounds to the one-month T-bill rate. Source: US long-term bonds, bills, inflation, and fixed income factor data © Stocks, Bonds, Bills, and Inflation Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld).

(2) US market performance is defined as daily returns in the CRSP value-weighted index of the S&P 500 Universe. Calculations reflect annualized geometric returns. Returns do not consider trading costs.

# Market Sample 1: Fleeing Stocks in a Downturn

S&P 500 (1929-1930)



## Market Event:

On November 13, 1929, the S&P was down 42.8% from its peak on September 7.

## Reaction:

Investors who were only willing to bear a 40% loss would have:

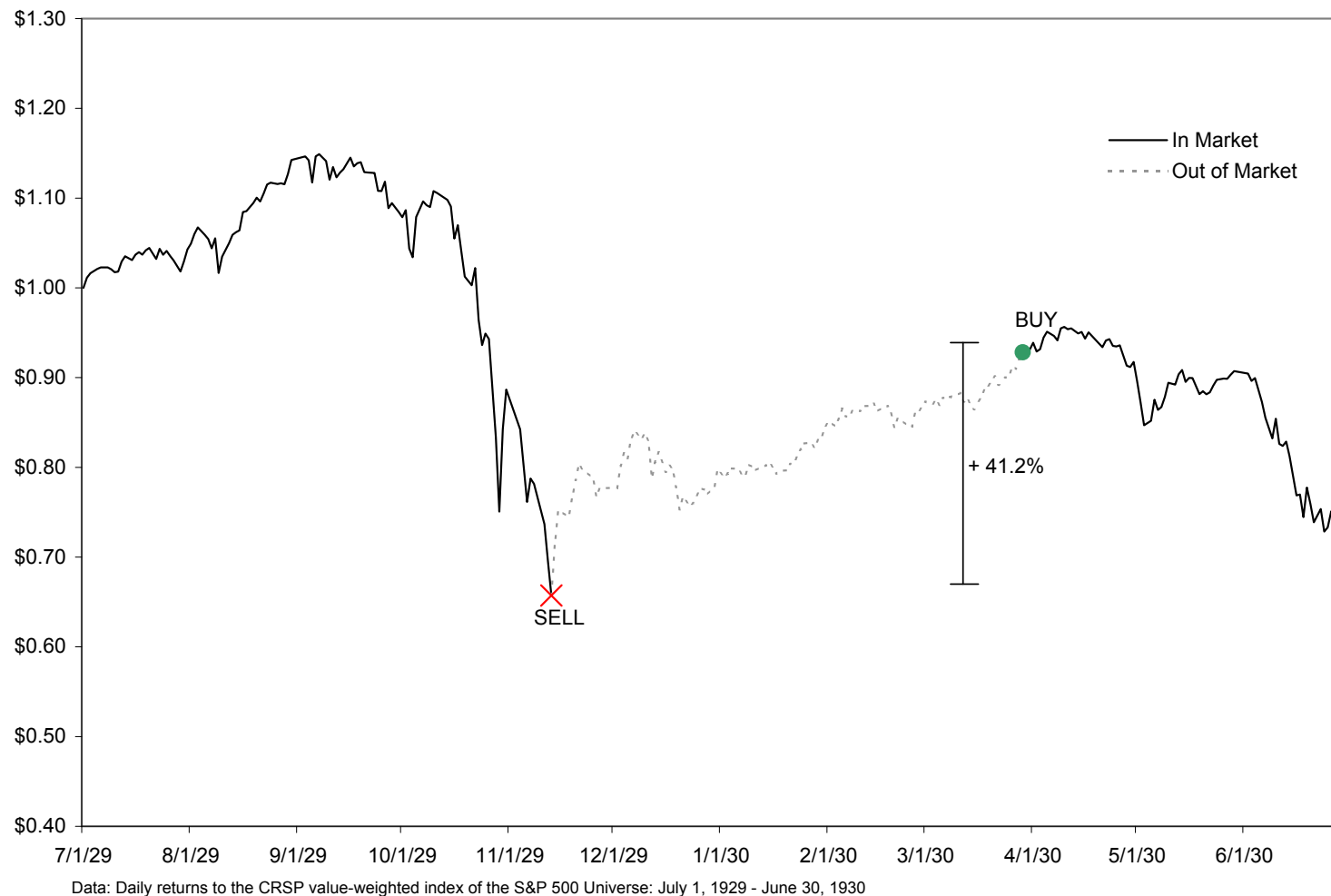
- Sold stocks and bought one-month T-bills.
- Waited for the market to recover at least 40% before buying stocks again.

Data: Daily returns to the CRSP value-weighted index of the S&P 500 Universe: July 1, 1929 - November 13, 1929

# Market Sample 1: Returning to Stocks

S&P 500 (1929-1930)

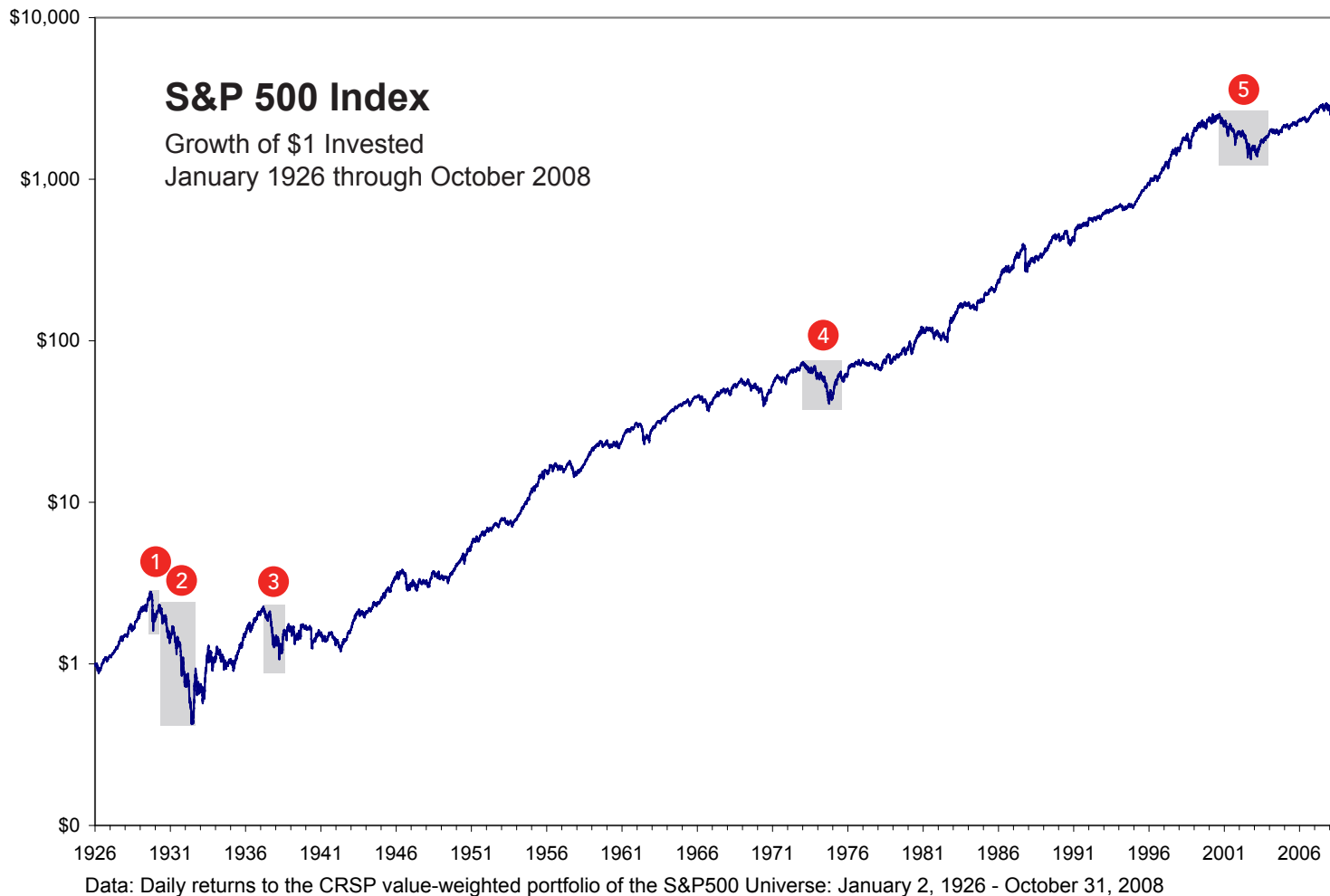
- Within a few months, the S&P 500 rose over 40% from its trough. The investor would have felt safe to enter the market again.
- He would have sold one-month T-bills and repurchased the S&P 500 at a level that was higher than the previous selling point—selling low and buying higher.



# 40% Flight Rule Overview

S&P 500 (1926-2008)

- During the 82-year period, a 40% or greater downturn would have forced an investor to exit and re-enter the market five times. (See numbered periods below)
- In four of these periods, the investor would have re-entered the market at a price above his last selling point—selling low and buying higher multiple times.



# 40% Flight Rule Results

Stay in the Market vs. Flee the Market.

|   | Periods                     | Annualized Return  |             |
|---|-----------------------------|--------------------|-------------|
|   |                             | Stay in the Market | Flee Market |
| 1 | Sep 7, 1929 - Mar 29, 1930  | -31.4%             | -62.0%      |
| 2 | Apr 10, 1930 - Jul 29, 1932 | -44.8%             | -19.3%      |
| 3 | Mar 10, 1937 - Jul 1, 1938  | -26.1%             | -33.5%      |
| 4 | Jan 11, 1973 - Mar 17, 1975 | -10.8%             | -20.1%      |
| 5 | Sep 1, 2000 - Dec 1, 2003   | -8.8%              | -14.3%      |

- These are the same periods indicated on the previous growth of \$1 graph for the 82-year period.
- A stay-in-the-market decision would have outperformed a flight-to-quality decision in four of the five periods in which the market dropped 40% or more.
- Results do not include trading costs or tax impact.

The following pages summarize results for this rule and two others that attempt to simulate investor behavior in major downturns.

## Multiple Flight Rule Results

A summary of 30%, 40%, and 50% market downturns:  
Stay in the Market vs. Flee the Market.

| Exit/Entry<br>Trigger | 01/1926-10/2008     |                     |                    | 01/1950-10/2008     |                     |                    |
|-----------------------|---------------------|---------------------|--------------------|---------------------|---------------------|--------------------|
|                       | Geometric<br>Return | Number of<br>Events | % Time<br>Invested | Geometric<br>Return | Number of<br>Events | % Time<br>Invested |
| 30%                   | 9.10%               | 11                  | 90%                | 10.48%              | 4                   | 93%                |
| 40%                   | 9.36%               | 5                   | 94%                | 10.04%              | 2                   | 97%                |
| 50%                   | <b>10.04%</b>       | 2                   | 97%                | NA                  | 0                   | 100%               |
| Stay in Market        | 9.49%               | 0                   | 100%               | 10.99%              | 0                   | 100%               |

Data: Daily returns to the CRSP value-weighted index of the S&P 500 Universe: January 2, 1926 - October 31, 2008.  
Cash holdings earn the one-month Treasury bill rate.

- This table shows results for three simulations (30%, 40%, and 50% exit/entry triggers).
- Events are displayed for the entire market period (1926-2008) and for a sub-period (1950 to 2008).
- Only the 50% exit/entry rule outperformed a stay-in-the-market approach for the entire 1926-2008 period. However, this outperformance was due to a single major market event in the 1930s.

## Other Flight Rule Results

Additional market downturn simulations:  
Stay in the Market vs. Flee the Market.

| 01/1926-10/2008 |               |               |               | 01/1950-10/2008 |               |        |       |
|-----------------|---------------|---------------|---------------|-----------------|---------------|--------|-------|
| Exit Trigger    | Entry Trigger |               |               | Exit Trigger    | Entry Trigger |        |       |
|                 | 30%           | 40%           | 50%           |                 | 30%           | 40%    | 50%   |
| 30%             | 9.10%         | 8.77%         | 8.49%         | 30%             | 10.48%        | 10.00% | 9.54% |
| 40%             | 9.12%         | 9.36%         | <b>9.68%</b>  | 40%             | 10.31%        | 10.04% | 9.81% |
| 50%             | 9.47%         | <b>10.22%</b> | <b>10.04%</b> | 50%             | NA            | NA     | NA    |
| Stay in Market  | 9.49%         |               |               | Stay in Market  | 10.99%        |        |       |

Calculations reflect annualized geometric returns. Data: Daily returns to the CRSP value-weighted index of the S&P 500 Universe: January 2, 1926 - October 31, 2008. Cash holdings earn the one-month Treasury bill rate.

This features the results of other rule combinations to simulate investor reaction to market downturns.

## Does “Flight to Quality” Work Over Time?

- Investors who flee a market downturn are basing their decision on past performance, even though the market is forward looking.
- Attempting to avoid the pain of a declining market while participating in a future recovery is a game of chance.
- An investor who goes to the sidelines must decide when to re-enter the market.
- Returns are unpredictable and rebounds can come quickly. Investors who sit out a downturn can miss a large portion of a sudden rebound.
- Investors must accept higher risk to receive higher expected returns from stocks.