

Dimensional Quick Takes

One-page market insights

We created our one-page Dimensional Quick Takes to help with investor education, because we believe understanding markets is vital to having a good investment experience. Each Quick Take is intended to visualize a succinct and straightforward message, reinforcing a key principle about long-term investing.

This collection presents the full series in one place. The Quick Takes are grouped by topics that you may encounter when having client conversations, covering subjects like how to respond to market volatility and the benefits of diversification.

We hope you find the resource useful!

Trying to Time Markets

Think Twice about Chasing the Biggest Stocks 🕨

Click the titles

to jump to each

Quick Take.

Markets Don't Wait for Official Announcements >

The Cost of Trying to Time the Market ▶

Why a Stock Peak Isn't a Cliff 🕨

Performance of Premiums

> Staying the Course with Value Stocks

When It's Value vs. Growth, History Is on Value's Side 🕨

Swing in Small Value Stocks Shows Benefits of Sticking with a Plan **b**

How Often Do Small Cap, Value, and High Profitability Outperform? >

Global Diversification

The Randomness of Global Stock Returns >

Global Diversification Can Make a World of Difference **>**

A World of Opportunity in Global Bonds 🕨

Economy and Inflation

Will Inflation Hurt Stock Returns? Not Necessarily.

Long-Term Investors, Don't Let a Recession Faze You 🕨

The Market and Control of US Congress 🕨

Politics

and Markets

The Market and

US Presidential

Elections <

How US Stocks Have Behaved in

Hedge Inflation **>**

at Tracking Inflation

Gold Hasn't Been Effective

an Election Month 🕨

TIPS Can Help Investors

Do Downturns Lead

Market

Volatility

The Bumpy Road

Long-Term Average

Distribution of US Stock

to the Market's

The Rewarding

Market Returns **>**

Stock Gains Can Add

Bulls, Bears, and the

Long-Term Benefits

of Stock Investing >

Up after Big Declines **>**

to Down Years?

Trying to Time Markets

Does market timing work? The data suggests otherwise.





Think Twice about Chasing the Biggest Stocks

AVERAGE ANNUALIZED OUTPERFORMANCE OF COMPANIES BEFORE AND AFTER THE FIRST YEAR THEY BECAME ONE OF THE 10 LARGEST IN THE US Compared to Fama/French Total US Market Research Index, 1927–2023



As companies grow to become some of the largest on the US stock market, their returns can be impressive. But not long after joining the Top 10 largest by market cap, these stocks, on average, have lagged behind the market.

- From 1927 to 2023, the average annualized return for these stocks over the three years prior to joining the Top 10 was more than 25% higher than the market.
- Five years after joining the Top 10, these stocks were, on average, underperforming the market—a stark turnaround from before. The gap was even wider 10 years out.

Expectations about a firm's prospects are reflected in its current stock price. Positive news might push prices higher, but those changes are not predictable.

THINK TWICE ABOUT CHASING THE BIGGEST STOCKS

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In USD. Source: Dimensional, using data from CRSP. Includes all US common stocks excluding REITs. Largest stocks identified at the end of each calendar year by sorting eligible US stocks on market capitalization. Market is represented by the Fama/French Total US Market Research Index. Ten largest companies by market capitalization. Returns after joining the 10 largest are measured as of the start of the first calendar year after a stock joins the Top 10. Annualized excess return is the difference in annualized compound returns between the stock and the market over the three-, five-, and 10-year periods, before and after each stock's initial year-end classification in the Top 10. Three-, five-, and 10-year periods, respectively. The number of firms included in measuring excess returns prior (subsequent) to becoming a Top 10 stock consists of 44 (56) for the three-year period, 43 (54) for the five-year period, and 35 (49) for the 10-year period.

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.

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.

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.

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Markets Don't Wait for Official Announcements

US RECESSION AND STOCK PERFORMANCE DURING THE GLOBAL FINANCIAL CRISIS S&P 500 Index, January 2007–December 2010



Some investors may worry about the stock market sinking after a recession is officially announced. But history shows that markets incorporate expectations ahead of the news.

- The global financial crisis offers a lesson in the forward-looking nature of the stock market. The US recession spanned from December 2007 to May 2009 (shaded area).
- But the official "in recession" announcement came in December 2008–a year after the recession had started. By then, stock prices had already dropped more than 40%.
- Although the recession ended in May 2009, the announcement came 16 months later, by which time US stocks had rebounded.

Investors who look beyond after-thefact headlines about markets and the economy and stick to a plan may be better positioned for long-term success. MARKETS DON'T WAIT FOR OFFICIAL ANNOUNCEMENTS

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Start and end dates of US recessions, along with announcement dates, are from the National Bureau of Economic Research (NBER). <u>nber.org/research/data/us-business-cycle-expansions-and-contractions</u> and <u>nber.org/research/business-cycle-dating/business-cycle-dating-committee-announcements</u>

Stock price decline of more than 40% from December 2007 to December 2008 is based on the S&P 500 Index's price difference between the actual start of the recession in December 2007 and the official "in recession" announcement 12 months later.

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The Cost of Trying to Time the Market

MISSING THE BEST CONSECUTIVE DAYS Russell 3000 Index total return, 1999–2023



\$6,449



The impact of being out of the market for a short time can be profound, as shown by this hypothetical investment in the Russell 3000 Index, a broad US stock market benchmark.

- A hypothetical \$1,000 investment made at the beginning of 1999 turns into \$6,449 for the 25-year period ending December 31, 2023.
- Miss the Russell 3000's best week, and the value shrinks to \$5,382. Miss the best three months, and the total return falls to \$4,546.
- There's no proven way to time the market targeting the best days or moving to the sidelines to avoid the worst.

Staying invested and focused on the long term helps to ensure that you're in position to capture what the market has to offer.

THE COST OF TRYING TO TIME THE MARKET

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. For illustrative purposes. Best performance dates represent end of period (November 28, 2008, for best week; April 22, 2020, for best month; June 22, 2020, for best three months; and September 4, 2009, for best six months). The missed best consecutive days examples assume that the hypothetical portfolio fully divested its holdings at the end of the day before the missed best consecutive days, held cash for the missed best consecutive days, and reinvested the entire portfolio in the Russell 3000 Index at the end of the missed best consecutive days. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

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Why a Stock Peak Isn't a Cliff

S&P 500 INDEX, AVERAGE ANNUALIZED COMPOUND RETURNS 1926-2023



Many investors may think a market high is a signal stocks are overvalued. However, they may be surprised to find that the average returns one, three, and five years after a new month-end market high are similar to those after months that ended at any level.

- In looking at all monthly closing levels between 1926 and 2023 for the S&P 500 Index; 31% of them were new highs.
- After those highs, the annualized returns ranged from almost 14% one year later to more than 10% over the next five years, which were close to average returns over any period of the same length.

Stocks are priced to deliver a positive expected return for investors, so reaching record highs regularly is the outcome one would expect.

WHY A STOCK PEAK ISN'T A CLIFF

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In USD. For illustrative purposes only. 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 highs observations. There were 1,175 observation months in the sample. January 1926–December 1989: S&P 500 Index; *Stocks, Bonds, Bills and Inflation Yearbook* M, Ibbotson Associates, Chicago. January 1990–present: S&P 500 Index (total return), S&P data © 2024 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

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Market Volatility

Do volatile markets stir anxiety? Take the long view.





The Bumpy Road to the Market's Long-Term Average

ANNUAL RETURNS FOR S&P 500 INDEX 1926-2023



Since 1926, the US stock market has rewarded investors with an annualized return of about 10%. But returns in any given year may be sky-high, extremely poor, or somewhere in between.

- Annual returns came within two percentage points of the market's long-term average in just six of the past 98 years.
- Yearly returns have ranged as high as up 54% and as low as down 43%.
- Since 1926, annual returns have been positive 72 times and negative 26 times.

Understanding the range of potential outcomes can help you stick with a plan and ride out the inevitable ups and downs.

THE BUMPY ROAD TO THE MARKET'S LONG-TERM AVERAGE

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The Rewarding Distribution of US Stock Market Returns

CRSP 1-10 INDEX RETURNS BY YEAR 1926-2023



egative		Positive						1989 28.9%			
ears		Years						2009 28.8%			
6%)		(74%)						1967 28.7%			
								1943			
								1938			
							1988	28.2%			
					: 1	1002	18.0%	26.9%			
						9.8%	17.7%	26.8%			
						1926 8 4%	1972 16.8%	2023 26.6%			
					- 1	1956	1986	1999			
						8.3%	16.2%	25.2%	1075	I.	
						7.5%	16.2%	25.2%	38.8%		
						2005 6.2%	1971 16.1%	1998 24.3%	1945 38.5%		
						2007	1964	2021	1928		
				1994		5.8% 1984	10.1%	24.0%	38.4% 1995		
				-0.1%		4.5%	16.1%	23.5%	36.8%		
			1957 10.0%	2015 -0.5%		1934 4.1%	2006 15.5%	1979 22.6%	2013 35.2%		
			1941 	1981 3.6%		1947 3.6%	1965 14 5%	1983 22.0%	1991 34 7%		
			1962	1977		1939	1968	1944	1927		
			-10.2%	-4.3%		2.8%	14.1%	21.5%	33.5%		
			-10.9%	-5.0%		2.1%	13.6%	21.4%	32.8%		
			2001 –11 1%	1990 -6.0%		1987 1 7%	1952 13 4%	2017 21 1%	1936 32.3%		
			2000	1946		1960	1959	1982	1985		
		2002	-11.4%	-6.2%		2011	12.7%	21.0%	32.2%	1054	ſ
		-21.1%	-15.2%	-7.1%		0.8%	12.0%	21.0%	31.6%	50.0%	
	1937 -34.7%	1974 -27.0%	1973 	1932 -8.6%		1953 0.7%	2014 11.6%	1951 20.7%	1997 31.4%	1958 45.0%	
1931 -43.5%	2008 -36.7%	1930 -28.8%	2022 19.8%	1966 -8.7%		1970 0.0%	1993 11.1%	1949 20.2%	2019 30.4%	1935 44.4%	1933 56.7%
50% to -40%	-40% to -30%	-30% to -20%	-20% to -10%	-10% to 0%	0%	0% to 10%	10% to 20%	20% to 30%	30% to 40%	40% to 50%	50% to 60%

Annual stock market returns are unpredictable, but the long history of positive returns may be reassuring to investors who find market downturns unsettling.

- "Up" years have occurred much more frequently than "down" years in the US stock market from 1926 through 2023.
- The market averaged gains of 10.0% per year during this period.
- About two-thirds of the down years were followed by up years. The most recent example: a 19.8% loss in 2022 followed by a 26.6% gain in 2023.

The stock market tends to reward investors who can weather annual ups and downs and stay committed to a long-term plan.

THE REWARDING DISTRIBUTION OF US STOCK MARKET RETURNS

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In USD. Return in 1970 was 0.002%. CRSP data provided by the Center for Research in Security Prices, University of Chicago. The CRSP 1–10 Index measures the performance of the total US stock market, which it defines as the aggregate capitalization of all US securities listed on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market.

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Stock Gains Can Add Up after Big Declines

FAMA/FRENCH TOTAL US MARKET RESEARCH INDEX RETURNS July 1926–December 2023



Sudden market downturns can be unsettling. But historically, US equity returns following sharp downturns have, on average, been positive.

- A broad market index shows that US stocks have tended to deliver positive returns over one-, three-, and five-year periods following steep declines.
- Cumulative returns show this to striking effect. Five years after market declines of 10%, 20%, and 30%, the cumulative returns all top 50%.
- Viewed in annualized terms across five years, returns after these declines have been close to the historical average over the entire period of 10.1%.

Sticking with your plan helps put you in the best position to capture the recovery.

STOCK GAINS CAN ADD UP AFTER BIG DECLINES

Past performance is no guarantee of future results. Investing risks include loss of principal and fluctuating value. There is no guarantee an investment strategy will be successful. Short-term performance results should be considered in connection with longer-term performance results.

In USD. Market declines or downturns are defined as periods in which the cumulative return from a peak is -10%, -20%, or -30%, or lower. Returns are calculated for the one-, three-, and five-year look-ahead periods beginning the day after the respective downturn thresholds of -10%, -20%, or -30% are exceeded. The bar chart shows the average returns for the one-, three-, and five-year periods following the 10%, 20%, and 30% thresholds. For the 10\% threshold, there are 30 observations for one-year look-ahead, 29 observations for three-year look-ahead, and 28 observations for five-year look-ahead. For the 20\% threshold, there are 16 observations for one-year look-ahead, and 14 observations for five-year look-ahead. For the 30\% threshold, there are seven observations for one-year look-ahead, and six observations for five-year look-ahead. Peak is a new all-time high prior to a downturn. Data provided by Fama/French and available at <u>mba.tuck.dartmouth.edu/</u> pages/faculty/ken.french/data_library.html.

The average annualized returns for the five-year period after 10% declines were 9.59%; after 20% declines, 10.15%; and after 30% declines, 7.18%.

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.

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Bulls, Bears, and Long-Term Benefits of Stock Investing

S&P 500 INDEX TOTAL RETURNS 1926-2023



Stock returns are volatile, but nearly a century of bull and bear markets shows that the good times have outshone the bad.

- From 1926 through 2023, the S&P 500 Index experienced 18 bear markets, or a fall of at least 20% from a previous peak, ranging from -21% to -80% across an average length of 10 months.
- On the upside, there were 19 bull markets, or gains of at least 20% from a previous trough. They averaged 52 months in length, and advances ranged from 21% to 936%.
- When bull and bear markets are viewed together, it's clear equities have rewarded disciplined investors.

The stock market's ups and downs are unpredictable, but history supports an expectation of positive returns over the long term.

BULLS, BEARS, AND LONG-TERM BENEFITS OF STOCK INVESTING

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. Chart end date is December 31, 2023; the last trough-to-end-of-period return of 36% represents the return through December 2023. Due to availability of data, monthly returns are used from January 1926 through December 1989; daily returns are used from January 1990 through the present. Periods in which the 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. A logarithmic scale is a nonlinear scale in which the numbers shown are a set distance along the axis and the increments are a power, or logarithm, of a base number. This allows data over a wide range of values to be displayed in a condensed way.

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Do Downturns Lead to Down Years?

YEAR-BY-YEAR RETURNS, WITH STEEPEST DECLINE WITHIN EACH YEAR Russell 3000 Index, 2004–2023



Stock market declines over a few days or months may lead investors to anticipate a down year. But the US stock market has had positive annual returns in many years despite some notable dips.

- Intrayear declines for the index ranged from 3% to 49%.
- Many years with large intrayear declines saw positive annual returns.
- In 17 of the last 20 years, US stocks ended up with gains for the year.

Tumbles may be scary, but they shouldn't be surprising. And a short-term slump needn't mean a full-year fall.

DO DOWNTURNS LEAD TO DOWN YEARS?

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In USD. Data is calculated off rounded daily returns. US market is represented by the Russell 3000 Index. Largest intrayear 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.

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Performance of Premiums

Can you identify assets that may outperform? History is a guide.





Staying the Course with Value Stocks

ANNUAL VALUE PREMIUM AND FOLLOWING-YEAR VALUE PREMIUM US market, 1927–2023



Investors often wonder about what a strong or a weak year for value stocks might suggest about value's performance vs. growth the next year.

- Value stocks are expected to perform better than growth stocks every day, because a lower relative price is associated with a higher expected return.
- To evaluate value's performance from one year to the next, we arranged years based on the annual value premium, then looked at the next year's performance.
- The bottom-quartile years—those with the weakest value performance—were followed by an average annual value premium of 4.41%. The top-quartile years were followed by an average annual value premium of 3.50%.

Value's average relative performance has been positive after the strongest and weakest years for the premium. Having consistent exposure can help capture long-term returns.

STAYING THE COURSE WITH VALUE STOCKS

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In USD. Annual value premium is the return difference between the Fama/French US Value Research Index and the Fama/French US Growth Research Index. Source: CRSP and Compustat data calculated by Dimensional. Fama/French data provided by Fama/French.

Yearly premiums in top chart are arranged from low to high rather than chronologically, covering 1927–2023. Premiums in bottom chart are arranged in the order of the top chart, but one year later in each instance, to show next-year performance.

Fama/French US Value Research Index: Provided by Fama/French from CRSP securities data. Includes the lower 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

Fama/French US Growth Research Index: Provided by Fama/French from CRSP securities data. Includes the higher 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

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When It's Value vs. Growth, History Is on Value's Side

YEARLY OBSERVATIONS OF THE PREMIUMS

Difference in return for value stocks minus growth stocks in US markets, 1927–2023



Historically, value stocks have outperformed growth stocks in the US, often by a striking amount.

- Data covering nearly a century backs up the notion that value stocks—those with lower relative prices—have higher expected returns.
- Value premiums have often shown up quickly and in large magnitudes. For example, in years when value outperformed growth, the average premium was nearly 15%.
- A consistent focus on value stocks is essential to capturing these outsize value premiums when they appear.

Logic and history support a commitment to value stocks so investors can be positioned to take part when those shares outperform in the future.

WHEN IT'S VALUE VS. GROWTH, HISTORY IS ON VALUE'S SIDE

Past performance is no guarantee of future results. Investing risks include loss of principal and fluctuating value. There is no guarantee an investment strategy will be successful.

In USD. Yearly premiums are calculated as the difference in one-year returns between the two indices described. Value minus growth: Fama/French US Value Research Index minus the Fama/French US Growth Research Index.

Fama/French US Value Research Index: Provided by Fama/French from CRSP securities data. Includes the lower 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

Fama/French US Growth Research Index: Provided by Fama/French from CRSP securities data. Includes the higher 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

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Swing in Small Value Stocks Shows Benefits of Sticking with a Plan

MONTHLY RETURN DIFFERENCES: US SMALL VALUE STOCKS VS. US LARGE GROWTH STOCKS March 2020–March 2021



Value stocks, or those with low relative prices, have outperformed higher-priced growth stocks in the US over the long term. Similarly, small cap stocks have fared better than large caps in the US. But the performance of these stocks has varied at different points in history.

- As the global pandemic rocked markets in March 2020, large growth stocks outdid small value stocks by 19.6%. From March through September, the large growth index beat small value by a cumulative 38%.
- But history has shown that a disappointing period for a premium can be followed by a quick turnaround. From October 2020 through March 2021, the small value index outperformed large growth by 63%.

Swings in small value stocks can be swift—staying invested is the best way to capture expected gains over time.

SWING IN SMALL VALUE STOCKS SHOWS BENEFITS OF STICKING WITH A PLAN

Past performance is not a guarantee of future results.

In USD. Small value vs. large growth is the monthly return difference of the Fama/French US Small Value Research Index minus the Fama/French US Large Growth Research Index.

From July 1, 1926, through March 31, 2021, the Fama/French US Value Research Index outperformed the Fama/French US Growth Research Index by 2.84 percentage points on an annualized basis. The Fama/French US Small Cap Research Index outperformed the Fama/French US and French US Small Cap Research Index outperformed the Fama/French US and French US and

Fama/French US Value Research Index: Provided by Fama/French from CRSP securities data. Includes the lower 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

Fama/French US Growth Research Index: Provided by Fama/French from CRSP securities data. Includes the higher 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

Fama/French US Small Value Research Index: Provided by Fama/French from CRSP securities data. Includes the lower 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973) that have smaller market capitalization than the median NYSE company.

Fama/French US Large Growth Research Index: Provided by Fama/French from CRSP securities data. Includes the higher 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdag equivalents since 1973) that have larger market capitalization than the median NYSE company.

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How Often Do Small Cap, Value, and High Profitability Outperform?

FREQUENCY OF PREMIUM OUTPERFORMANCE



Looking at average annualized returns going back decades, small cap stocks have beaten large caps, value has outperformed growth, and high profitability stocks have outgained low profitability stocks. How should investors think about these premiums over shorter time periods?

- We can evaluate the reliability of the premiums by examining performance during rolling, overlapping periods formed each month (e.g., January to December, February to January, etc.).
- The premiums were positive over most oneand five-year periods, and their reliability increased over longer stretches. Value, for instance, beat growth in 78% of 1,051 measurable 10-year periods.

When investors target the size, value, and profitability premiums, a long-term focus increases the odds of achieving positive outcomes. Past performance is no guarantee of future results. Investing risks include loss of principal and fluctuating value. There is no guarantee an investment strategy will be successful. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.

In USD. Chart based on monthly rolling returns, computed as follows: Dimensional US Small Cap Index minus S&P 500 Index, June 1927–December 2023; Fama/French US Value Research Index minus Fama/French US Growth Research Index, July 1926–December 2023; and Fama/French US High Profitability Index minus Fama/French US Low Profitability Index, July 1963–December 2023. S&P data © 2024 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

Small vs. Large: 1,148 periods of one year; 1,100 periods of five years; 1,040 periods of 10 years. Value vs. Growth: 1,159 periods of one year; 1,111 periods of five years; 1,051 periods of 10 years; High Profitability vs. Low Profitability: 715 periods of one year; 667 periods of five years; 607 periods of 10 years.

Size premium: The return difference between small market capitalization stocks and large market capitalization stocks. Value premium: The return difference between stocks with low relative prices (value) and stocks with high relative prices (growth). Profitability premium: The return difference between stocks of companies with high profitability over those with low profitability.

Dimensional US Small Cap Index: Created by Dimensional in March 2007 and compiled by Dimensional. It represents a market-capitalization-weighted index of securities of the smallest US companies whose market capitalization falls in the lowest 8% of the total market capitalization of the eligible market. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market. Exclusions: non-US companies, REITs, UITs, and investment companies. From January 1975 to the present, the index excludes companies with the lowest profitability and highest relative price within the small cap universe. The index also excludes those companies with the highest asset growth within the small cap universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. Source: CRSP and Compustat. The index monthly returns are computed as the simple average of the monthly returns of 12 subindices, each one reconstituted once a year at the end of a different month of the year. The calculation methodology for the Dimensional US Small Cap Index was amended on January 1, 2014, to include profitability as a factor in selecting securities for inclusion in the index.

Fama/French US Value Research Index: July 1926–present: Provided by Fama/French from CRSP securities data. Includes the lower 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

Fama/French US Growth Research Index: July 1926–present: Provided by Fama/French from CRSP securities data. Includes the higher 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

Fama/French US High Profitability Index: July 1963–present: Courtesy of Fama/French from CRSP and Compustat securities data. Includes all stocks in the upper 30% operating profitability range of NYSE eligible firms; rebalanced annually in June. OP for June of year *t* is annual revenues minus cost of goods sold, interest expense, and selling, general, and administrative expenses divided by book equity for the last fiscal year end in *t* – 1. Fama/French and multifactor data provided by Fama/French.

Fama/French US Low Profitability Index: July 1963–present: Courtesy of Fama/French from CRSP and Compustat securities data. Includes all stocks in the lower 30% operating profitability range of NYSE eligible firms; rebalanced annually in June. OP for June of year *t* is annual revenues minus cost of goods sold, interest expense, and selling, general, and administrative expenses divided by book equity for the last fiscal year end in *t* – 1. Fama/French and multifactor data provided by Fama/French.

The Dimensional and 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.

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. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book.

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Global Diversification

Why invest outside of the US? The benefits of a global portfolio.





The Randomness of Global Stock Returns

ANNUAL RETURNS FOR DEVELOPED MARKETS, RANKED 2004–2023



^{2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021}

Average Annualized Returns 2004–2023

DNK	Denmark	13.5%
USA	USA	9.1%
NLD	Netherlands	8.1%
AUS	Australia	8.0%
SWE	Sweden	7.9%
CHE	Switzerland	7.7%
CAN	Canada	7.0%
NOR	Norway	6.6%
SGP	Singapore	6.6%
HKG	Hong Kong	6.5%
NZL	New Zealand	6.0%
FRA	France	5.9%
DEU	Germany	5.6%
GBR	United Kingdom	4.8%
JPN	Japan	4.6%
ESP	Spain	4.0%
FIN	Finland	3.4%
BEL	Belgium	2.7%
AUT	Austria	2.7%
ITA	Italy	2.5%
PRT	Portugal	1.2%
IRL	Ireland	0.5%

It is difficult to predict future returns by looking at the past, as shown by the performance of global markets since 2004.

- These charts show 20 years of annual returns in 22 developed markets, sorted from the highest-performing to the lowest.
- The scattered colors suggest it is hard to predict which country will outperform from one year to the next. New Zealand, for example, posted the highest market return in 2019 but the lowest in 2021.
- Investing in markets around the world can result in a more consistent experience, with higher returns in one market helping offset lower returns elsewhere.

A diverse global portfolio can help capture a broader range of returns and deliver more reliable outcomes over time.

THE RANDOMNESS OF GLOBAL STOCK RETURNS

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. Diversification neither assures a profit nor guarantees against loss in a declining market.

In USD. MSCI country indices (net dividends) for each country listed. Does not include Israel, which MSCI classified as an emerging market prior to May 2010. MSCI data © MSCI 2024, all rights reserved.

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Global Diversification Can Make a World of Difference

PERCENT OF WORLD EQUITY MARKET CAPITALIZATION As of December 31, 2023



The US stock market is the biggest in the world, but investors who ignore other global markets may miss out on a wealth of opportunity.

- Stocks of the roughly 17,500 companies trading outside the US represent almost 40% of the world's \$82 trillion equity market.
- When determining where to invest, a country's size may not be a primary consideration. Japan, for instance, is relatively small but accounts for 6% of the world's equity market value.
- Global diversification captures returns from companies around the world and can potentially offset a weak market with stronger returns elsewhere.

Investing globally can deliver more reliable outcomes over time.

GLOBAL DIVERSIFICATION CAN MAKE A WORLD OF DIFFERENCE

Past performance is not a guarantee of future results. Diversification neither assures a profit nor guarantees against loss in a declining market.

In USD. Market cap data is free-float adjusted and meets minimum liquidity and listing requirements. Dimensional makes case-by-case determinations about the suitability of investing in each emerging market, making considerations that include local market accessibility, government stability, and property rights before making investments. China A-shares that are available for foreign investors through the Hong Kong Stock Connect program are included in China. 30% foreign ownership limit and 25% inclusion factor are applied to China A-shares. Many nations not displayed. Totals may not equal 100% due to rounding. For educational purposes; should not be used as investment advice. Bloomberg data provided by Bloomberg.

The US stock market is the biggest in the world based on the free-float-adjusted market capitalization.

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A World of Opportunity in Global Bonds

PERCENT OF WORLD INVESTMENT-GRADE BOND MARKET As of December 31, 2023

Government-Related Bonds Treasury Bonds Corporate Bonds Securitized Bonds



The global bond market is large, with a vast universe of government and corporate issuers. That presents potential benefits for investors who diversify across countries and different types of bonds.

- The investment-grade bonds in the Bloomberg Global Aggregate Bond Index are valued at \$65 trillion, with most of this debt issued outside the US and in currencies other than USD.
- Interest rates can vary across the globe and often do not move in lockstep. Bonds issued in different countries and currencies can offer a range of yields and expected returns.

Investing in bond markets globally can provide the opportunity to pursue broader diversification and higher expected returns while managing risks.

A WORLD OF OPPORTUNITY IN GLOBAL BONDS

Past performance is not a guarantee of future results. Diversification neither assures a profit nor guarantees against loss in a declining market.

In USD. Data is from Bloomberg Global Aggregate Bond Index. The index excludes noninvestment-grade securities, bonds with less than one year to maturity, tax-exempt municipal securities, linked bonds, and floating-rate issues. The treasury sector includes both nominal and inflation-linked native currency debt issued by central governments, which are backed by the full faith and credit of a central government. Government-related sector groups are issuers with government affiliations, including agencies, sovereigns, supranationals, and local authorities. The corporate sector categorizes issuers based on primary lines of business, revenue streams, and operations used to service debt and includes industrials, financial institutions, and utilities. The securitized sector is designed to capture fixed income instruments whose payments are backed or directly derived from a pool of assets protected or ring-fenced from the credit of a particular issuer (either by a bankruptcy remote special purpose vehicle or bond covenant). Underlying collateral for securitized bonds can include residential mortgages, commercial mortgages, public-sector loans, auto loans, or credit card payments. Many nations are not displayed. Totals may not equal 100% due to rounding. For educational purposes; should not be used as investment advice. Bloomberg data provided by Bloomberg.

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Economy and Inflation

Worried about the economy and inflation? Markets are one step ahead.





Will Inflation Hurt Stock Returns? Not Necessarily.

STOCKS VS. INFLATION 1994-2023

S&P 500 Real Return Inflation



Investors may wonder whether stock returns will suffer if inflation keeps rising. But a look at equity performance in the past three decades does not show any reliable connection between periods of high (or low) inflation and US stock returns.

- Stock returns can be strong, or weak, or in between when inflation is high. For example, returns were relatively strong in 2021 but poor in 2022.
- Twenty-two of the past 30 years saw positive stock returns even after adjusting for the impact of inflation.
- Over the period charted, the S&P 500 posted an annualized return of 7.5% after adjusting for inflation.

History shows that stocks tend to outpace inflation over time—a valuable reminder for investors concerned about rising prices. WILL INFLATION HURT STOCK RETURNS? NOT NECESSARILY.

Past performance is no guarantee of future results. Short-term performance results should be considered in connection with longer-term performance results. Investing risks include loss of principal and fluctuating value. There is no guarantee an investment strategy will be successful. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.

In USD. Real returns illustrate the effect of inflation on an investment return and are calculated using the following method: [(1 + nominal return of index over time period) / (1 + inflation rate)] - 1. S&P data © 2024 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

Inflation is based on the nonseasonally adjusted 12-month percentage change in the Consumer Price Index for All Urban Consumers (CPI-U). Source: US Bureau of Labor Statistics.

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Long-Term Investors, Don't Let a Recession Faze You

PERFORMANCE OF A HYPOTHETICAL \$10,000 INVESTED WHEN A US RECESSION BEGAN



Investors may be tempted to abandon equities when there is a heightened risk of a recession. But research has shown that stock prices incorporate these expectations and generally fall in value before a recession even begins.

- In 12 of the 16 recessions in the US over the past century, stock returns were positive two years after the recession began.
- The average annualized return two years after the onset of these 16 recessions was 8.8%.
- A \$10,000 investment at the peak of the business cycle would have grown to \$12,145 after two years on average.

A history of positive average performance following a recession can be a comfort for investors concerned about sticking with stocks.

LONG-TERM INVESTORS, DON'T LET A RECESSION FAZE YOU

Past performance is no guarantee of future results. Investing risks include loss of principal and fluctuating value. There is no guarantee an investment strategy will be successful.

In USD. Performance includes reinvestment of dividends and capital gains.

Growth of wealth shows the growth of a hypothetical investment of \$10,000 in the securities in the Fama/French Total US Market Research Index over the 24 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 February 2020. 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.

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.

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.

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.

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Gold Hasn't Been Effective at Tracking Inflation

ANNUAL US INFLATION RATE VS. CHANGE IN GOLD PRICE 1970–2023



Gold is sometimes touted as an effective tool for protecting wealth from rising prices. But history shows the challenges of using gold to offset the impact of inflation.

- Since 1970, gold has experienced extreme price swings when compared with changes in the rate of inflation.
- An effective inflation-hedging tool should have return volatility that is more on par with changes in consumer prices.
- If your goal is to hedge against inflation, using Treasury Inflation-Protected Securities (TIPS), whose values adjust with inflation, may be a more reliable approach.

It's reasonable to be concerned about rising prices, but investors who want to hedge against inflation may find gold to be the wrong tool for the job.

GOLD HASN'T BEEN EFFECTIVE AT TRACKING INFLATION

Past performance is not a guarantee of future results.

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. Returns are in USD. Gold spot price returns are provided by Bloomberg. Bloomberg data provided by Bloomberg. Indices are not available for direct investment.

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TIPS Can Help Investors Hedge Inflation

TREASURY INFLATION-PROTECTED SECURITIES VS. INFLATION 1999-2023



Some investors may want to hedge against unexpected spikes in inflation. Treasury Inflation-Protected Securities (TIPS) can be a useful tool for achieving this goal.

- In simple terms, the principal value of a TIPS bond goes up when inflation rises (and vice versa). However, like all bonds, TIPS can be affected by changes in interest rates.
- When rates rise, the prices of existing bonds fall as new bonds issued with higher rates become more attractive. That means the total return of a TIPS bond can be higher or lower than the annual inflation adjustment.
- Still, the chart shows that TIPS outperformed inflation in 67% of the rolling 12-month periods from 1999 to 2023.

For investors seeking to protect their purchasing power as inflation rises, TIPS can be an effective option.

TIPS CAN HELP INVESTORS HEDGE INFLATION

Past performance is no guarantee of future results. Investing risks include loss of principal and fluctuating value. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.

In USD. The principal of a TIPS increases with inflation and decreases with deflation, as measured by the Consumer Price Index. When a TIPS matures, you are paid the adjusted principal or original principal, whichever is greater. TIPS pay interest twice a year, at a fixed rate. The rate is applied to the adjusted principal; that means interest payments, like the principal, rise with inflation and fall with deflation.

Rolling returns measure the return for each 12-month period (January to January, February to February, March to March, etc.) between the start and end dates.

Bloomberg US TIPS Index, January 1999 through December 2023. Bloomberg data provided by Bloomberg.

Inflation based on nonseasonally adjusted percentage change in Consumer Price Index for All Urban Consumers (CPI-U). Source: US Bureau of Labor Statistics.

Fixed income securities are subject to increased loss of principal during periods of rising interest rates, and they are subject to various other risks, including changes in credit quality, liquidity, prepayments, and other factors. Inflation-protected securities may react differently from other debt securities to changes in interest rates.

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Politics and Markets

Should politics affect my investing strategy? See what the data tells us.





The Market and US Presidential Elections

HYPOTHETICAL GROWTH OF \$1 INVESTED IN THE S&P 500 INDEX 1926-2023



It's natural for investors to look for a connection between who wins the White House and which way stocks will go. But regardless of who wins, nearly a century of returns shows that stocks have trended upward.

- Shareholders are investing in companies, which focus on serving their customers and growing their businesses, regardless of who is in the White House.
- US presidents may have an impact on market returns, but so do many other factors—the actions of foreign leaders, interest rate changes, changing oil prices, and technological advances, just to name a few.

Stocks have rewarded disciplined investors for decades, through both Democratic and Republican presidencies.

THE MARKET AND US PRESIDENTIAL ELECTIONS

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In USD. Growth of wealth shows the growth of a hypothetical investment of \$1 in the securities in the S&P 500 Index. S&P data © 2024 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Data presented in the growth of wealth 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.

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The Market and Control of US Congress

HYPOTHETICAL GROWTH OF \$1 INVESTED IN THE S&P 500 INDEX 1926-2023



Nearly a century of US stock market returns suggests that making investment decisions based on control of the chambers of Congress is unlikely to lead to better financial outcomes.

- From 1926 to 2023, stocks trended higher regardless of whether Democrats or Republicans controlled the House and the Senate, or whether control was mixed.
- Actions by Congress may impact returns, but other factors like geopolitical events, interest rate changes, and technological advances do too.
- Shareholders invest in companies, which focus on serving their customers and growing their businesses, regardless of what happens in Washington.

Stocks tend to reward disciplined investors no matter who has the upper hand in the House and Senate.

THE MARKET AND CONTROL OF US CONGRESS

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How US Stocks Have Behaved in an Election Month

US PRESIDENTIAL ELECTIONS AND MONTHLY RETURNS Distribution of returns for S&P 500 Index, January 1926–December 2023



The history of the stock market going back to 1926 shows that returns in months when presidential elections took place don't reflect any consistent patterns.

- This chart shows the S&P 500 Index, with each horizontal dash representing a month, arranged from left to right by market return in 1% increments.
- Most election months haven't produced extreme returns in one direction or the other.
- The winning party hasn't been a reliable driver for the direction or magnitude of market movements in election months either.

The history of market behavior during election months makes a strong case for sticking with a plan to achieve long-term goals.

HOW US STOCKS HAVE BEHAVED IN AN ELECTION MONTH

Past performance is not a guarantee of future results.

In USD. Dashes representing returns for a given month are stacked in ascending order of return within each column, with highest return within that range on top.

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