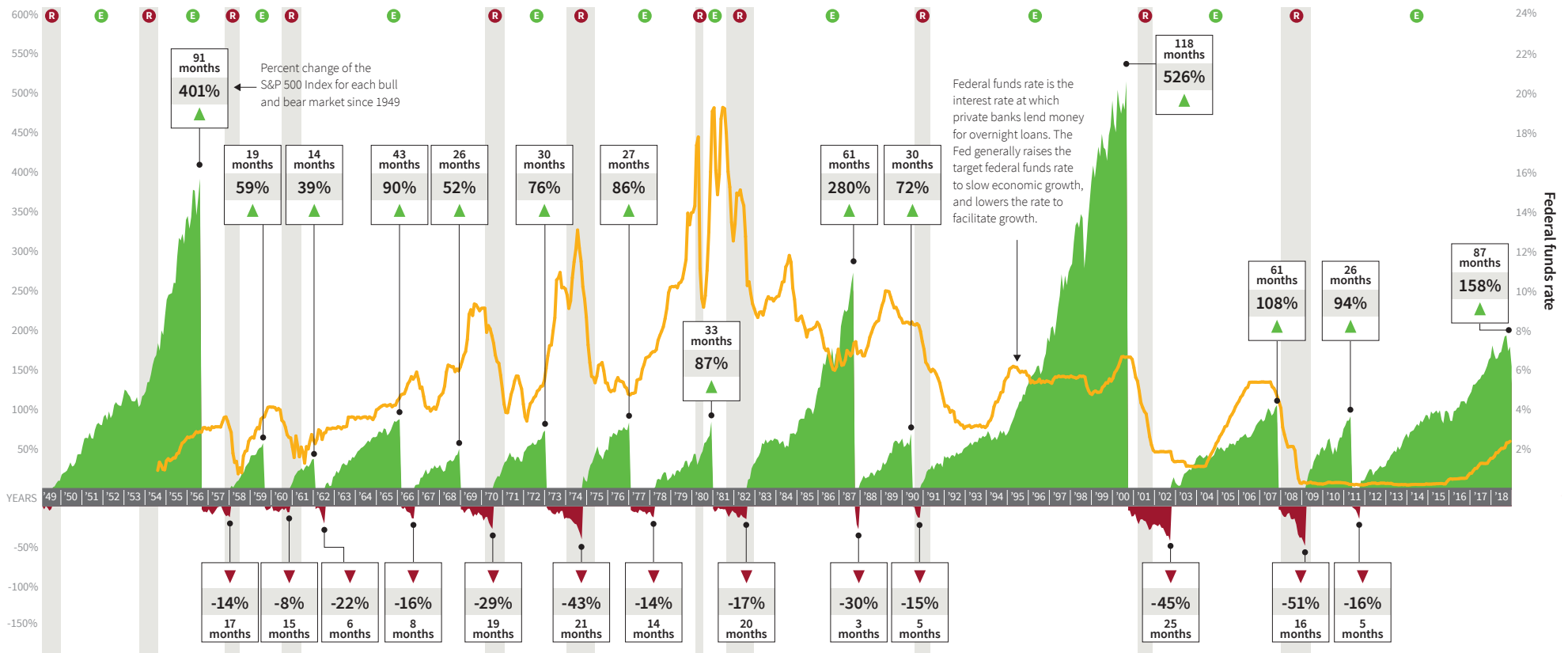


Bull markets versus Bear markets

To pursue the greater return potential of stocks, it makes more sense to stay committed to an investment plan rather than try to guess the best time to be in the market. Over the past 70 years, bull markets have lasted longer (47 months on average) than bear markets (13 months on average) and have more than made up for the periodic market declines. Bull markets have begun during economic recessions and expansions and at all levels of rates. And while it is impossible to predict when a bull market will begin, it is possible to miss one by waiting on the sidelines.

- ▲ Bull markets
- ▼ Bear markets
- E Expansions
- R Recessions
- ~ Federal funds rate



Sources: S&P 500, Putnam Investments 2018. Data is as of 12/31/18, is historical, and reflects reinvested dividends. Past performance and market conditions do not guarantee future results and may not be duplicated. The S&P 500 Index is an unmanaged index of common stock performance. It is not possible to invest directly in an index. Federal funds rate data was not available before July 1954. A bull market is here defined as a period when the stock market rises for at least four straight months. A bear market is defined as a market decline of at least four months.

The stock market can provide long-term returns

The market has always recovered

Over the past 70 years, there have been 13 bear markets, lasting an average of 13 months and declining a total of 25.8% before recovering. By contrast, the 14 bull markets since 1949 have lasted roughly 47 months on balance, each growing an average of 124.6%.

Investors who stay the course can benefit

Although selling may feel better in times of market turbulence, the fact is that market gains have more than made up for losses for those investors who stay invested over time. A \$10,000 investment in the S&P 500 Index in 2003 would have grown to \$30,711 by December 31, 2018, despite the 51% downturn of 2008–2009. Please keep in mind that returns for other periods may have been less favorable and that other market segments may not have recovered from this downturn.

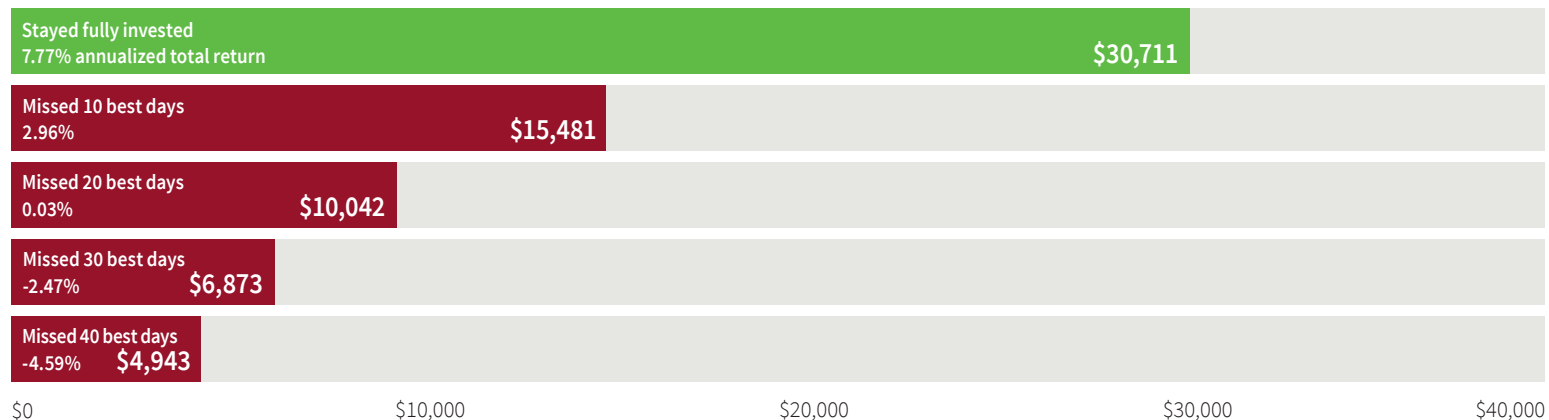
Bull markets versus bear markets

12/31/48–12/31/18

	Bull	Bear
Occurrences	14	13
% of time in economic recessions	48%	52%
% of time in economic expansions	85%	15%
Average length (months)	47	13
Average annual return	22.6%	-23.5%
Average cumulative return	124.6%	-25.8%

Source: Putnam research. Data illustrated using S&P 500 Index.

\$10,000 invested in the S&P 500 (12/31/03–12/31/18)



By staying fully invested over the past 15 years, you would have earned \$15,230 more than someone who missed the market's 10 best days.

Data is historical. Past performance is not a guarantee of future results. The best time to invest assumes shares are bought when market prices are low.

All funds involve risk, including the loss of principal.

For informational purposes only. Not an investment recommendation.

Investors should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing. For a prospectus, or a summary prospectus if available, containing this and other information for any Putnam fund or product, call your financial representative or call Putnam at 1-800-225-1581. Please read the prospectus carefully before investing.