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# Investment Principles for Navigating Volatility

Dimensional Fund Advisors LP is an investment advisor registered with the Securities and Exchange Commission.

**Investments involve risks including potential loss of principal and fluctuating value.**

Investment products: • Not FDIC Insured • Not Bank Guaranteed • May Lose Value

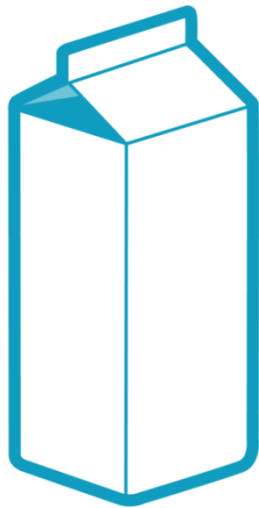
Dimensional Fund Advisors does not have any bank affiliates.

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# Markets Have Rewarded Long-Term Investors

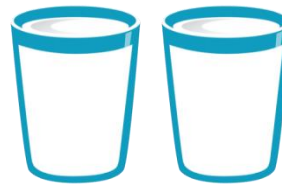
# Your Money Today Will Likely Buy Less Tomorrow

**1920**



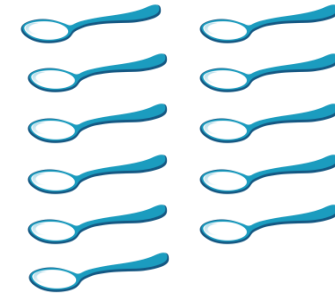
\$0.17 = Quart of milk

**1970**



\$0.17 = 2 Cups of milk

**2025**



\$0.17 = 11 Tablespoons of milk

# Stocks and Bonds Are Conduits for Capital



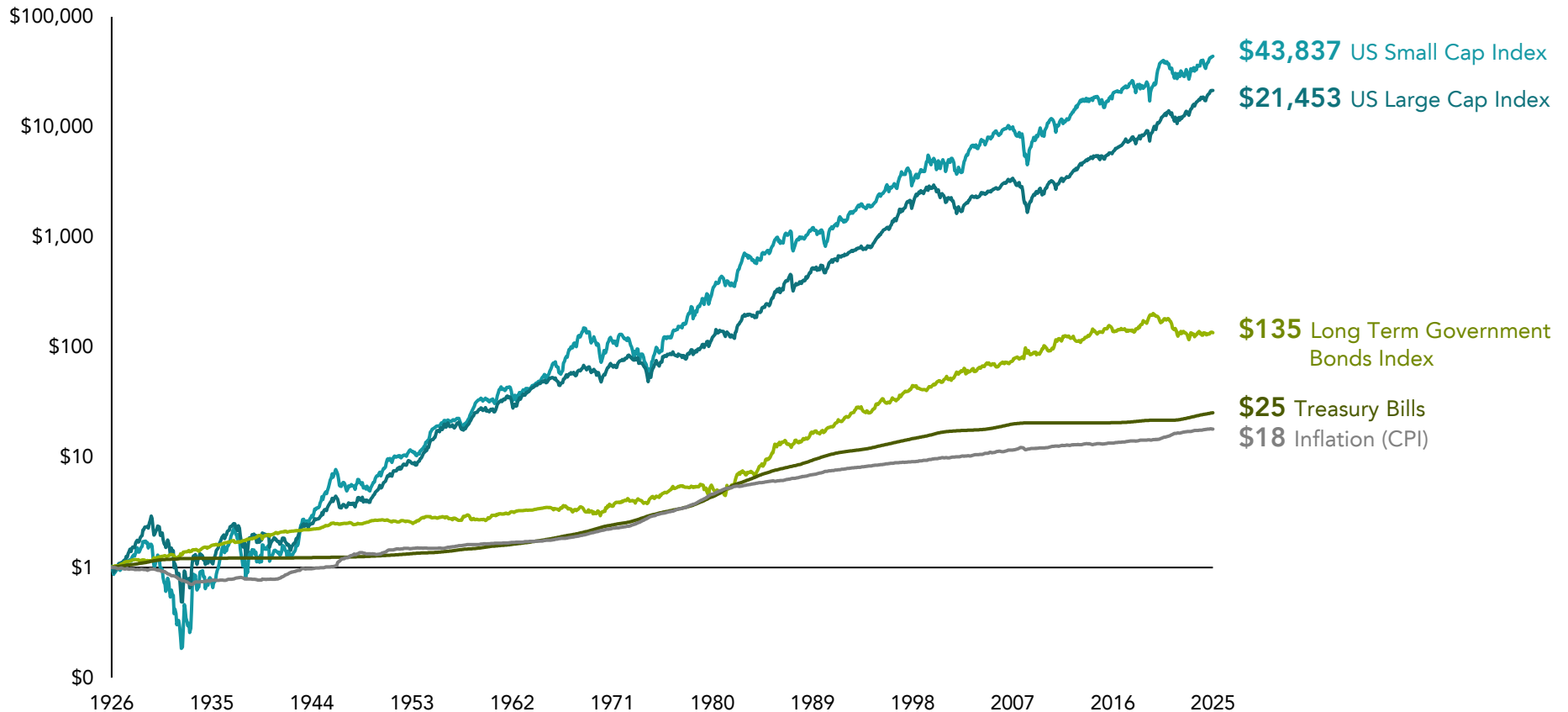
Stockholders are equity owners in the business.

Bondholders are lenders to a company.

Both expect an adequate return for the terms and risk of their investment.

# Capital Markets Have Rewarded Long-Term Investors

Monthly growth of wealth (\$1), 1926–2025



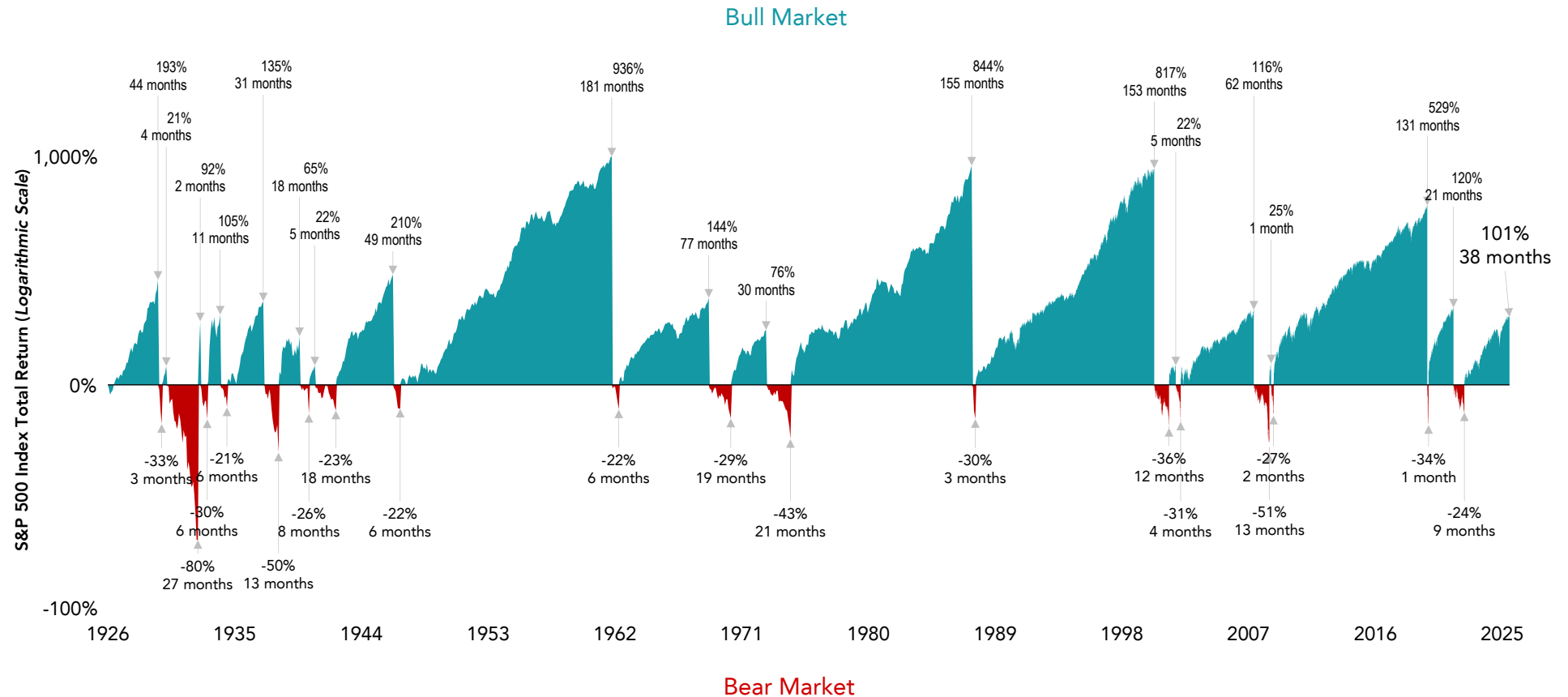
**Past performance is no guarantee of future results. In US dollars. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Actual returns may be lower.**

In USD. US Small Cap is the CRSP 6–10 Index. US Large Cap is the S&P 500 Index. US Long-Term Government Bonds is the Dimensional US 20 Year Treasury Index (Historical). Treasury Bills is: January 1926–December 2025, the IA SBBI US 30 Day TBill TR USD, provided by Morningstar; January 2025–present, ICE BofA US 1-Month Treasury Bill index. US Inflation is measured as changes in the US Consumer Price Index. CRSP data is provided by the Center for Research in Security Prices, University of Chicago. S&P data © 2026 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. The Dimensional Indices represent academic concepts that may be used in portfolio construction and are not available for direct investment or for use as a benchmark. See “Index Descriptions” in the appendix for descriptions of Dimensional index data. ICE BofA Index data © 2026 ICE Data Indices, LLC. US Consumer Price Index data is provided by the US Department of Labor Bureau of Labor Statistics.

# A History of Market Ups and Downs

S&P 500 Index total returns in USD, January 1926–December 2025

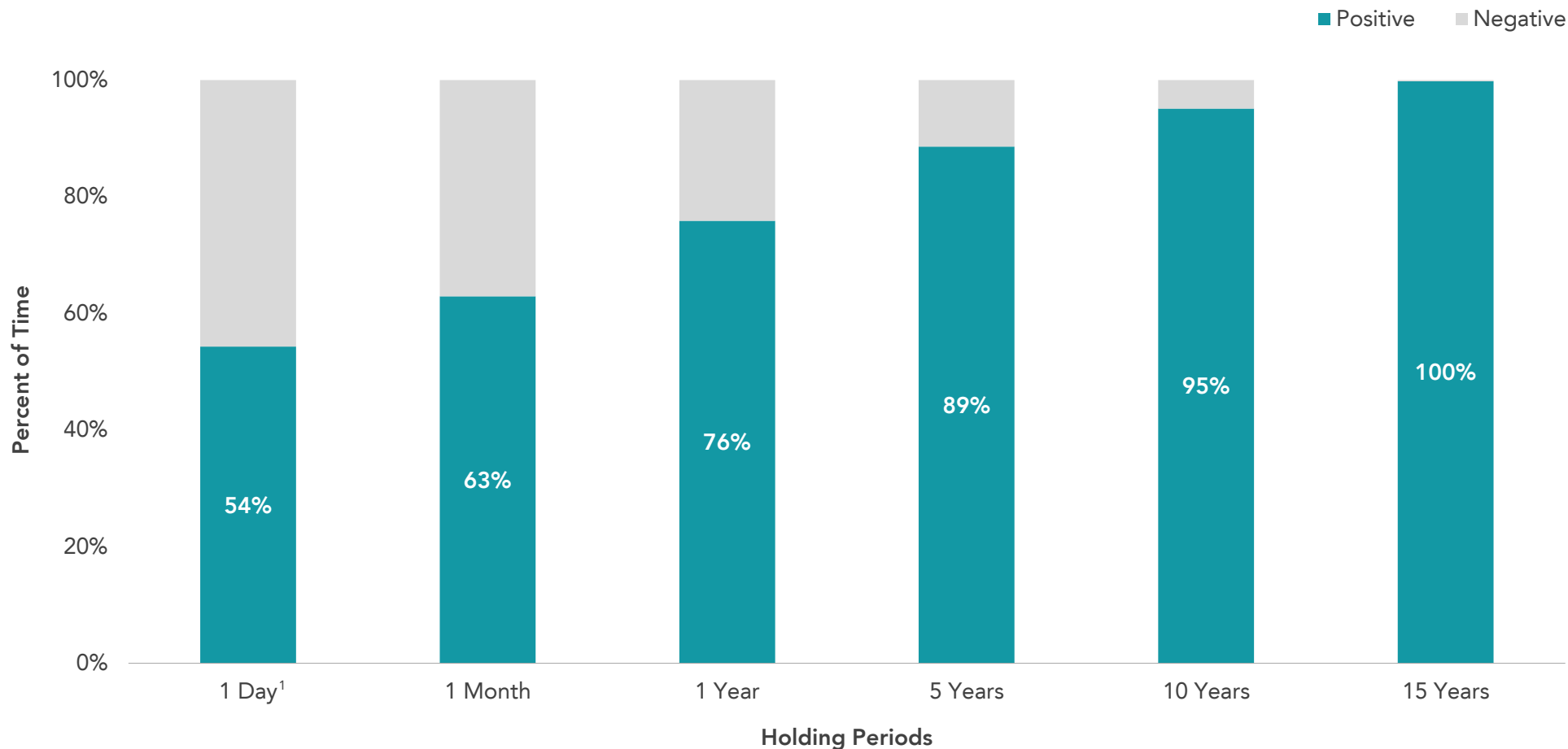
Using a 20% threshold for downturns



**Past performance is no guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.** In USD. Chart end date is 12/31/2025, the last trough to end of period return of 101% represents the return through December 2025. Due to availability of data, monthly returns are used January 1926 through December 1989; daily returns are used January 1990 through present. Periods in which cumulative return from peak is -20% or lower and a recovery of 20% from trough has not yet occurred are considered bear markets. Bull markets are subsequent rises following the bear market trough through the next recovery of at least 20%. The chart shows bear markets and bull markets, the number of months they lasted and the associated cumulative performance for each market period. Results for different time periods could differ from the results shown. Source: S&P data © 2026 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Holding Period Matters

How often S&P 500 Index returns were positive, January 1926 to December 2025



**Past performance is not a guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.** In USD. For illustrative purposes. Percentage of rolling 1-, 5-, 10-, and 15-year holding periods with positive and negative returns are calculated using S&P 500 Index monthly returns data from January 1926 to December 2025. There were 1,200 observation months, 1,189 rolling 1-year periods, 1,141 rolling 5-year periods, 1,081 rolling 10-year periods and 1,021 rolling 15-year periods in the sample. S&P data © 2026 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

1. Percentage of positive and negative daily returns are calculated using S&P 500 Index returns from 1/1/1990 to 12/31/2025 and include 9,067 days in the sample.

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# Foundations of Portfolio Structure

# Benefits of Diversification

Compound average annual returns: 2011–2025

MSCI All Country World  
Index (gross div.)

10.4%



Excluding the top 10  
contributors each year

7.2%



Excluding the top 25  
contributors each year

5.8%



Research shows there is no reliable way to predict top performers.

Broad diversification helps reduce unnecessary idiosyncratic risk.<sup>1</sup>

1. Idiosyncratic risk is unsystematic (diversifiable) risk associated with exposure to a single stock, sector, or country.

**Past performance is no guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. Diversification neither assures a profit nor guarantees against loss in a declining market.**

In USD. "Excluding the top 10" and "Excluding the top 25" exclude the respective stocks in the MSCI All Country World Index (gross div.) with the highest contribution to the overall index return each year. Source: Dimensional, using data from Bloomberg LP. MSCI data © MSCI 2026, all rights reserved.

# Dimensions Point to Differences in Expected Returns



Academic research has identified these dimensions, which are well documented in markets around the world and across different time periods.

1. Relative price as measured by the price-to-book ratio; value stocks are those with lower price-to-book ratios.

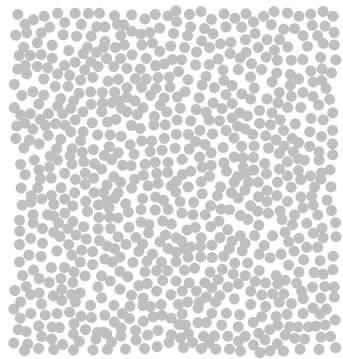
2. Profitability is a measure of current profitability, based on information from individual companies' income statements.

# Portfolios Can Be Structured to Pursue Dimensions

● Company    ●●● Higher Expected Return  
 →

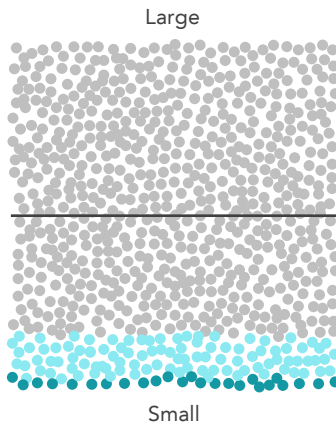
## MARKET

Beta<sup>1</sup>  
 (Equity Premium)



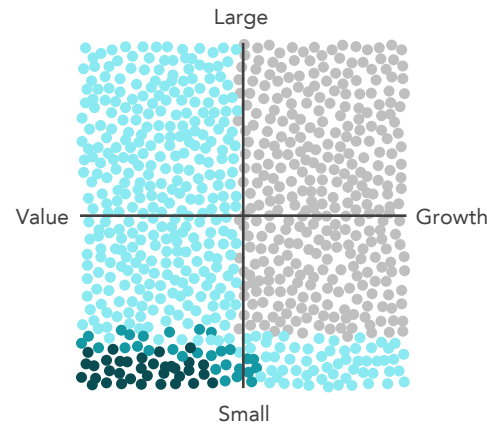
## COMPANY SIZE

Market Cap  
 (Small Cap Premium)



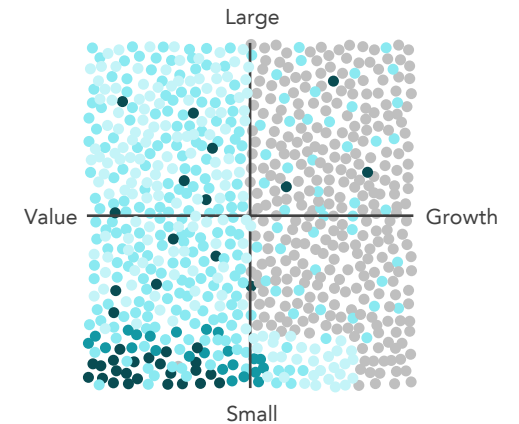
## RELATIVE PRICE

Price-to-Book<sup>2</sup>  
 (Value Premium)



## PROFITABILITY

Profitability<sup>3</sup>  
 (Profitability Premium)



Investors can pursue higher expected returns through a low-cost, well-diversified portfolio that targets these dimensions.

1. Beta: A quantitative measure of the co-movement of a given stock, mutual fund, or portfolio with the overall market.

2. Price-to-Book Ratio: A company's capitalization divided by its book value. It compares the market's valuation of a company to the value of that company as indicated on its financial statements.

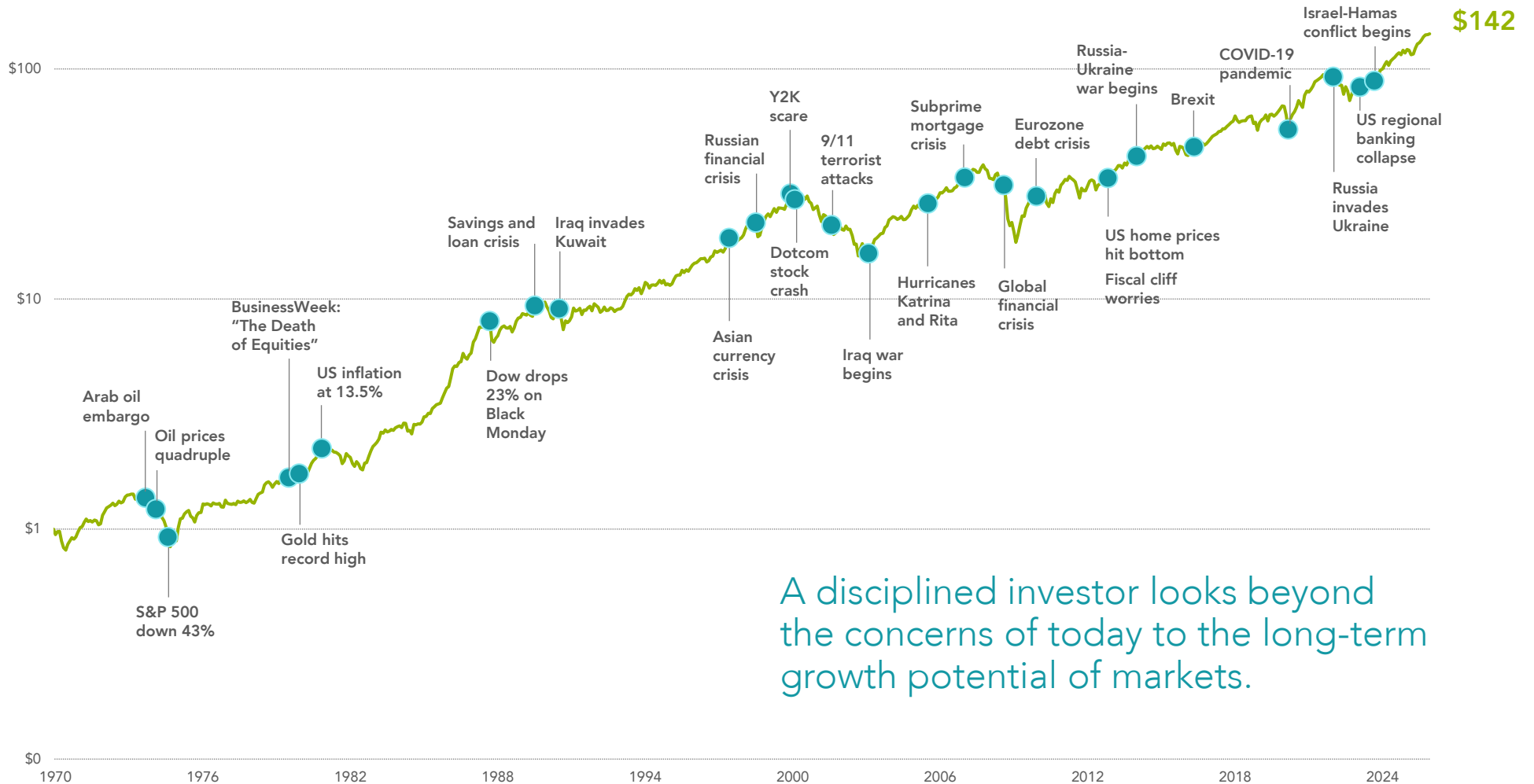
3. Profitability: A measure of a company's current profits. We define this as operating income before depreciation and amortization minus interest expense, scaled by book equity.

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# Navigating Market Volatility

# Markets Have Rewarded Discipline

Growth of a dollar—MSCI World Index (net dividends), 1970–2025

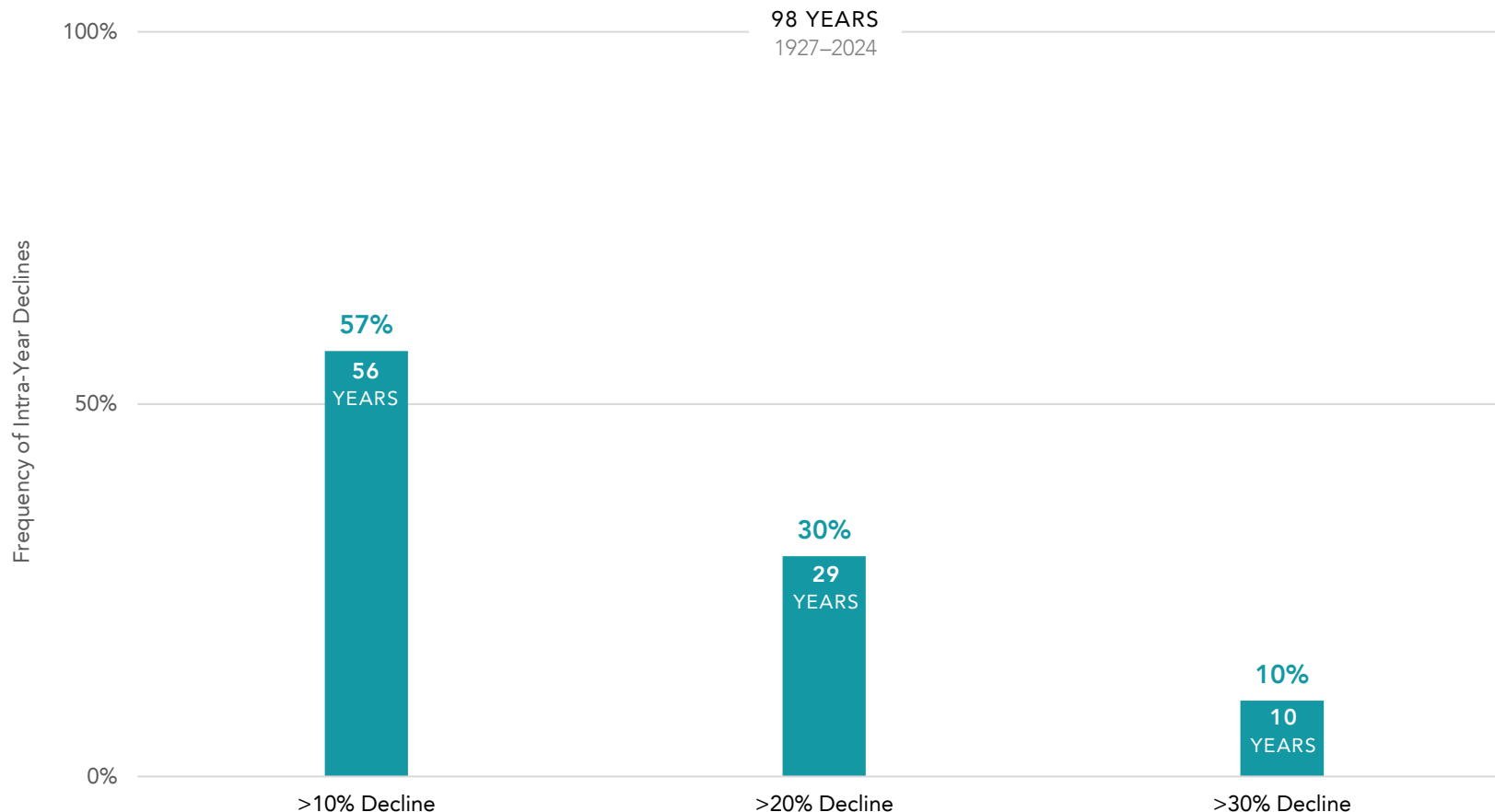


A disciplined investor looks beyond the concerns of today to the long-term growth potential of markets.

Past performance is no guarantee of future results. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. In USD. MSCI data © MSCI 2026, all rights reserved. Data presented in the Growth of \$1 chart is hypothetical and assumes reinvestment of income and no transaction costs or taxes. The chart is for illustrative purposes only and is not indicative of any investment.

# An Intra-Year Decline of 10% is not Uncommon

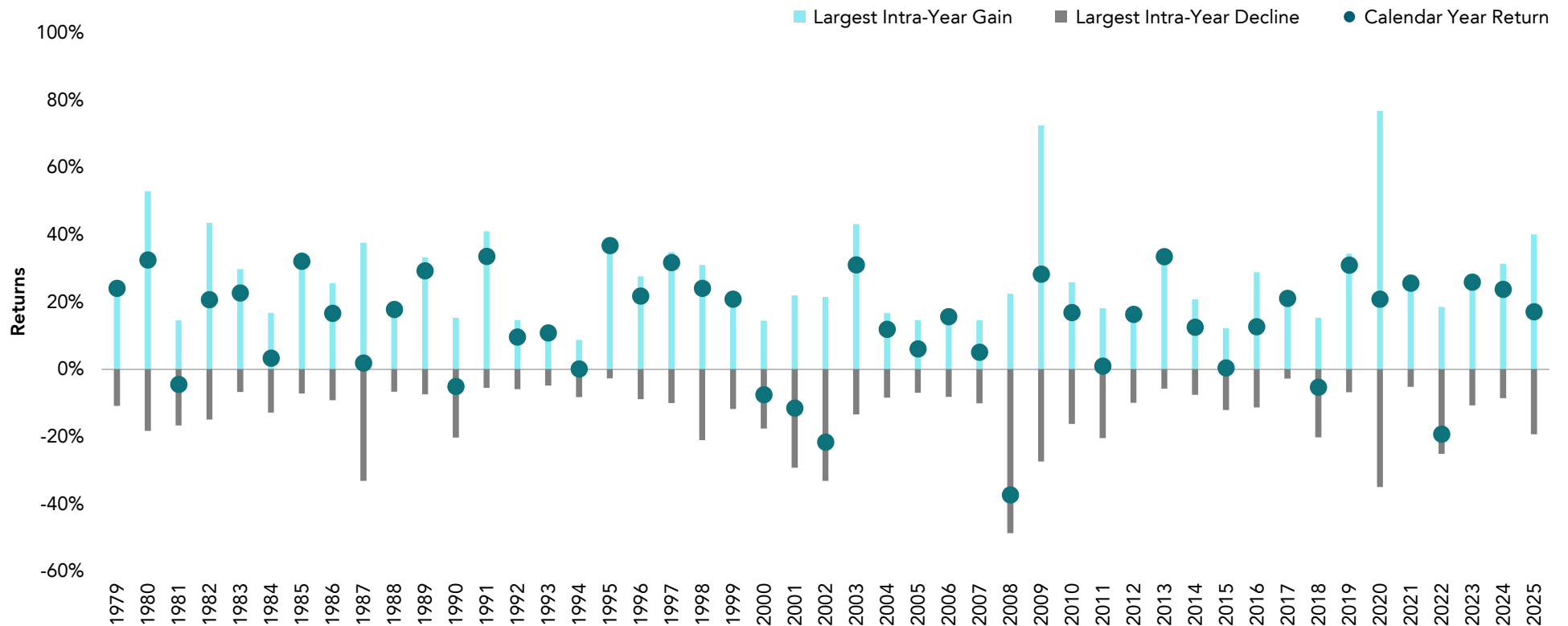
Frequency of intra-year declines greater than 10%, 20% or 30%, US equities



In USD. **Past performance is no guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. Actual returns may be lower.** There are total of 98 years in sample. Returns data based on daily Fama/French Total US Market Research Index returns from January 1, 1927 to December 31, 2024. Decline measured as the maximum intra year peak-to-trough decline using daily returns. Within each calendar year, peaks are defined as the highest index level prior to a given day and troughs are defined as the lowest index level from the prior peak. The Fama/French Indices represent academic concepts that may be used in portfolio construction and are not available for direct investment or for use as a benchmark. Index returns are not representative of actual portfolios and do not reflect costs and fees associated with an actual investment. See "Index Descriptions" in the appendix for descriptions of the Fama/French index data.

# US Market Intra-year Gains and Declines vs. Calendar Year Returns

1979–2025

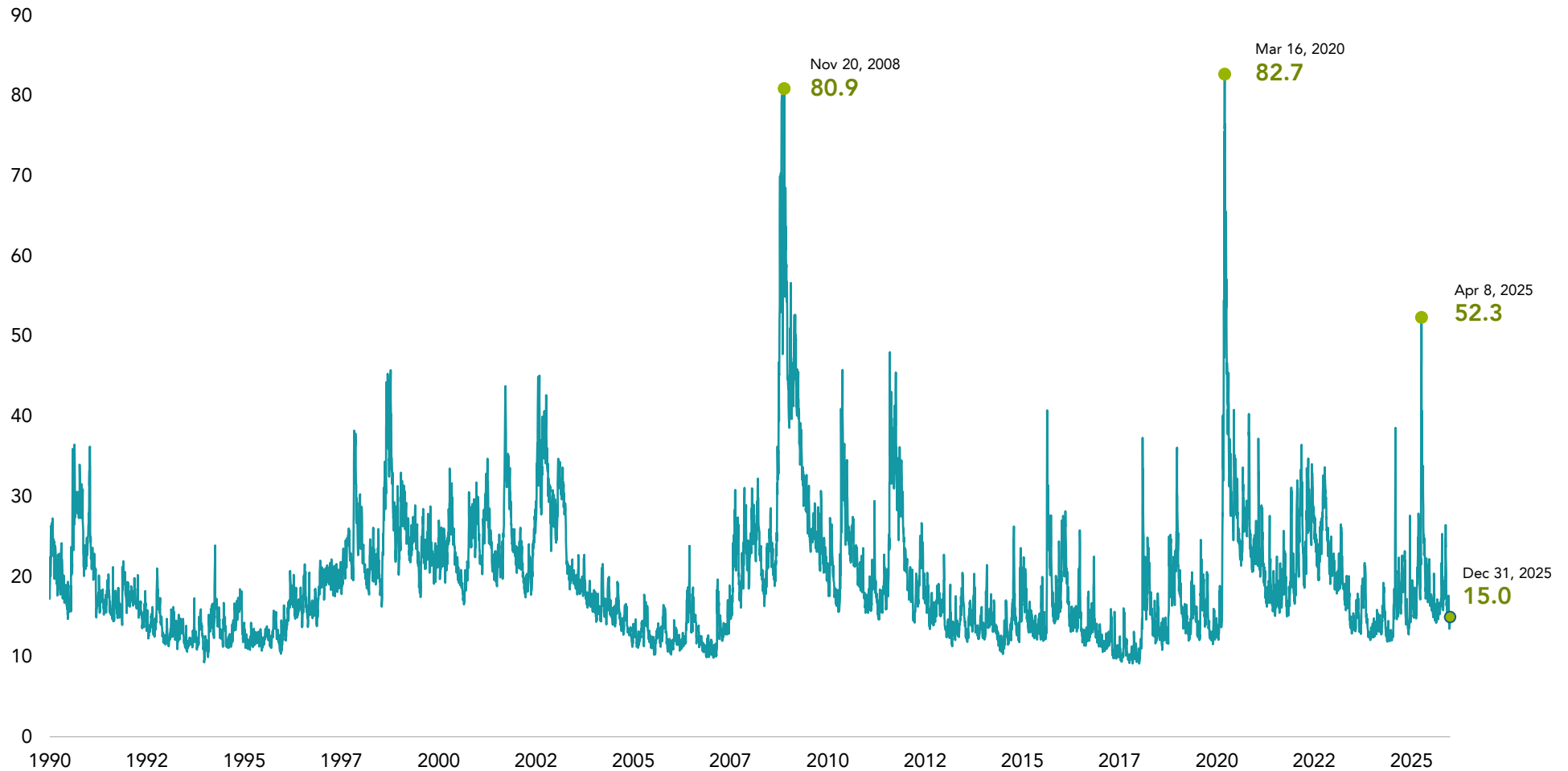


**Past performance is not a guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.** In USD. Data is calculated off rounded daily returns. US Market is the Russell 3000 Index. Largest Intra-Year Gain refers to the largest market increase from trough to peak during the year. Largest Intra-Year Decline refers to the largest market decrease from peak to trough during the year. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.



# Market Volatility

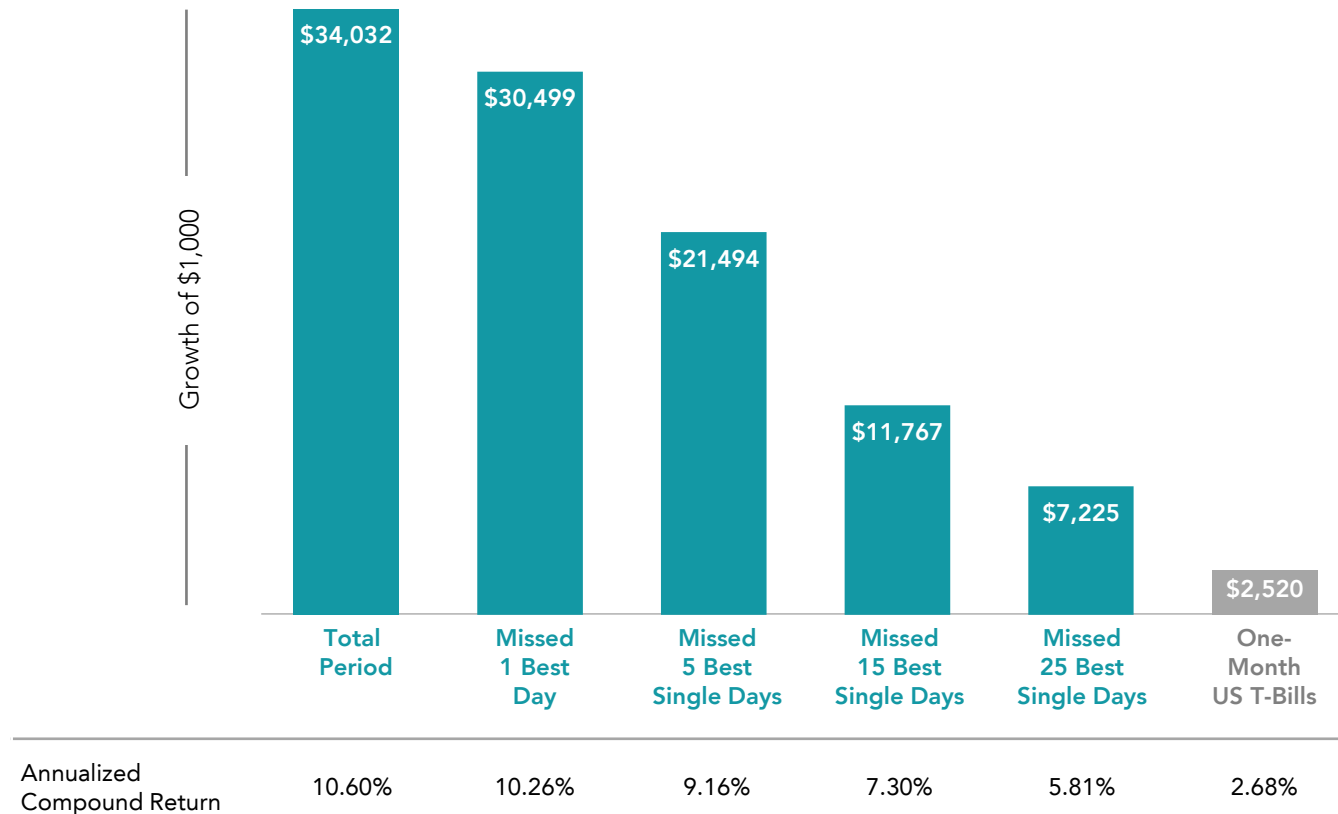
CBOE Volatility Index (VIX) daily closing price, January 1, 1990–December 31, 2025



**Past performance is no guarantee of future results.** Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. The VIX Index is a calculation designed to produce a measure of constant, 30-day expected volatility of the U.S. stock market, derived from real-time, mid-quote prices of S&P 500® Index (SPX<sup>SM</sup>) call and put options. Index levels shown are daily. Data sourced from CBOE. S&P data © 2026 S&P Dow Jones Indices LLC, a division of S&P Global.

# Reacting Can Hurt Performance

Performance of the S&P 500 Index, 1990–2024

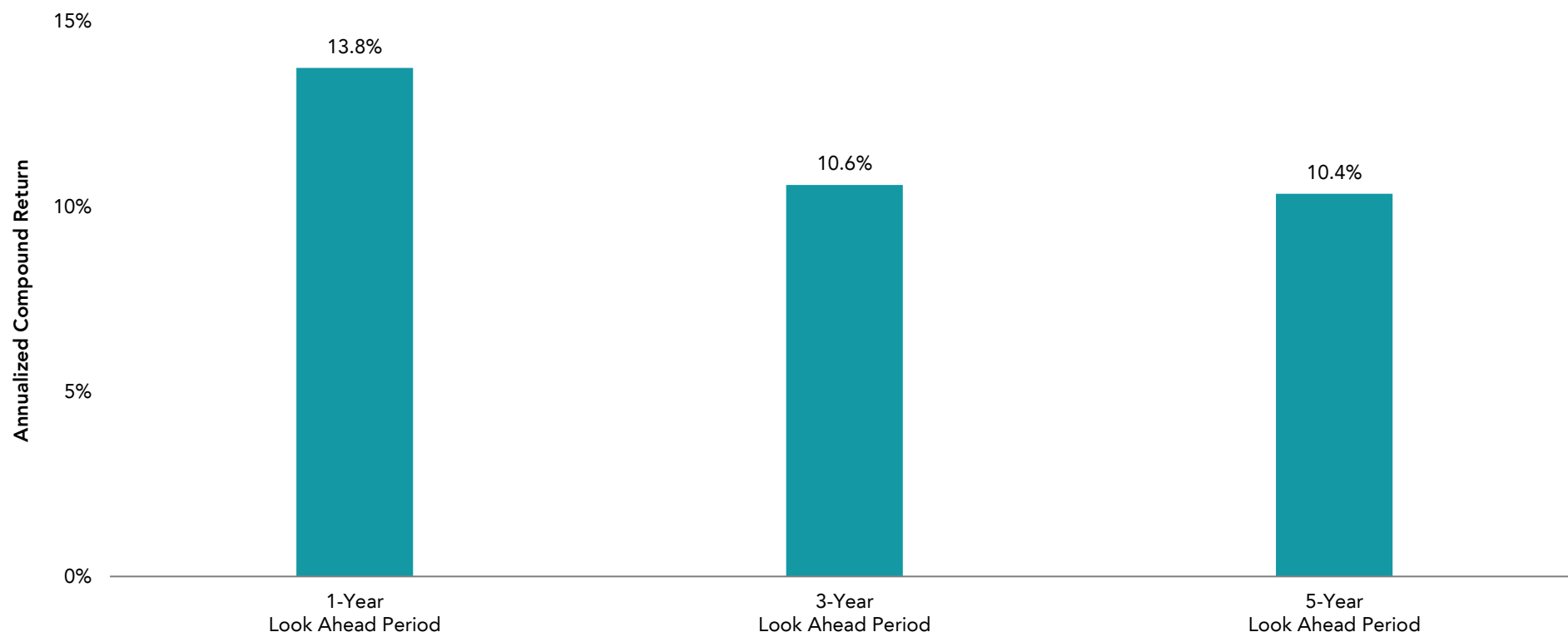


Missing only a few days of strong returns can drastically impact overall performance.

**Past performance is not a guarantee of future results. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.** In USD. For illustrative purposes. The missed best day(s) examples assume that the hypothetical portfolio fully divested its holdings at the end of the day before the missed best day(s), held cash for the missed best day(s), and reinvested the entire portfolio in the S&P 500 at the end of the missed best day(s). Annualized returns for the missed best day(s) were calculated by substituting actual returns for the missed best day(s) with zero. S&P data © 2025 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. "One-Month US T- Bills" is the IA SBBI US 30 Day TBILL TR USD, provided by Ibbotson Associates via Morningstar Direct. Data is calculated off rounded daily index values.

# Average Annualized Returns After New Market Highs

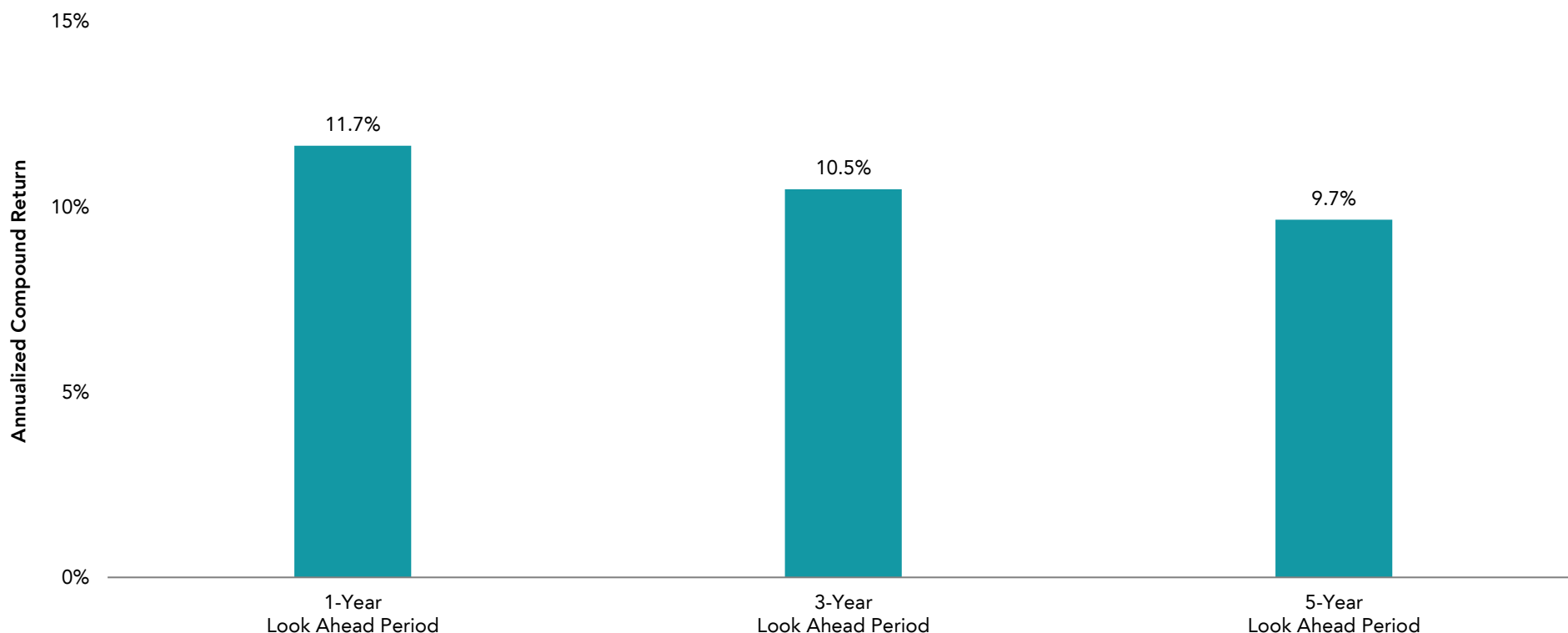
S&P 500, January 1926–December 2025



**Past performance is no guarantee of future results. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.** In USD. New market highs are defined as months ending with the market above all previous levels for the sample period. Annualized compound returns are computed for the relevant time periods subsequent to new market highs and averaged across all new market high observations. There were 1,199 observation months in the sample. January 1990–present: S&P 500 Total Returns Index. S&P data © 2026 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. January 1926–December 1989; S&P 500 Total Return Index, Stocks, Bonds, Bills and Inflation Yearbook™, Ibbotson Associates, Chicago. For illustrative purposes only. There is always a risk that an investor may lose money.

# Average Annualized Returns After Market Decline of More Than 10%

S&P 500, January 1926–December 2025



**Past performance is no guarantee of future results. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.** In USD. Declines are defined as months ending with the market below the previous market high by at least 10%. Annualized compound returns are computed for the relevant time periods after each decline observed and averaged across all declines for the cutoff. There were 1,199 observation months in the sample. January 1990–present: S&P 500 Total Returns Index. S&P data © 2026 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. January 1926–December 1989; S&P 500 Total Return Index, Stocks, Bonds, Bills and Inflation Yearbook™, Ibbotson Associates, Chicago. For illustrative purposes only. There is always a risk that an investor may lose money.

# S&P 500 Total Return Index Highs

Percent of cases where index is higher after monthly closing high vs. any monthly closing level  
January 1926–December 2025

Look-Ahead Period	After New High		After Any Previous Level	
	Percent of Cases Where Index Was Higher	Average Return	Percent of Cases Where Index Was Higher	Average Annualized Return
1 year	79.4%	14.2%	75.8%	12.6%
3 years	82.0%	10.6%	84.9%	10.8%
5 years	80.4%	10.3%	88.6%	10.4%

- 31% of monthly observations were new closing highs.
- Average returns were similar after a new monthly closing high or any previous monthly closing level.
- The percent of cases where the index was higher was similar after a new monthly closing high and after any previous monthly closing level.

**Past performance is no guarantee of future results. Index is not available for direct investment; therefore, its performance does not reflect the expenses associated with the management of an actual portfolio.**

For illustrative purposes only. In USD. Annualized compound returns are computed for the relevant time periods subsequent to new market highs and averaged across all new market highs observations. There were 1,199 observation months in the sample. January 1990–present: S&P 500 Total Return Index, S&P data © 2026 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. January 1926–December 1989: S&P 500 Total Return Index, Stocks, Bonds, Bills and Inflation Yearbook™, Ibbotson Associates, Chicago.

# Bears of All Shapes and Sizes

US stock market declines of 20% or greater, 1929–2025

Start of Decline	Max Decline	Trading Days to Max Decline	Trading Days from Bottom to Recovery
September 3, 1929	-84.1%	845	3,768
May 29, 1946	-28.3%	273	722
July 15, 1957	-20.7%	70	192
December 12, 1961	-27.7%	135	234
February 9, 1966	-20.3%	167	103
November 29, 1968	-36.8%	369	233
January 11, 1973	-48.2%	436	564
August 11, 1981	-20.2%	254	39
August 25, 1987	-33.1%	71	364
July 16, 1990	-20.8%	62	84
July 17, 1998	-21.9%	58	53
March 24, 2000	-49.2%	637	1,017
October 9, 2007	-54.6%	355	750
September 20, 2018	-20.4%	65	81
February 19, 2020	-34.3%	23	94
November 8, 2021	-25.6%	235	296

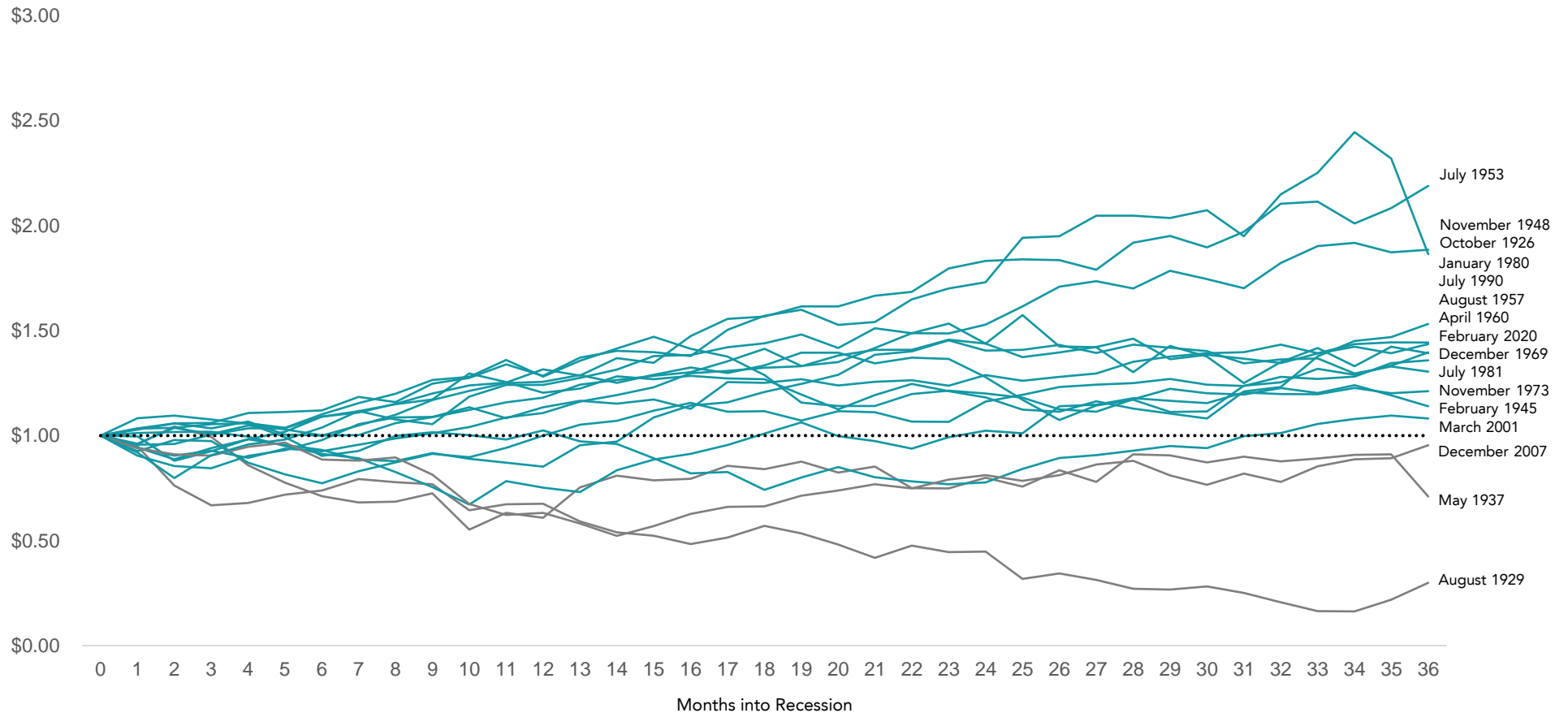
No one can reliably predict the magnitude of a market decline or the time to a recovery. Rather than guessing, sticking to a plan and resisting the urge to sell amid a decline often allows investors to capture the rebound when it occurs.

In nine out of the 16 bear markets since 1929, investors who stayed the course made back their losses within a year.

**Past performance is no guarantee of future results. Actual returns may be lower.** In USD. The Fama/French Indices represent academic concepts that may be used in portfolio construction and are not available for direct investment or for use as a benchmark. Index returns are not representative of actual portfolios and do not reflect costs and fees associated with an actual investment. See "Index Descriptions" in the appendix for descriptions of the Fama/French index data. Includes any decline of 20% or more beginning the day after a new all-time high for the market. Recovery is defined as the first day when the cumulative return since the previous market high is no longer negative. US stock market represented by the Fama/French Total US Market Research Index. Eugene Fama and Ken French are members of the Board of Directors of the general partner of, and provide consulting services to, Dimensional Fund Advisors LP. 21

# Past Recessions and Growth of Wealth

Growth of a dollar for US stocks over 3-year period beginning from first month of recession

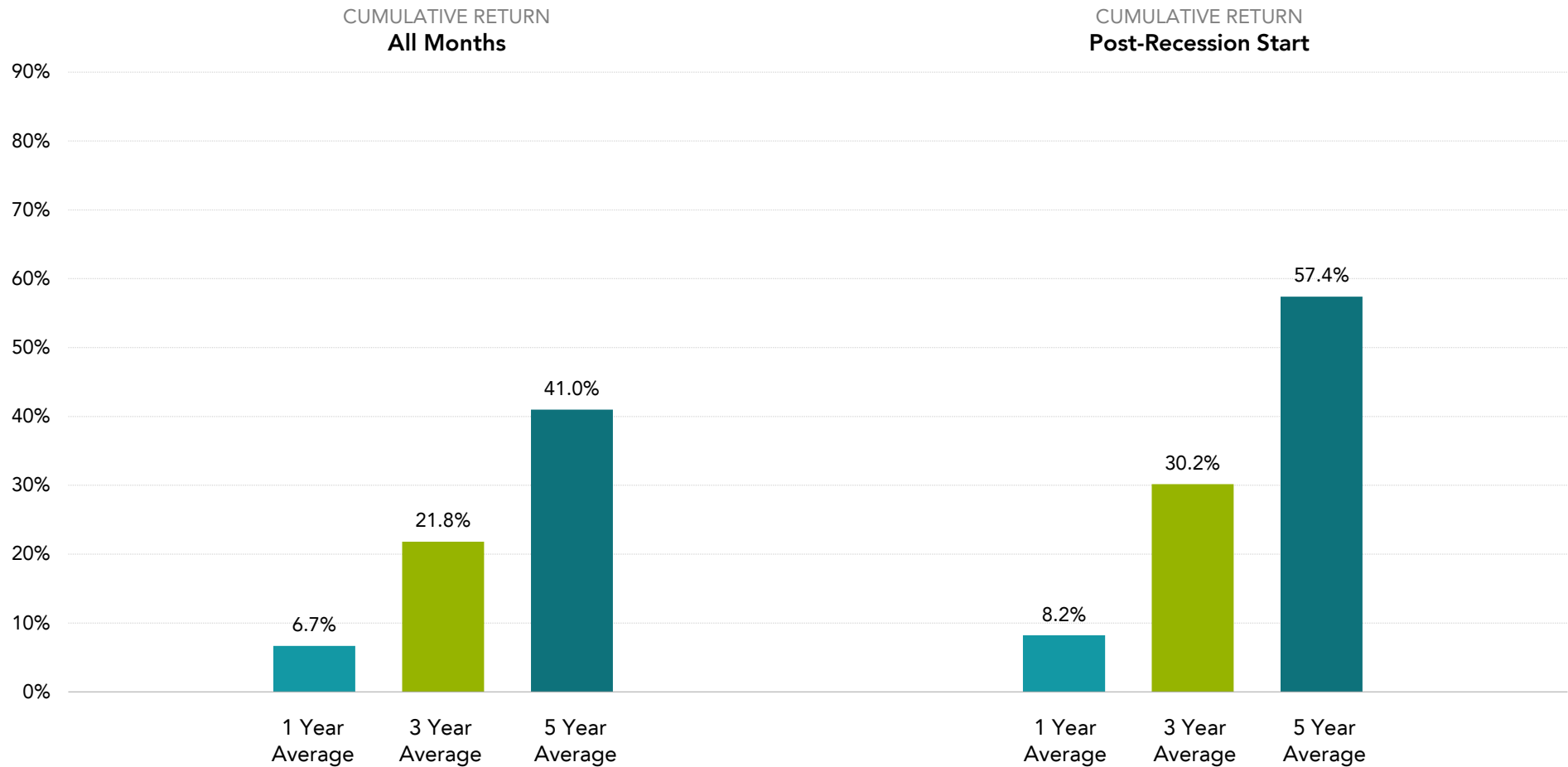


**Past performance is no guarantee of future results. Actual returns may be lower.**

In USD. Each line shows the growth of \$1 for a hypothetical investment in the Fama/French Total US Market Research Index over the 36 months starting the month after the relevant Recession Start Date. Data presented in Growth of \$1 chart is hypothetical and assumes reinvestment of income and no transaction costs or taxes. The chart is for illustrative purposes only and is not indicative of any investment. The Fama/French Indices represent academic concepts that may be used in portfolio construction and are not available for direct investment or for use as a benchmark. Index returns are not representative of actual portfolios and do not reflect costs and fees associated with an actual investment. See "Index Descriptions" in the appendix for descriptions of Fama/French index data. For additional information on the methodology, see "Markets Have Often Been Up in Recessions: Appendix" for more details.

# Average Returns after Recessions Have Been Positive

Bloomberg U.S. Aggregate Bond Index cumulative return, January 1, 1976–December 31, 2025

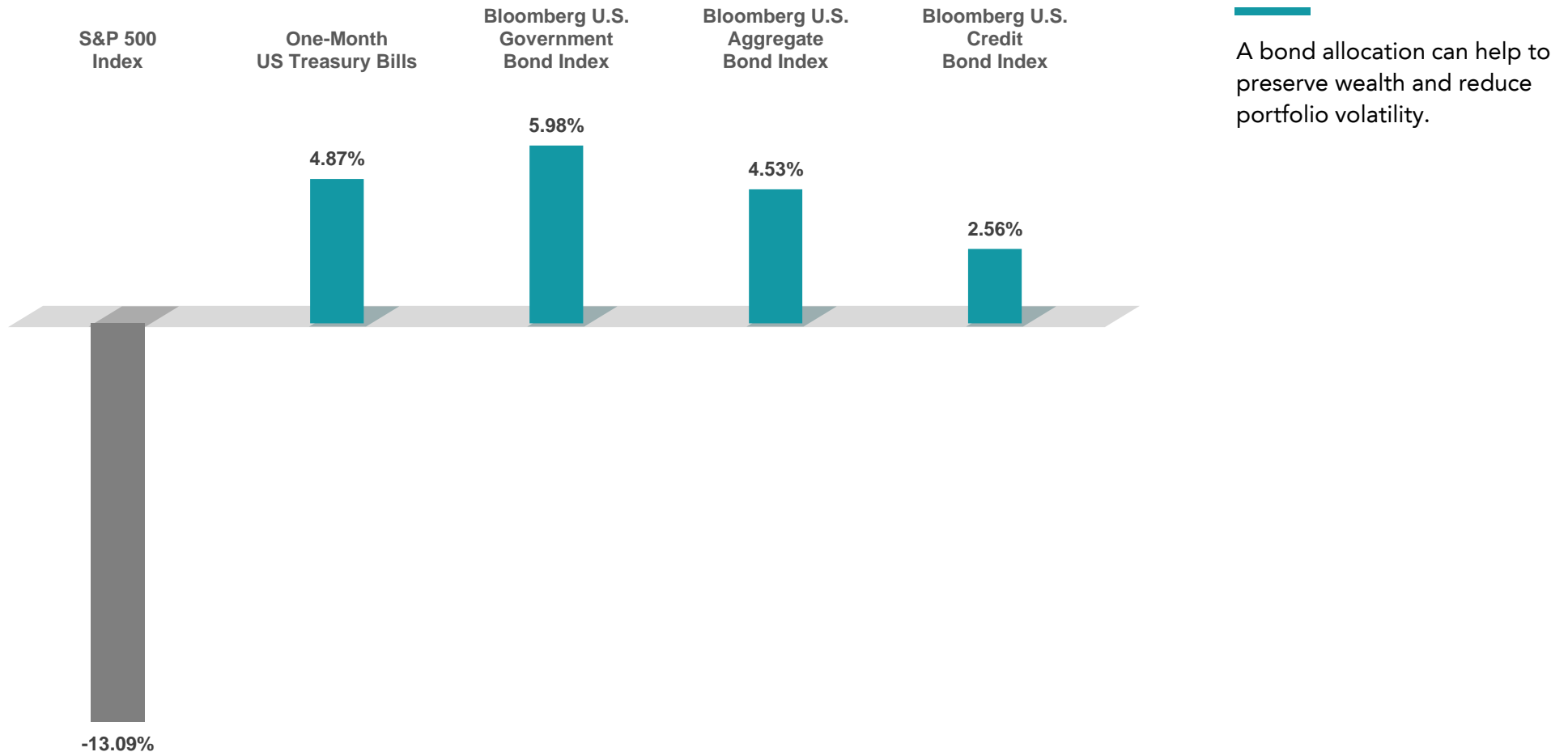


**Past performance is no guarantee of future results. Short-term performance results should be considered in connection with longer term performance results.**

In USD. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Returns data based on monthly Bloomberg U.S. Aggregate Bond Index returns from January 1976 to December 2025. Total returns are calculated for the 1-, 3-, and 5-year look-ahead periods for all months and post-recession start months. Business cycle recession dates sourced from the National Bureau of Economic Research (NBER). There are 6, 6, and 6 observations for 1-, 3-, and 5-year post-recession periods, respectively. Bloomberg index data provided by Bloomberg.

# A Natural Buffer

Average calendar year returns when the S&P 500 Index return is negative, 1976–2024



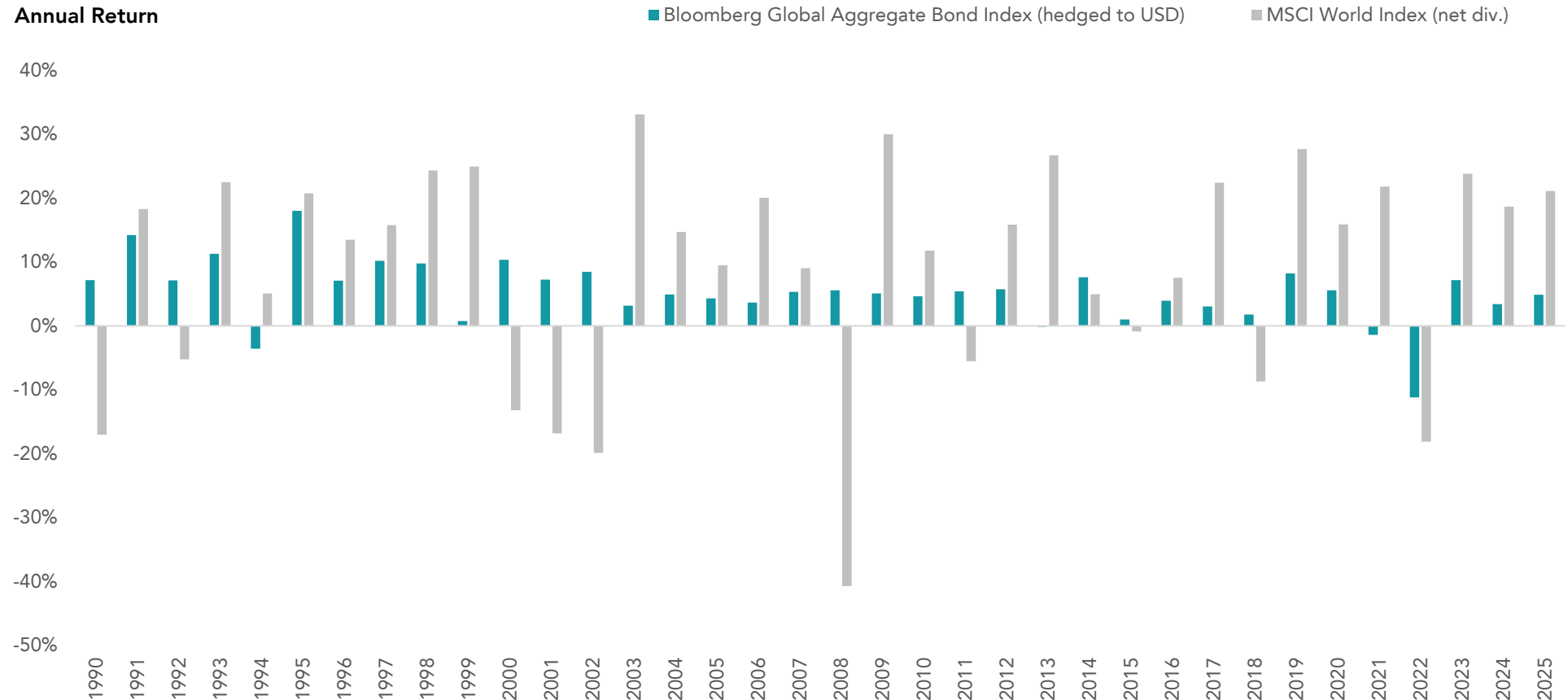
**Past performance is no guarantee of future results. Diversification neither assures a profit nor guarantees against loss in a declining market. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.**

In USD. Average calendar year returns shown for years in which the S&P 500 Index return was negative. The S&P 500 Index had a negative calendar year return in 9 of the years from 1976-2024. S&P data © 2025 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Bloomberg data provided by Bloomberg. One-month US Treasury Bills returns provided by Morningstar.

# Bonds as a Buffer: Fixed Income + Stocks

January 1990–December 2025

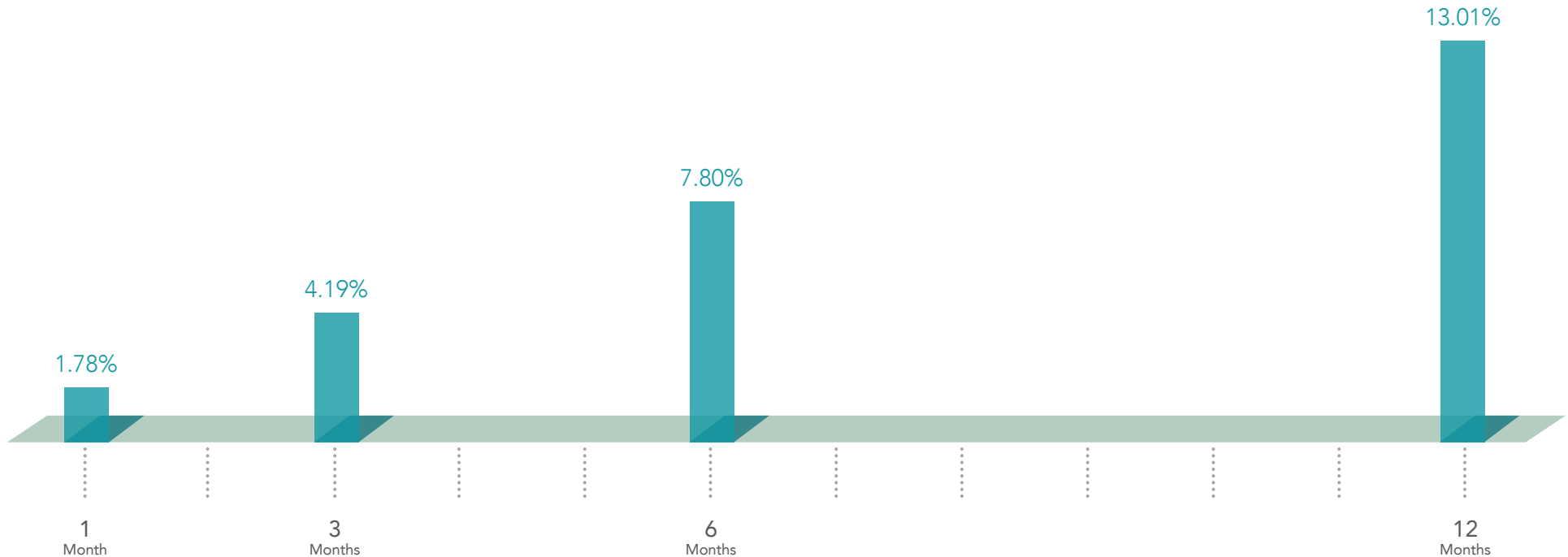
## Annual Return



**Past performance is no guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.** In USD. Global Bonds are represented by the Bloomberg Global Aggregate Bond Index (Hedged to USD) and Equities are represented by the MSCI World Index (net div., USD). Bloomberg data provided by Bloomberg. MSCI data © MSCI 2026, all rights reserved.

# Don't Be Scared Out of the Market

Average relative outperformance of 60/40 allocation vs. cash allocation following a US equity decline, February 1982–June 2025



PERIODS AFTER A 3-MONTH US EQUITY DECLINE OF 10% OR MORE

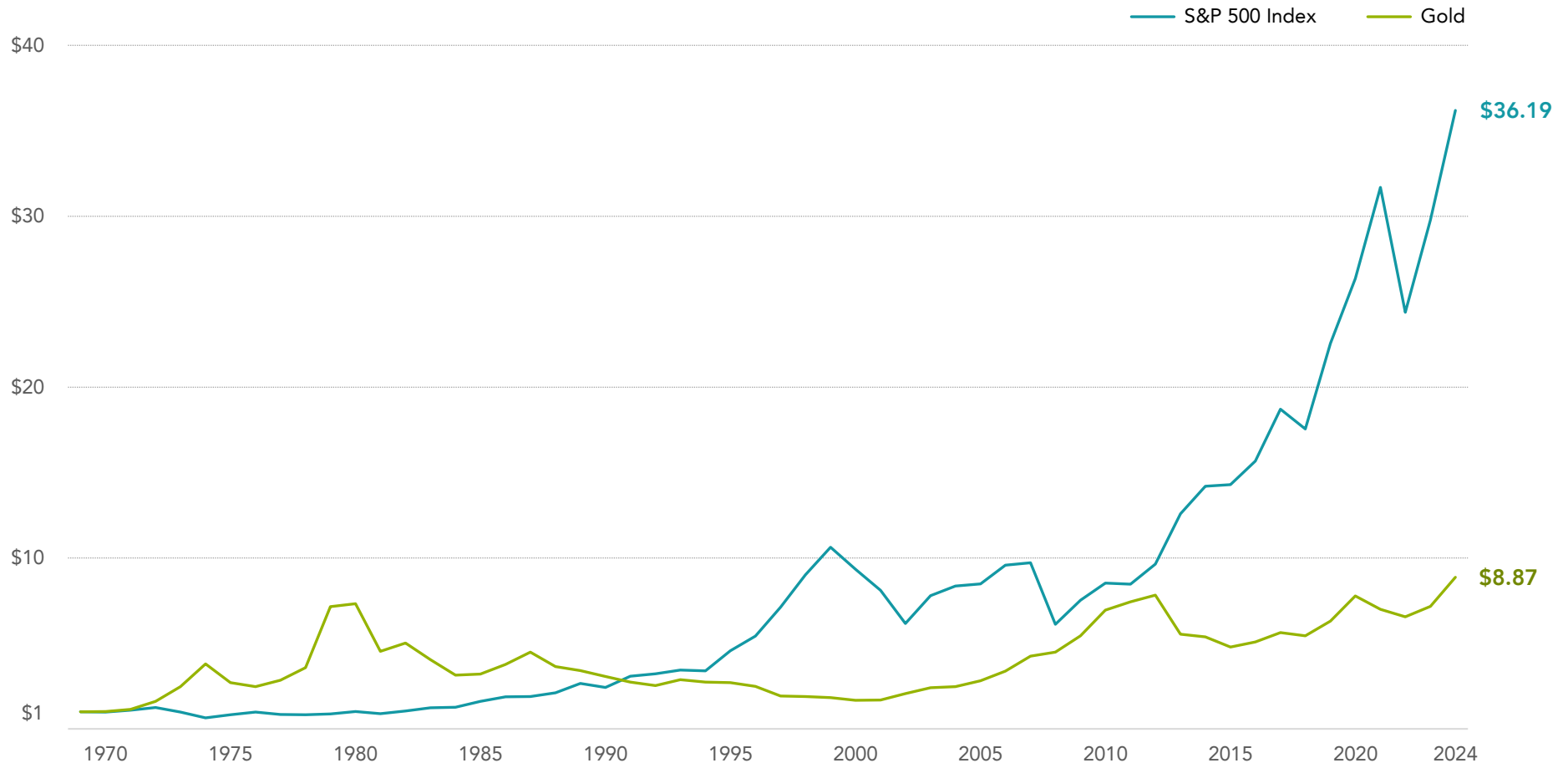
**Past performance is not a guarantee of future results. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.** In USD. US equity performance measured by the Russell 3000 Index. There are 29 3-month periods where equities declined 10% or more. Of those, 60/40 allocation outperformed cash in the following 1-, 3-, 6- and 12-months in 20, 22, 21 & 25 periods, respectively. **The 60/40 allocation is 60% Russell 3000 Index and 40% Bloomberg U.S. Aggregate Bond Index** and is rebalanced monthly. Cash is represented by the three-month U.S. Treasury Bill. Equity losses of more than 10% over three months trigger the move from a 60/40 allocation to all cash. All performance results of the hypothetical models are based on performance of indices with model/backtested asset allocations; the performance was achieved with the benefit of hindsight; it does not represent actual investment strategies. The model's performance does not reflect advisory fees or other expenses associated with the management of an actual portfolio. There are limitations inherent in model allocations. In particular, model performance may not reflect the impact that economic and market factors may have had on the advisor's decision making if the advisor were actually managing client money. "Three-month US Treasury Bill" Source: US Treasury via Ibbotson/Morningstar. Frank Russell Company is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes. Bloomberg index data provided by Bloomberg.

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# Appendix

# Equities Have Outpaced Gold Over the Years

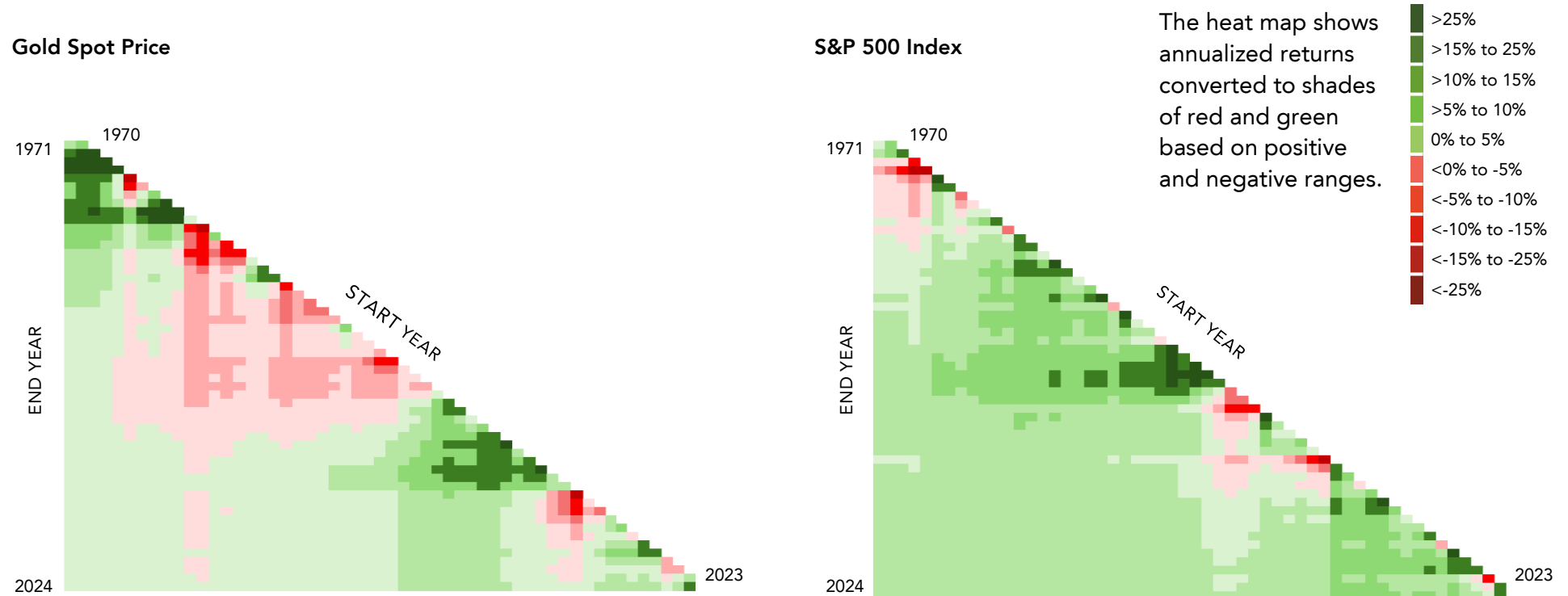
Inflation-adjusted growth of wealth: S&P 500 Index vs. Gold, 1970–2024



In USD. **Past performance is not a guarantee of future results.** Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. US inflation is the annual rate of change in the Consumer Price Index for All Urban Consumers (CPI-U, not seasonally adjusted) from the Bureau of Labor Statistics. Nominal return is the rate of return on an investment without adjusting for inflation. Inflation adjusted returns are calculated using the following method:  $[(1 + \text{nominal return}) / (1 + \text{inflation rate})] - 1$ . Gold spot price returns are provided by Bloomberg. Data presented in the growth of \$1 chart is hypothetical and assumes reinvestment of income and no transaction costs or taxes. The chart is for illustrative purposes only and is not indicative of any investment. Bloomberg data provided by Bloomberg. S&P data © 2025 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Real Returns of Gold vs. Equities

Annualized inflation-adjusted returns, S&P 500 Index and Gold spot price, January 1, 1970–December 31, 2024



**Past performance is no guarantee of future results.** Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. In USD. US inflation is the annual rate of change in the Consumer Price Index for All Urban Consumers (CPI-U, not seasonally adjusted) from the Bureau of Labor Statistics. Nominal return is the rate of return on an investment without adjusting for inflation. Real return is the rate of return on an investment after adjusting for inflation. Real returns are calculated using the following method:  $[(1 + \text{nominal return}) / (1 + \text{inflation rate})] - 1$ . Gold spot price returns are provided by Bloomberg. Bloomberg data provided by Bloomberg. S&P data © 2025 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Markets Have Often Been Up in Recessions: Appendix

Growth of wealth shows the growth of a hypothetical investment of \$1 in the securities in the Fama/French Total US Market Research Index over the 36 months starting the month after the relevant Recession Start Date.

Index data presented in the growth of wealth chart is hypothetical and assumes reinvestment of income and no transaction costs or taxes. Sample includes 16 US recessions as identified by the National Bureau of Economic Research (NBER) from October 1926 to December 2021. NBER defines recessions as starting at the peak of a business cycle. A business cycle is a description of the various stages of economic output.

Regarding the Fama/French Total US Market Research Index, results shown during periods prior to each index's index inception date do not represent actual returns of the respective index. Other periods selected may have different results, including losses. Backtested index performance is hypothetical and is provided for informational purposes only to indicate historical performance had the index been calculated over the relevant time periods. Backtested performance results assume the reinvestment of dividends and capital gains. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Eugene Fama and Ken French are members of the Board of Directors of the general partner of, and provide consulting services to, Dimensional Fund Advisors LP.

# Index Descriptions

**Fama/French Total US Market Research Index:** July 1926–present: Fama/French Total US Market Research Factor + One-Month US Treasury Bills. Source: Ken French Website.

Results shown during periods prior to each Index's index inception date do not represent actual returns of the respective index. Other periods selected may have different results, including losses. Backtested index performance is hypothetical and is provided for informational purposes only to indicate historical performance had the index been calculated over the relevant time periods. Backtested performance results assume the reinvestment of dividends and capital gains. Profitability is measured as operating income before depreciation and amortization minus interest expense, scaled by book. Eugene Fama and Ken French are members of the Board of Directors of the general partner of, and provide consulting services to, Dimensional Fund Advisors LP.

# Index Description

**Dimensional US 20 Year Treasury Index (Historical):** February 1999–present: Dimensional 20 Year Treasury Index. January 1926–January 1999: Morningstar Long Term Government Bonds. Source: Morningstar.

**Dimensional US 20 Year Treasury Index:** Compiled by Dimensional beginning in February 2025. Based on securities in the universe of Bloomberg US Treasury Index, the index selects the bond with the beginning-of-month maturity closest to 20 Year. If there are two bonds with the same time to maturity, the most recently issued bond is selected. Rebalanced monthly.

**The Dimensional Indices have been retrospectively calculated by Dimensional Fund Advisors LP and did not exist prior to their index inception dates. Accordingly, results shown during periods prior to each index's inception date do not represent actual returns of the respective index. Other periods selected may have different results, including losses.**

Backtested index performance is hypothetical and is provided for informational purposes only to indicate historical performance had the index been calculated over the relevant time periods. Backtested performance results assume the reinvestment of dividends and capital gains.