



A D V I S O R S

Market Declines and Volatility

What Affects a Stock's Current Price?



Given all information, a stock's current price reflects aggregate expectations about risk and return.

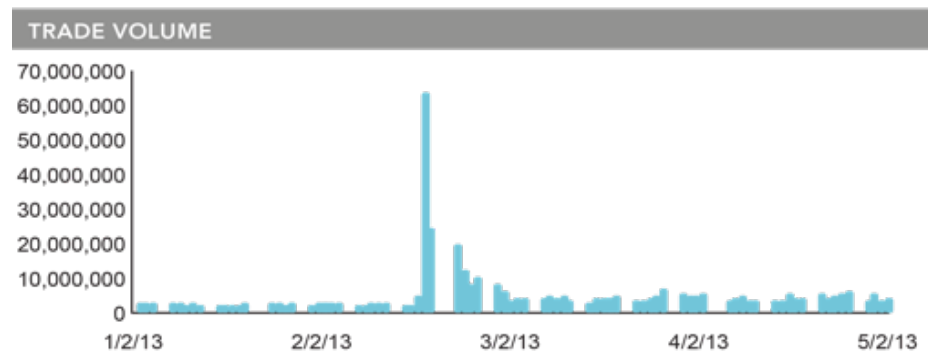
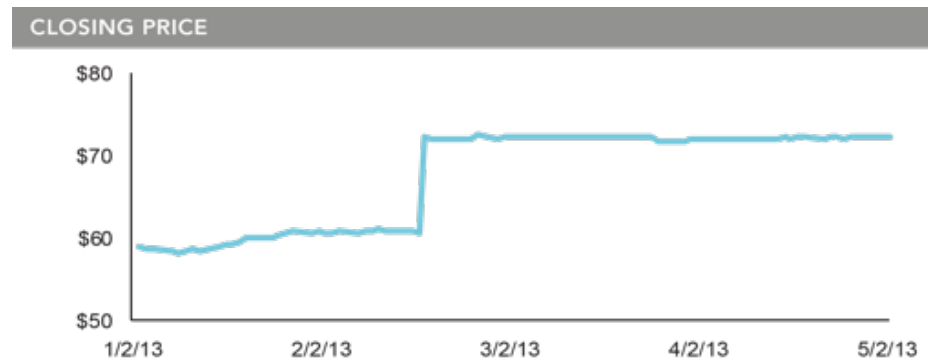
Stock Prices Adjust Quickly

Heinz, 2/14/2013

“Heinz agrees to buyout by Berkshire Hathaway, 3G”

–USA Today, February 14, 2013

News travels quickly, and prices
can adjust in an instant.



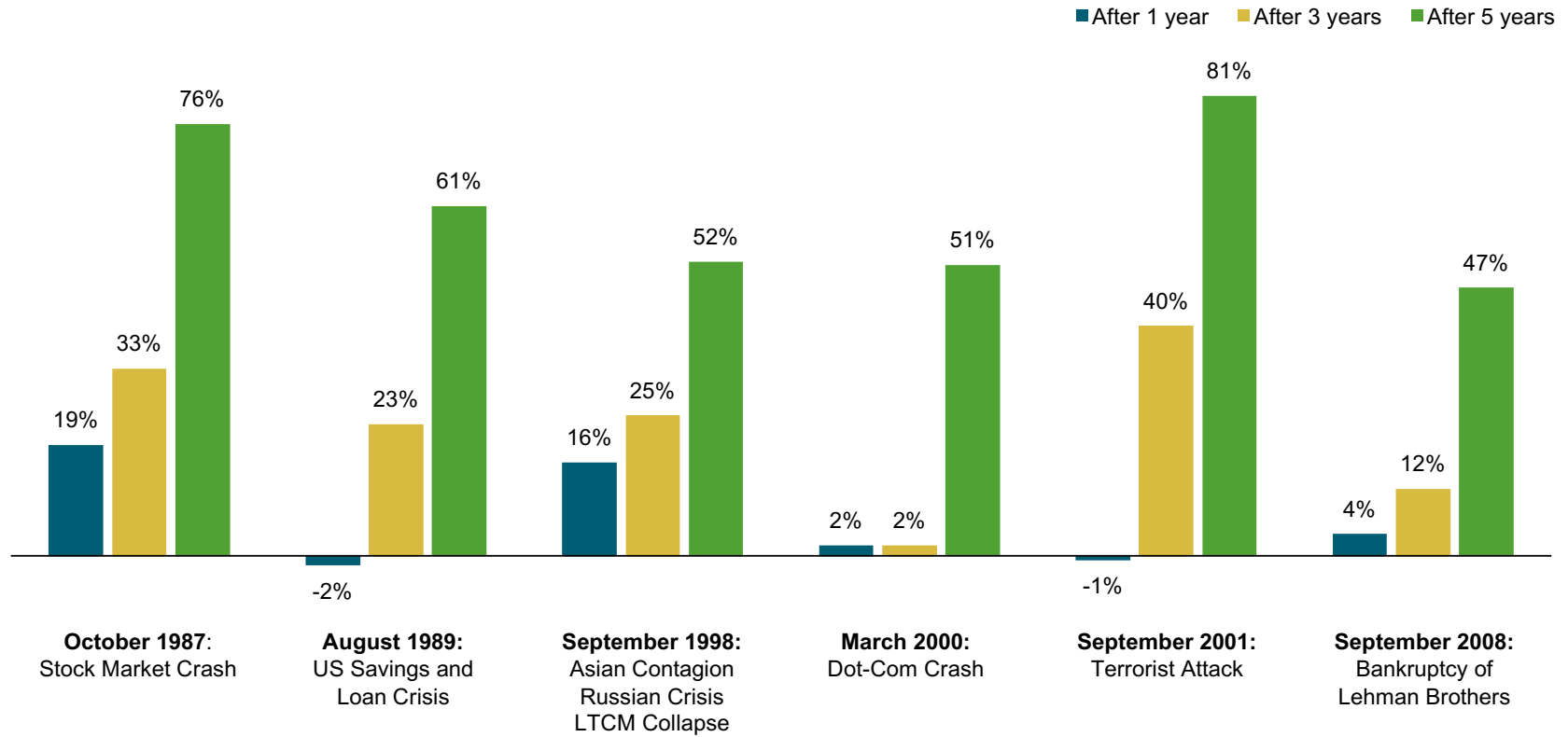
In USD.

Source: Bloomberg

The security identified is shown for illustrative purposes only to demonstrate the investment philosophy described herein. These materials are not, and should not be construed as, a recommendation to purchase or sell the security identified or any other securities. Actual holdings will vary for each client, and there is no guarantee that any client will hold the security identified.

The Market's Response to Crisis

Performance of a Balanced Strategy: 60% Stocks, 40% Bonds
Cumulative Total Return



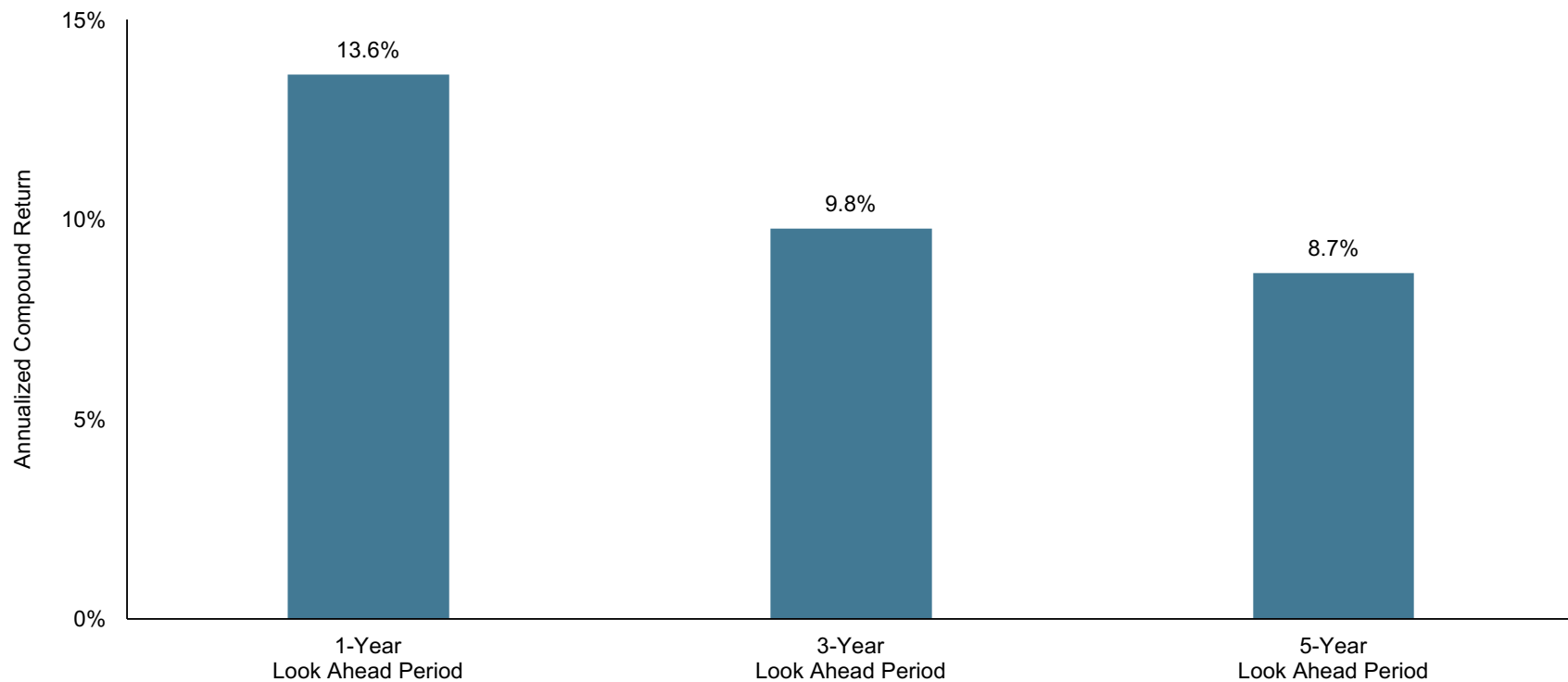
In US dollars.

Represents cumulative total returns of a balanced strategy invested on the first day of the following calendar month of the event noted. Balanced Strategy: 12% S&P 500 Index, 12% Dimensional US Large Cap Value Index, 6% Dow Jones US Select REIT Index, 6% Dimensional International Value Index, 6% Dimensional US Small Cap Index, 6% Dimensional US Small Cap Value Index, 3% Dimensional International Small Cap Index, 3% Dimensional International Small Cap Value Index, 2.4% Dimensional Emerging Markets Small Index, 1.8% Dimensional Emerging Markets Value Index, 1.8% Dimensional Emerging Markets Index, 10% Bloomberg Barclays Treasury Bond Index 1-5 Years, 10% FTSE World Government Bond Index 1-5 Years (hedged), 10% FTSE World Government Bond Index 1-3 Years (hedged), 10% ICE BofAML 1-Year US Treasury Note Index. Assumes monthly rebalancing. For illustrative purposes only. S&P and Dow Jones data copyright 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. ICE BofAML index data copyright 2018 ICE Data Indices, LLC. FTSE fixed income indices © 2018 FTSE Fixed Income LLC. All rights reserved. Bloomberg Barclays data provided by Bloomberg. Dimensional indices use CRSP and Compustat data.

Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Not to be construed as investment advice. Returns of model portfolios are based on back-tested model allocation mixes designed with the benefit of hindsight and do not represent actual investment performance. See "Balanced Strategy Disclosure and Index Descriptions" pages in the Appendix for additional information.

Average Annualized Returns after New Market Highs

S&P 500, 1/1926–12/2017

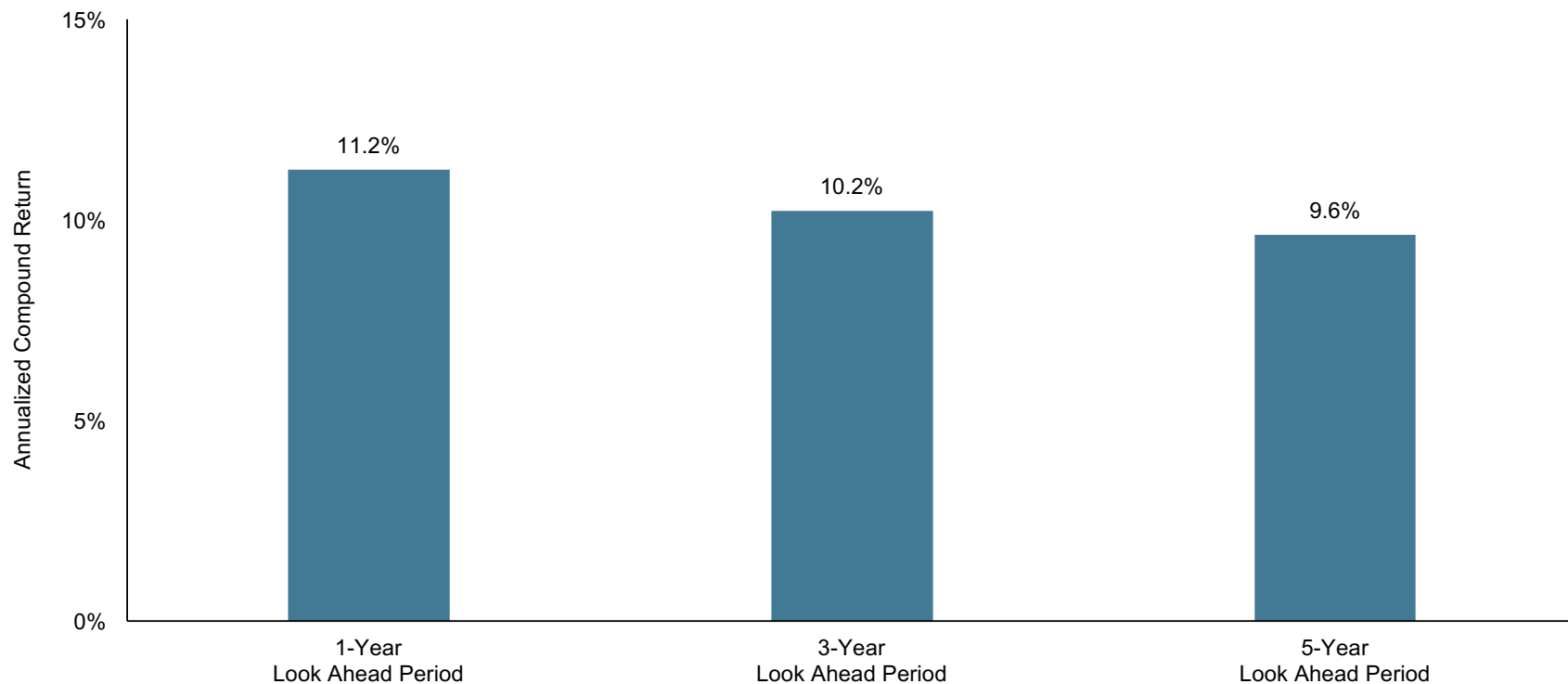


Annualized compound returns are computed for the 1-, 3- and 5-year periods subsequent to new market highs. 1,093 observations for 1-year look-ahead, 1,069 observations for 3-year look-ahead, and 1,045 for 5-year look-ahead. 1-year, 3-year, and 5-year periods are overlapping periods. The bar chart shows the average returns for the 1-, 3-, and 5-year period following new market highs. January 1990–Present: S&P 500 Total Returns Index. S&P data © 2016 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. Index is not available for direct investment; therefore, its performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results. There is always a risk that an investor may lose money.

In US Dollars. Values represent the growth of \$1 invested at market close 11/30/2017 in the S&P 500 Index (total return), © 2018 S&P Dow Jones indices LLC, a division of S&P Global. All rights reserved. Past performance is no guarantee of future results. Short term performance results should be considered in connection with longer term performance results. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.

Average Annualized Returns after Market Decline of More than 10%

S&P 500, 1/1926–12/2017



Market decline of 10% is defined as a month in which cumulative return from peak is -10% or lower. Annualized compound returns are computed for the 1-, 3- and 5-year periods subsequent to a market decline of at least 10%. 1,093 observations for 1-year look-ahead. 1,069 observations for 3-year look-ahead, and 1,045 for 5-year look-ahead. 1-year, 3-year, and 5-year periods are overlapping periods. The bar chart shows the average returns for the 1-, 3-, and 5-year period following a market decline of at least 10%. January 1990–Present: S&P 500 Total Returns Index. S&P data © 2016 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. Index is not available for direct investment; therefore, its performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results. There is always a risk that an investor may lose money.

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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 2017

Look- Ahead Period	Percent of Cases Where Index Was Higher (after new high)	Avg. Return (after new high)	Percent of Cases Where Index Was Higher (after any previous level)	Avg. Return (after any previous level)
1 year	80.9%	13.6%	75.0%	12.3%
3 years	84.2%	36.8%	83.5%	39.6%
5 years	84.2%	62.7%	87.5%	71.5%

- 30% 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.

In US dollars.

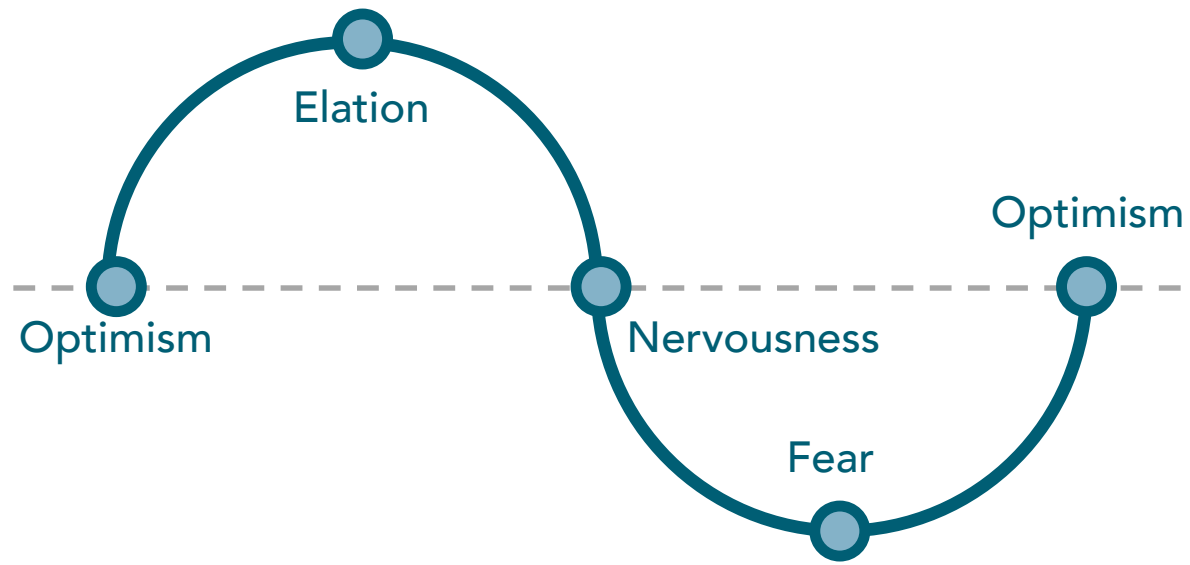
Note: 1,093 observations for 1-year look-ahead, 1,069 for 3-year look-ahead, and 1,045 for 5-year look-ahead.

January 1990–Present: S&P 500 Total Return Index, S&P data copyright 2018 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. Index is not available for direct investment. Past performance is no guarantee of future results.

Many Investors Follow Their Emotions

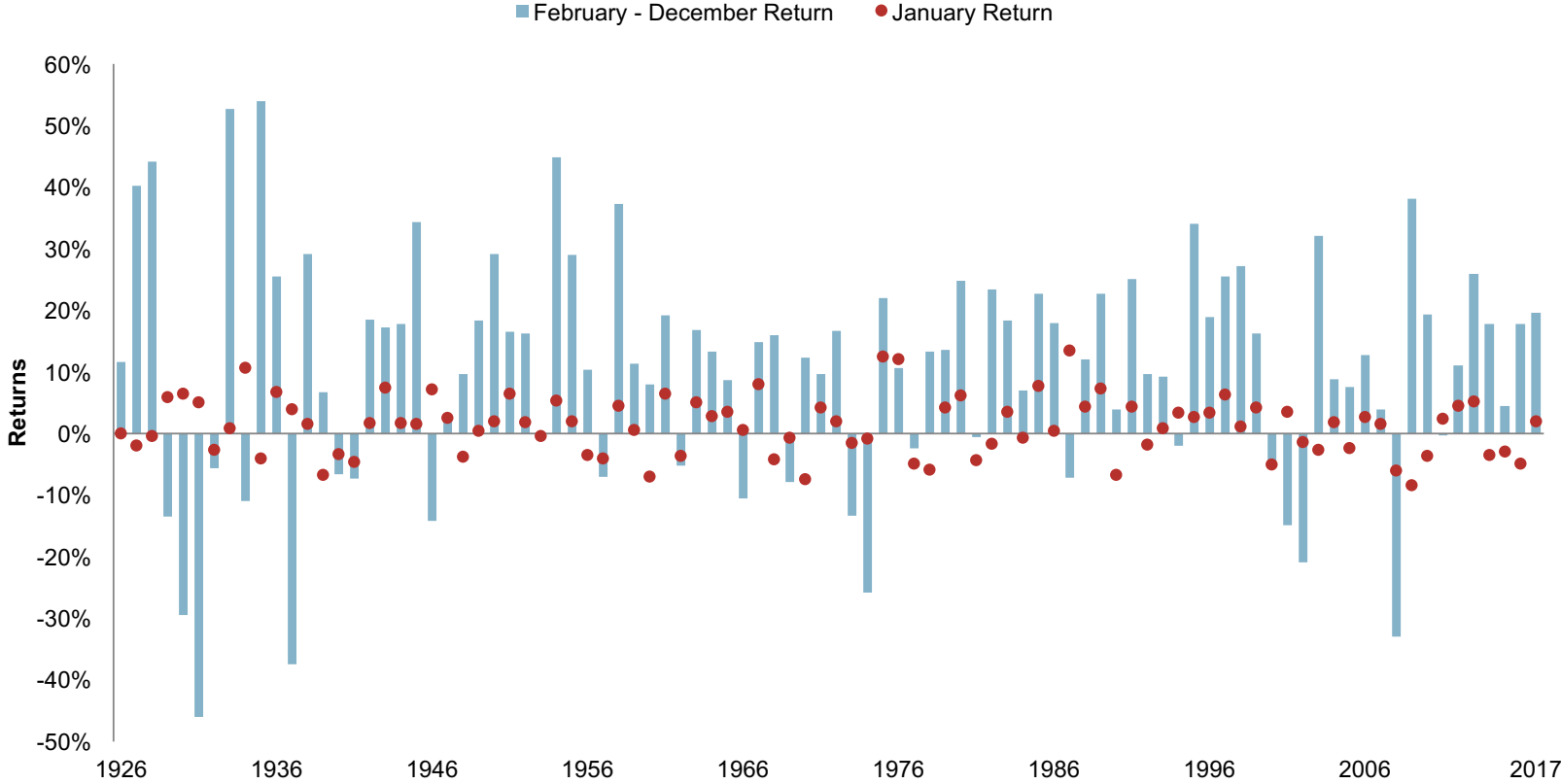


People may struggle to separate their emotions from their investment decisions.

Following a reactive cycle of excessive optimism and fear may lead to poor decisions at the worst times.

January Return vs. Subsequent 11-Month Return of the S&P 500 Index

1926–2017



In US dollars. Returns are of the S&P 500 Index. Copyright 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.
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. Values change frequently and past performance may not be repeated. There is always the risk that an investor may lose money. Even a long-term investment approach cannot guarantee a profit.

The Importance of Long-Term Discipline

Annualized Compound Returns (%)

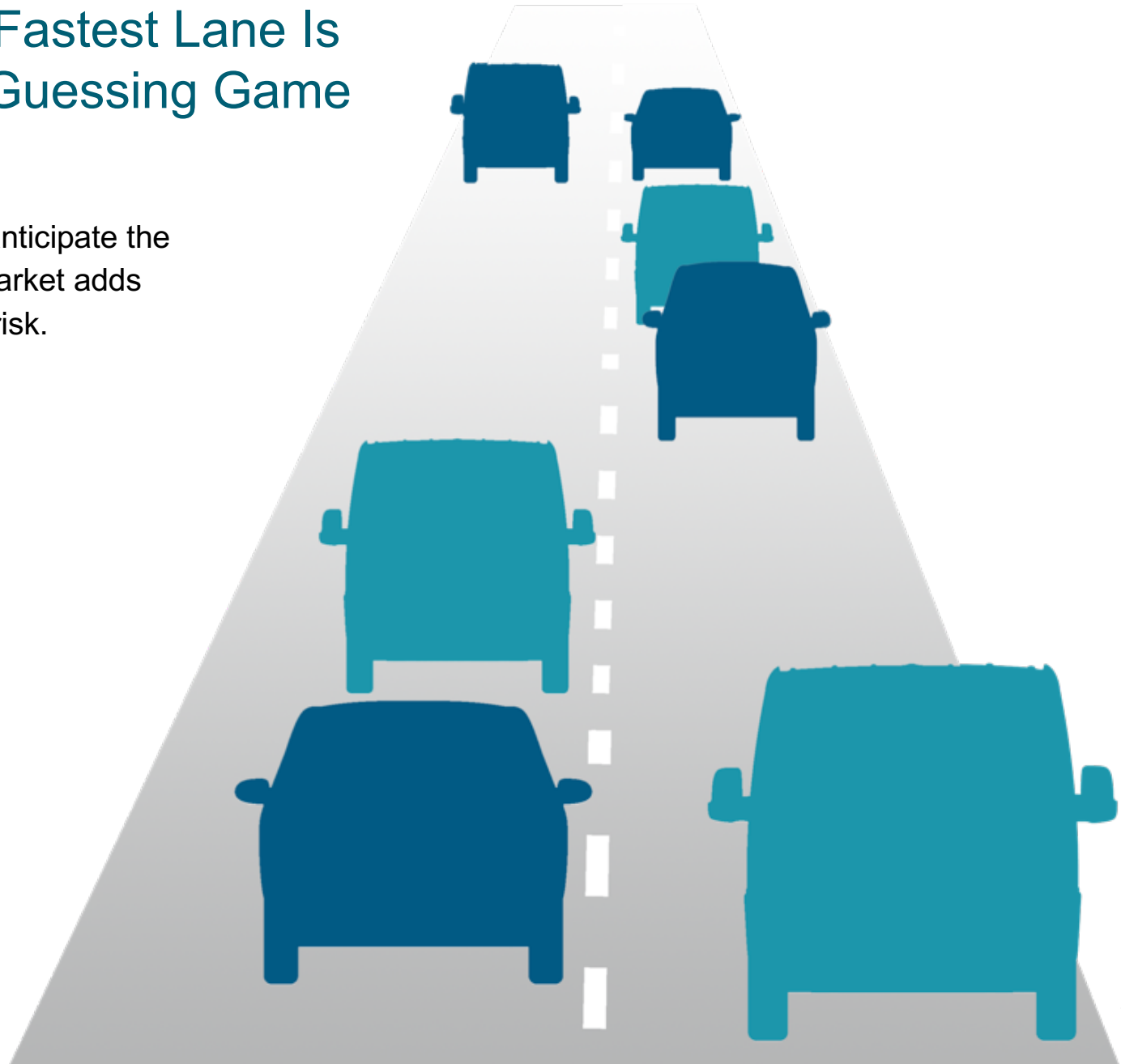
	1926–2017	1965–1981	1982–2017
S&P 500 Index	10.16	6.33	11.77
One-Month US Treasury Bills	3.35	6.66	3.89

In US dollars.

S&P data copyright 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. 1-Month Treasury Bills Index is the IA SBB1 US 30 Day TBILL TR USD. Treasury Index data sourced from Ibbotson Associates, via Morningstar Direct. For illustrative purposes only. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Values change frequently, and past performance may not be repeated. There is always the risk that an investor may lose money.**

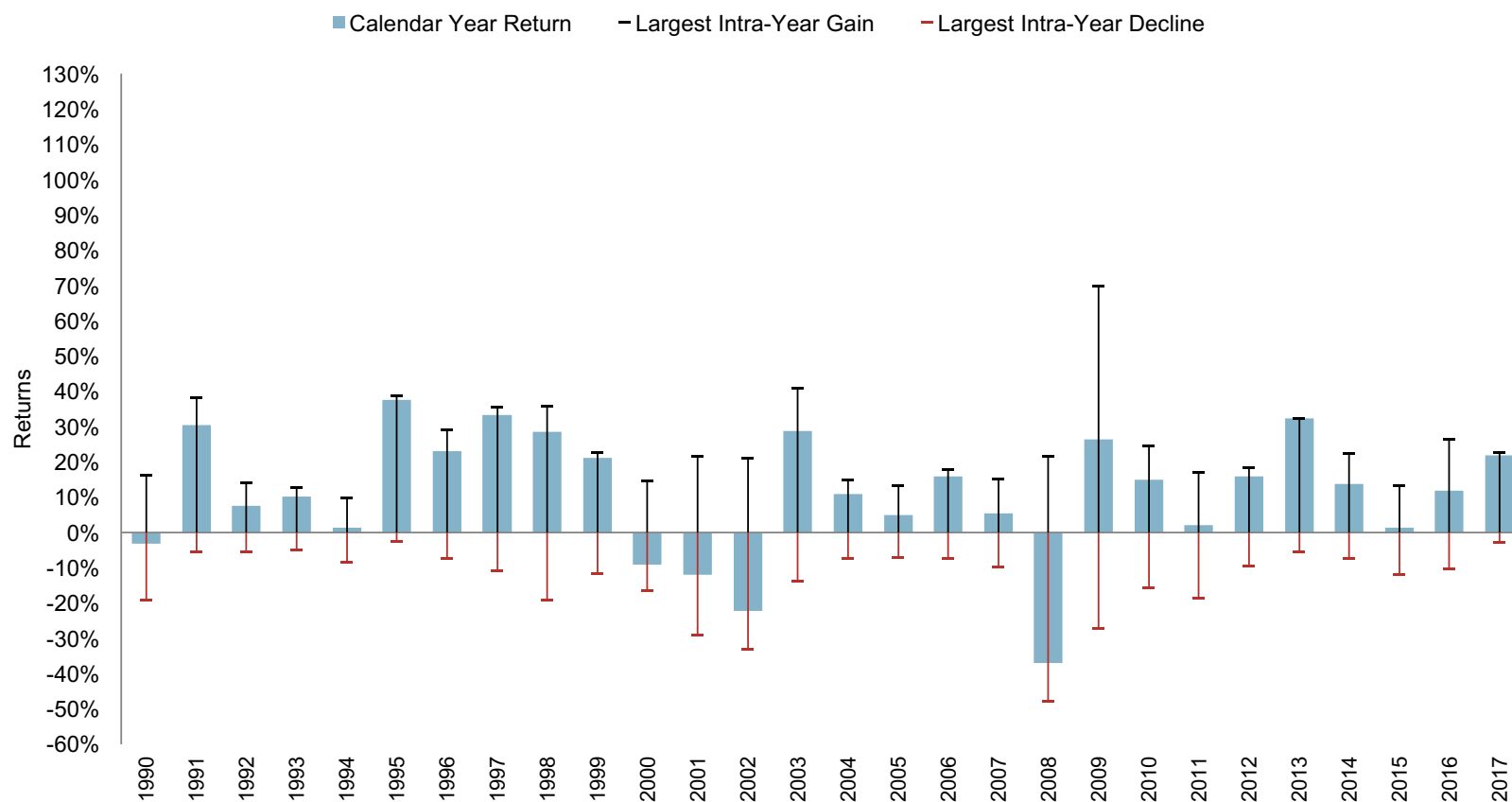
Picking the Fastest Lane Is a Stressful Guessing Game

Likewise, trying to anticipate the movement of the market adds anxiety and undue risk.



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

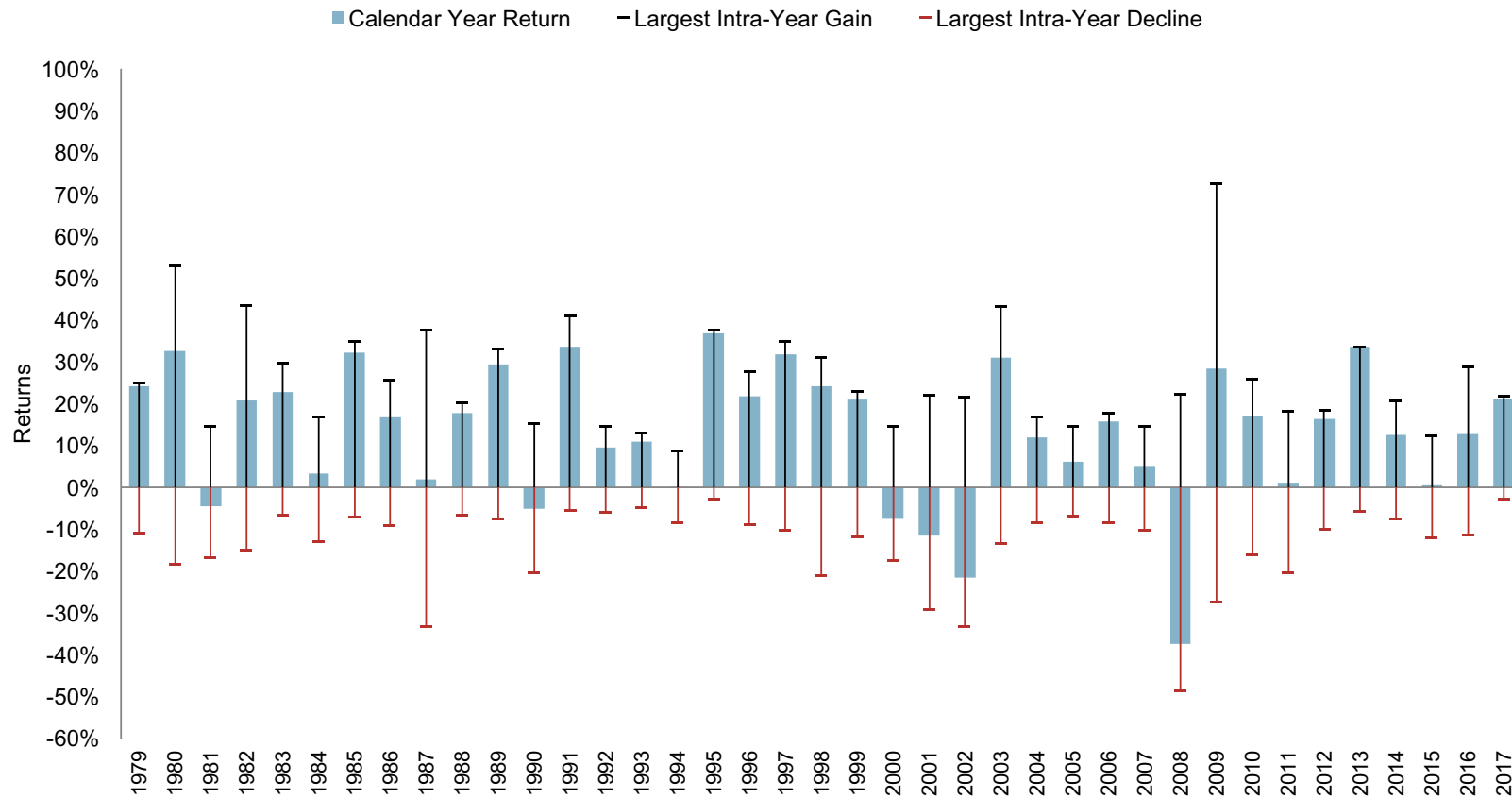
1990–2017



In US dollars. Data is calculated off rounded daily returns. US Large Cap is the S&P 500 Index; S&P data copyright 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. 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. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Values change frequently and past performance may not be repeated. There is always the risk that an investor may lose money. Even a long-term investment approach cannot guarantee a profit.**

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

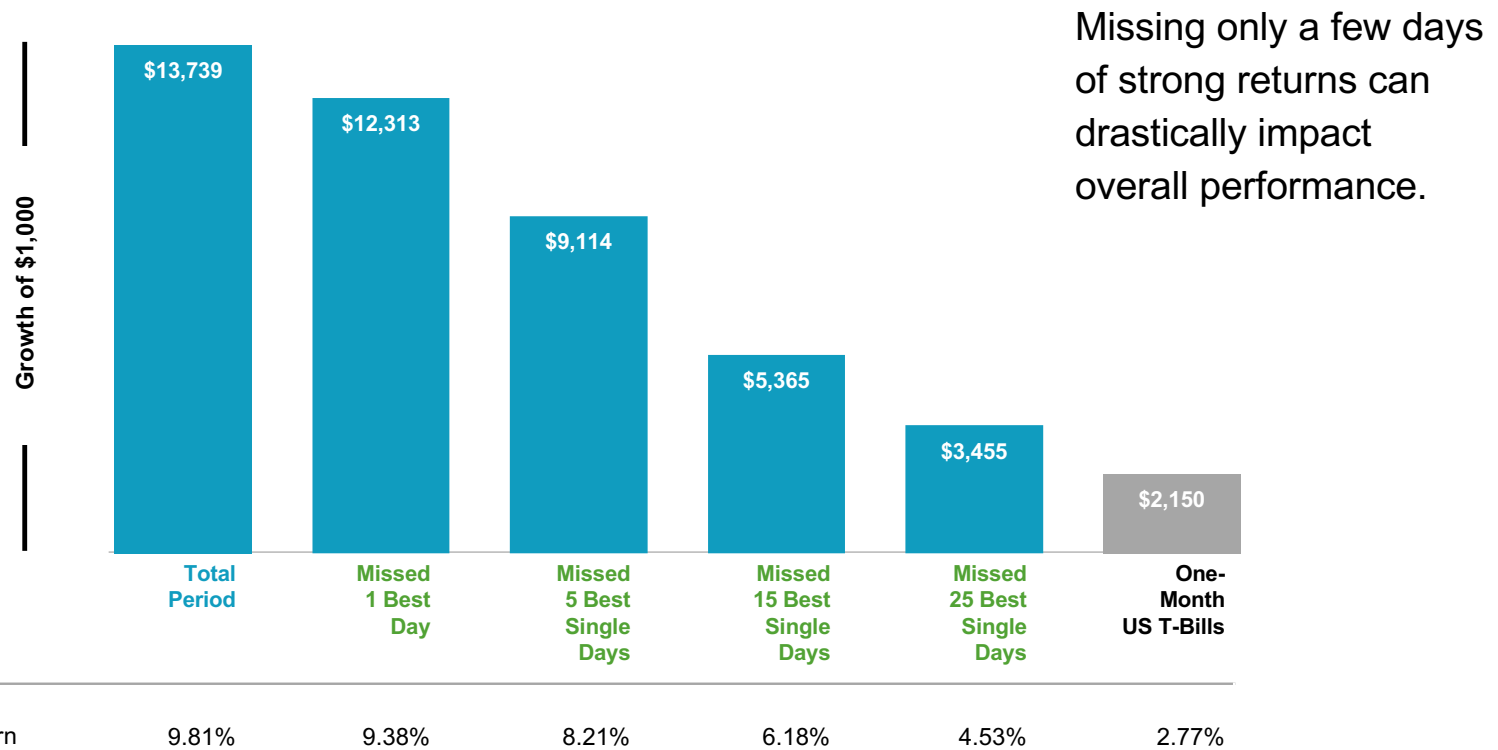
1979–2017



In US dollars. 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. Past performance is not a guarantee of future results. Values change frequently and past performance may not be repeated. There is always the risk that an investor may lose money. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Values change frequently and past performance may not be repeated. There is always the risk that an investor may lose money. Even a long-term investment approach cannot guarantee a profit.

Reacting Can Hurt Performance

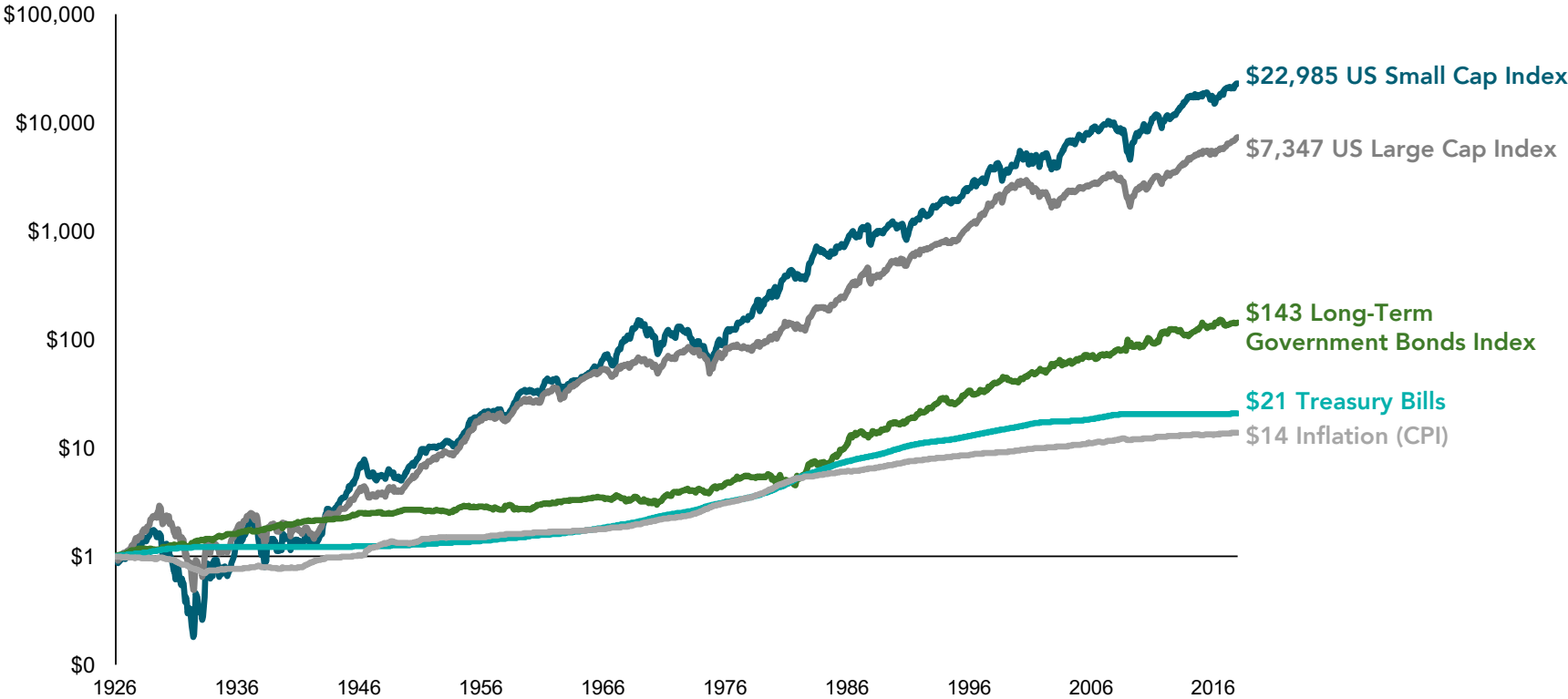
Performance of the S&P 500 Index, 1990–2017



In US dollars. 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 copyright 2018 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. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results.**

The Capital Markets Have Rewarded Long-Term Investors

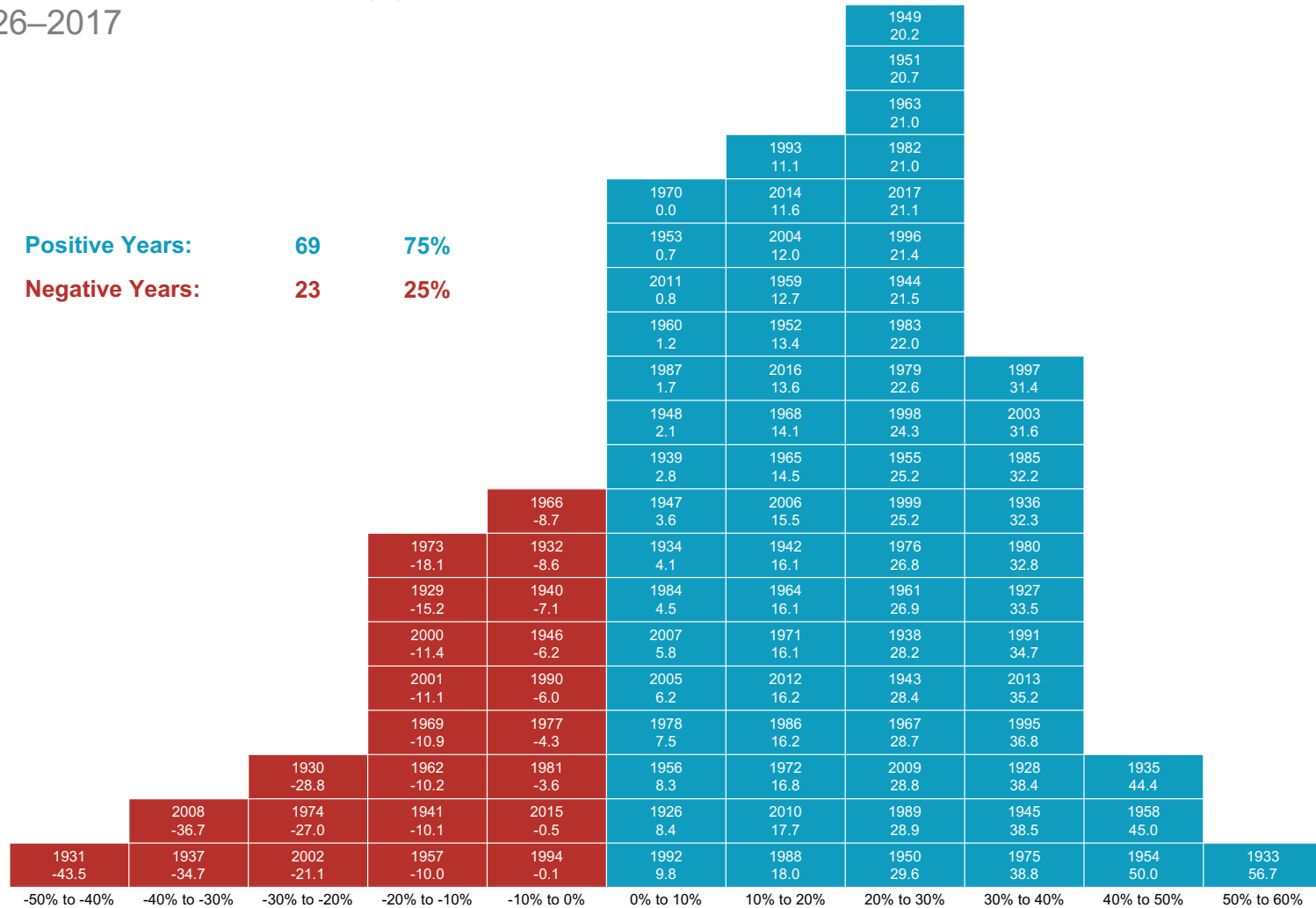
Monthly growth of wealth (\$1), 1926–2017



In US dollars.
 US Small Cap Index is the CRSP 6–10 Index; US Large Cap Index is the S&P 500 Index; Long-Term Government Bonds Index is 20-year US government bonds; Treasury Bills are One-Month US Treasury bills; Inflation is the Consumer Price Index. 1-Month Treasury Bills Index is the IA SBBI US 30 Day TBill TR USD. Treasury Index data sourced from Ibbotson Associates, via Morningstar Direct. CRSP data provided by the Center for Research in Security Prices, S&P data copyright 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Bonds, T-bills, and inflation data provided by Morningstar.
 Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results

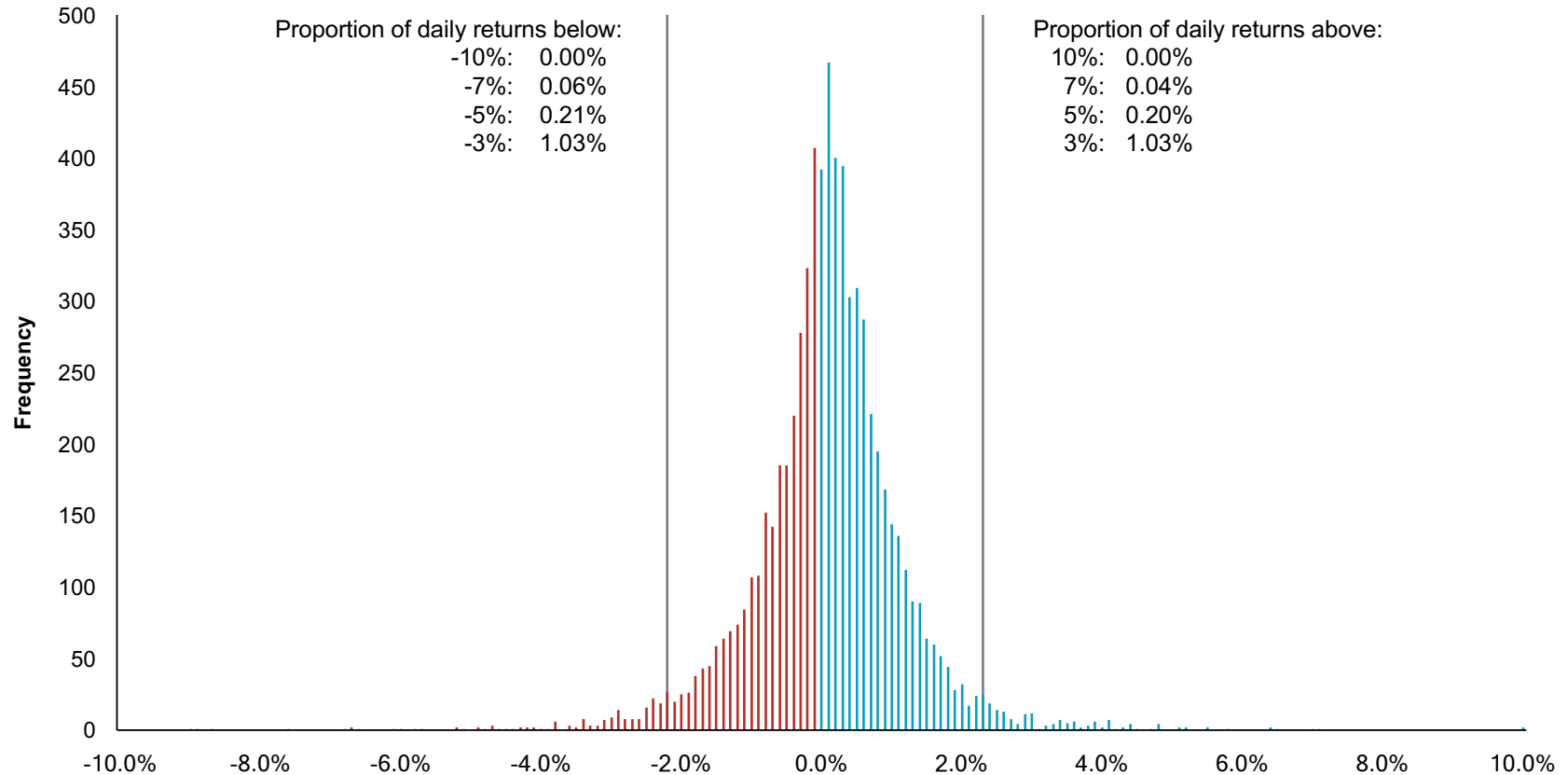
Distribution of US Market Returns

CRSP 1–10 Index returns by year
1926–2017



Historical Distribution of US Large Cap Market's Daily Returns

Daily Total Returns: January 1990–December 2017



Gray lines show two standard deviations from mean (-2.17%, 2.26%), which is a statistical measurement of historical volatility that represents 95% of all outcomes. A volatile stock tends to have a higher standard deviation from the mean.

In US dollars.

US Large Cap is the S&P 500 Index. S&P data copyright 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. The information shown here is derived from the index.

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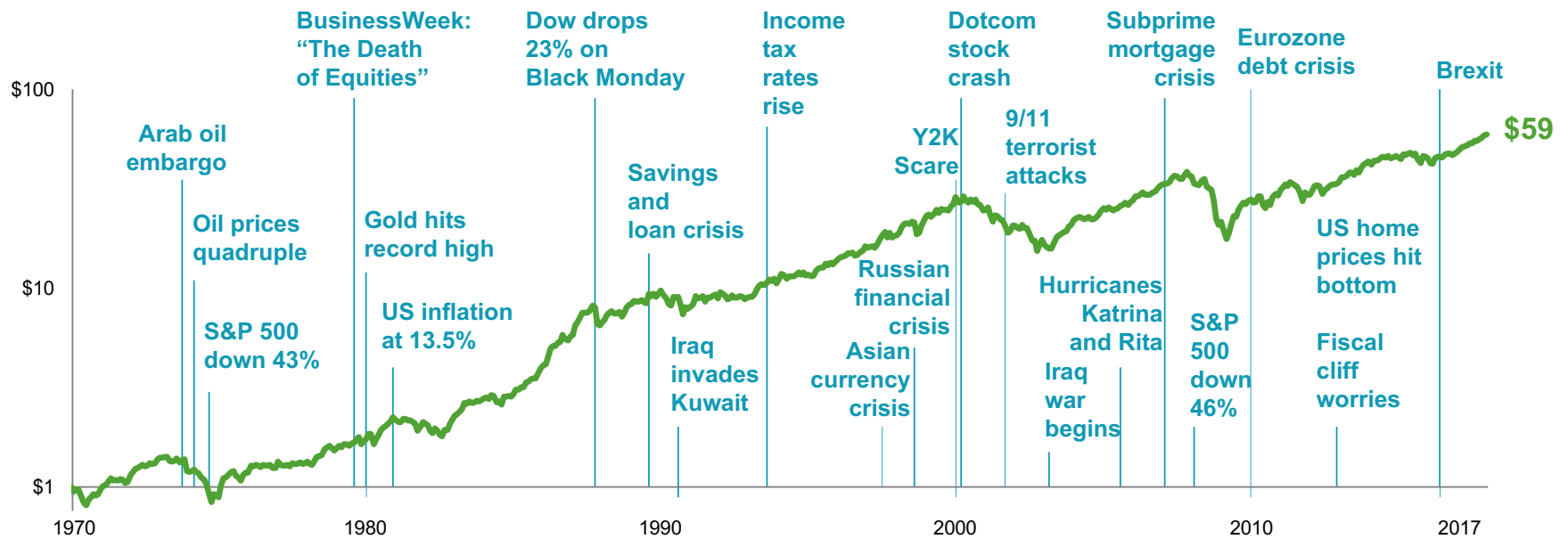
The Impact of Volatility

Impact on a Hypothetical \$100,000 Portfolio

	Year 1 Return	Year 2 Return	Average Return	Compound Return	Value at End of Year 2
Portfolio 1	50%	-50%	0%	-13.4%	\$75,000
Portfolio 2	10%	-10%	0%	-0.5%	\$99,000

Markets Have Rewarded Discipline

Growth of a dollar—MSCI World Index (net dividends), 1970–2017



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

In US dollars. MSCI data © MSCI 2018, all rights reserved. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results.

Focus on What You Can Control

No one can reliably forecast the market's direction or predict which stock or investment manager will outperform.

A financial advisor can help you create a plan and focus on actions that add value.



Appendix

Balanced Strategy Disclosure and Index Descriptions

There is no guarantee investment strategies will be successful. Investing involves risks including possible loss of principal.

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. The balanced strategies are not recommendations for an actual allocation.

International Value represented by Fama/French International Value Index for 1975 -1993. Emerging Markets represented by MSCI Emerging Markets Index (gross dividends) for 1988 -1993. Emerging Markets weighting allocated evenly between International Small Cap and International Value prior to January 1988 data inception. Emerging Markets Small Cap represented by Fama/French Emerging Markets Small Cap Index for 1989 -1993. Emerging Markets Value and Small Cap weighting allocated evenly between International Small Cap and International Value prior to January 1989 data inception. Two-Year Global weighting allocated to One-Year prior to January 1990 data inception. Five-Year Global weighting allocated to Five-Year Government prior to January 1990 data inception.

Dimensional US Large Cap Value Index is compiled by Dimensional from CRSP and Compustat data. The index targets securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market with market capitalizations above the 1,000th-largest company whose relative price is in the bottom 30% of the Dimensional US Large Cap Index after the exclusion of utilities, companies lacking financial data, and companies with negative relative price. The index emphasizes securities with higher profitability, lower relative price, and lower market capitalization. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Exclusions: non-US companies, REITs, UITs, and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to March 2007. The calculation methodology was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index.

Dimensional US Small Cap Index is compiled by Dimensional from CRSP and Compustat data. Targets securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market whose market capitalization falls in the lowest 8% of the total market capitalization of the eligible market. The index emphasizes companies with higher profitability. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Exclusions: non-US companies, REITs, UITs, and investment companies. The index has been retroactively calculated by Dimensional Fund Advisors and did not exist prior to March 2007. The calculation methodology was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index.

Dimensional US Small Cap Value Index is compiled by Dimensional from CRSP and Compustat data. Targets securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market whose relative price is in the bottom 35% of the Dimensional US Small Cap Index after the exclusion of utilities, companies lacking financial data, and companies with negative relative price. The index emphasizes securities Sources and Descriptions of Data with higher profitability, lower relative price, and lower market capitalization. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Exclusions: non-US companies, REITs, UITs, and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to March 2007. The calculation methodology for the Dimensional US Small Cap Value Index was amended in January 2014 to include direct profitability as a factor in selecting securities for inclusion in the index.

Dimensional International Marketwide Value Index is compiled by Dimensional from Bloomberg securities data. The index consists of companies whose relative price is in the bottom 33% of their country's companies after the exclusion of utilities and companies with either negative or missing relative price data. The index emphasizes companies with smaller capitalization, lower relative price, and higher profitability. The index also excludes those companies with the lowest profitability and highest relative price within their country's value universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. The calculation methodology for the Dimensional International Marketwide Value Index was amended in January 2014 to include direct profitability as a factor in selecting securities for inclusion in the index.

[Information provided by Dimensional Fund Advisors LP.](#)

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 the periods prior to each Index's index inception date do not represent actual returns of the Index. Other periods selected may have different results, including losses. 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. The balanced strategies are not recommendations for an actual allocation.

Balanced Strategy Disclosure and Index Descriptions

Dimensional International Small Cap Index (January 1990–present): The index is compiled by Dimensional from Bloomberg securities data. Market-capitalization-weighted index of small company securities in the eligible markets excluding those with the lowest profitability and highest relative price within the small cap universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. The calculation methodology for the Dimensional International Small Cap Index was amended in January 2014 to include direct profitability as a factor in selecting securities for inclusion in the index. July 1981–1989: Created by Dimensional, the index includes securities of MSCI EAFE countries in the bottom 10% of market capitalization excluding the bottom 1%. All securities are market capitalization weighted. Each country is capped at 50%; rebalanced semiannually.

Dimensional International Small Cap Value Index (January 1990–present): The index is defined as companies whose relative price is in the bottom 35% of their country's respective constituents in the Dimensional International Small Cap Index after the exclusion of utilities and companies with either negative or missing relative price data. The index also excludes those companies with the lowest profitability within their country's small value universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. The calculation methodology for the Dimensional International Small Cap Value Index was amended in January 2014 to include direct profitability as a factor in selecting securities for inclusion in the index. Prior to January 1990: Created by Dimensional, the index includes securities of MSCI EAFE countries in the top 30% of book-to-market by market capitalization conditional on the securities being in the bottom 10% of market capitalization, excluding the bottom 1%. All securities are market-capitalization weighted. Each country is capped at 50%; rebalanced semiannually.

Dimensional Emerging Markets Index is compiled by Dimensional from Bloomberg securities data. Market-capitalization-weighted index of all securities in the eligible markets. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. Exclusions: REITs and Investment Companies.

Dimensional Emerging Markets Small Cap Index (January 1994–present): The index is compiled by Dimensional from Bloomberg securities data. The index is a market-capitalization-weighted index of small company securities in the eligible markets excluding those with the lowest profitability and highest relative price within the small cap universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. The calculation methodology for the Dimensional Emerging Markets Small Index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. Prior to January 1994: Fama/French Emerging Markets Small Cap Index.

Dimensional Emerging Markets Value Index (January 1994–present): The index is compiled by Dimensional from Bloomberg securities data. The index consists of companies whose relative price is in the bottom 33% of their country's companies after the exclusion of utilities and companies with either negative or missing relative price data. The index emphasizes companies with smaller capitalization, lower relative price, and higher profitability. The index also excludes those companies with the lowest profitability and highest relative price within their country's value universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. The calculation methodology for the Dimensional Emerging Markets Value Index was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. Prior to January 1994: Fama/French Emerging Markets Value Index.

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