

ALTERNATIVE INVESTMENTS

Understanding their role in a portfolio

WHAT ARE ALTERNATIVE INVESTMENTS?

What role can they play in today's approach to portfolio planning and asset allocation?

While opinions vary on exactly what makes an investment "alternative," there is broad consensus that investors should be aware of alternatives and the potential benefits they can provide. Alternatives' history of adding diversification, potentially enhancing return and improving the risk profile of a portfolio, has sparked interest in learning what these investments can do under different market conditions and within a variety of asset allocation strategies.

In this guide, we'll take a closer look at what alternatives are and why they may be appropriate in investor portfolios. But first, let's understand the fundamental reasons investors should be aware of alternatives and what they can do.

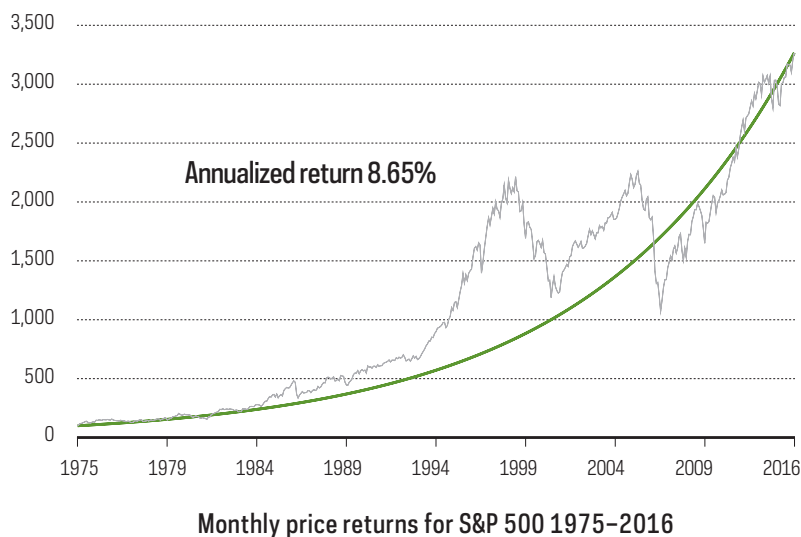
WHAT IS A NORMAL MARKET?

Ask most people what they expect the stock market to return, and they may tell you around 9%. And over time, returns have averaged around that level. But the ride has not been a smooth one. Markets have gone up and down. And—as we all learned the hard way in recent years—when markets go down, the fall can be significant.

Tug-of-war: volatility vs. returns

Many investors are hanging on to the belief that, if they can stick with the market long enough, they can capture the returns they've grown to expect. But how long is long enough?

Others hang back, afraid to get into the market because of the losses that burned them in recent years.



So what should we expect from the market—a relatively smooth ride or a rocky one?

PREPARING FOR MARKET STORMS

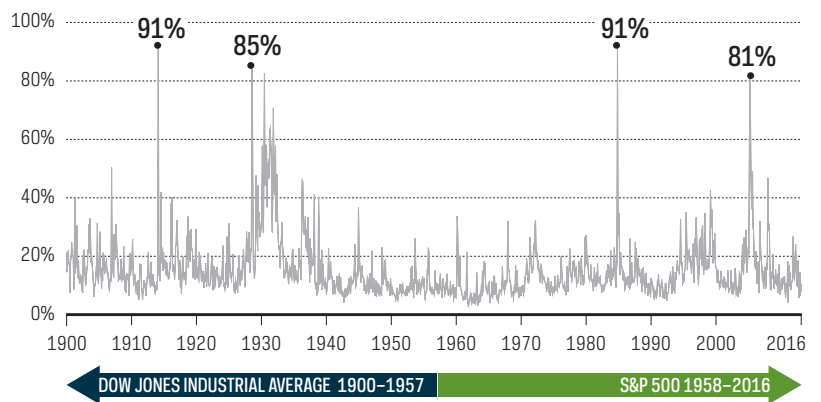
Investors should be prepared for both smooth and bumpy rides. If you look at the bigger picture—over 100 years of history for the U.S. stock market—you can see that the type of volatility experienced during the 2000s is not unprecedented. The 1910s, '30s and even the '80s also had periods of high volatility.

The weather offers a good analogy. In Miami, for example, the average temperature is a very pleasant 76 degrees, and the sun shines 249 days a year. But don't forget that Miami gets hit by a hurricane about every four years and a major hurricane about every 10 years. If you lived in Miami, you wouldn't build your house just for sunny weather, would you?

Like the weather, markets go through pleasant and unpleasant periods—bull and bear markets—and periods of high and low volatility. We know storms will come; we just don't know when they will hit.

That means you may want to ensure your investment portfolio is properly equipped.

The bigger picture: Market storms come in cycles



Monthly volatility for DJIA and S&P 500 1900-2016

Like building a house to withstand a hurricane, preparing a portfolio to weather market storms is a critical step toward meeting long-term investment goals.

A BETTER PATH

It's not always 76 degrees in Miami, and portfolios don't always return 9% per year. There are good years and bad years, and the timing and magnitude of the good and bad years make all the difference. The volatility of portfolio returns can have a meaningful impact on the outcome for an investor.

Take the hypothetical example shown below. Investor A receives a 6% return each year for three years. Investor B receives a big gain in the first year, followed by a big loss in the second year, then another gain in the third year.

Which portfolio would you prefer?

Investor B may think his gains in years one and three more than made up for his loss in year two, and that his portfolio performed just as well as Investor A's. Simple averages support that hypothesis—both investors have an average return of 6% over the three-year period, as can be seen in the chart.

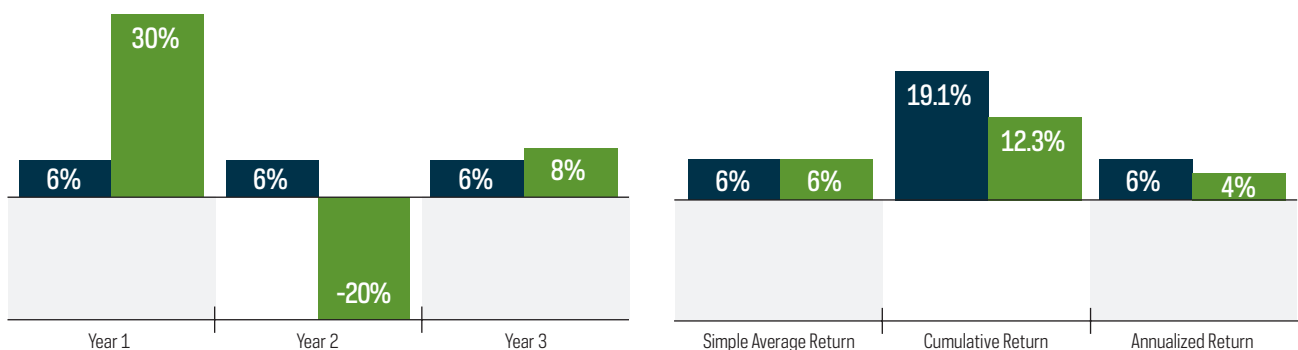
But investment returns don't average; they compound. It takes a much bigger gain or a longer period of gains to recover from a big loss. On a cumulative basis, Investor A has a return of 19.1%, or 6% annualized, while Investor B has a cumulative return of only 12.3%, or 4% annualized—one-third less than Investor A's return.

Of course, these portfolios aren't real, but if you understand the mathematical concepts presented here, you can see the potential benefits of a smoother ride. One way to help smooth out returns is through diversification. The objective is to have something in your portfolio that is doing well at any given time, in any kind of market.

Keep in mind, all investments have risk, and diversification may not protect you against losses in your portfolio. But your chances of having a smoother ride are probably better if your portfolio is diversified.

Investor A's smoother ride led to a better return

■ Investor A ■ Investor B



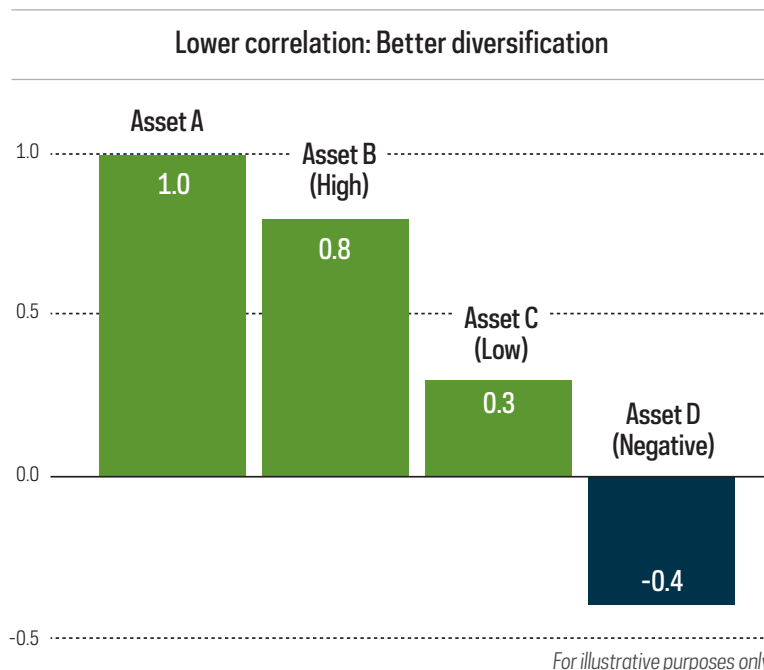
This is an illustration and is not meant to represent the performance of a particular investment.

TRUE DIVERSIFICATION? CORRELATION TELLS THE STORY

For decades, investors have used a range of traditional asset classes to diversify their portfolios: domestic stocks, international stocks, emerging market stocks, and bonds. But how much “diversification” do these asset classes really provide? The concept of correlation sheds some light on this.

Correlation—a statistical measure of how two variables relate to one another—is a way to measure the diversifying effect of an investment when added to a portfolio. Two different investments with a correlation of 1.0 will move in exact lockstep, investments with a correlation of zero will not move at all in relation to each other, and investments with a correlation of -1.0 will move in opposite directions.

The higher the correlation, the lower the diversifying effect; the lower the correlation, the greater the diversifying effect. In other words, to get a smoother ride, you need to combine assets that don't all move in the same direction, to the same degree and at the same time.



For example, if you were looking for a diversifier for Asset A in your portfolio, Asset C and Asset D would be much better choices than Asset B.

IN DIFFERENT MARKETS, CORRELATION CHANGES

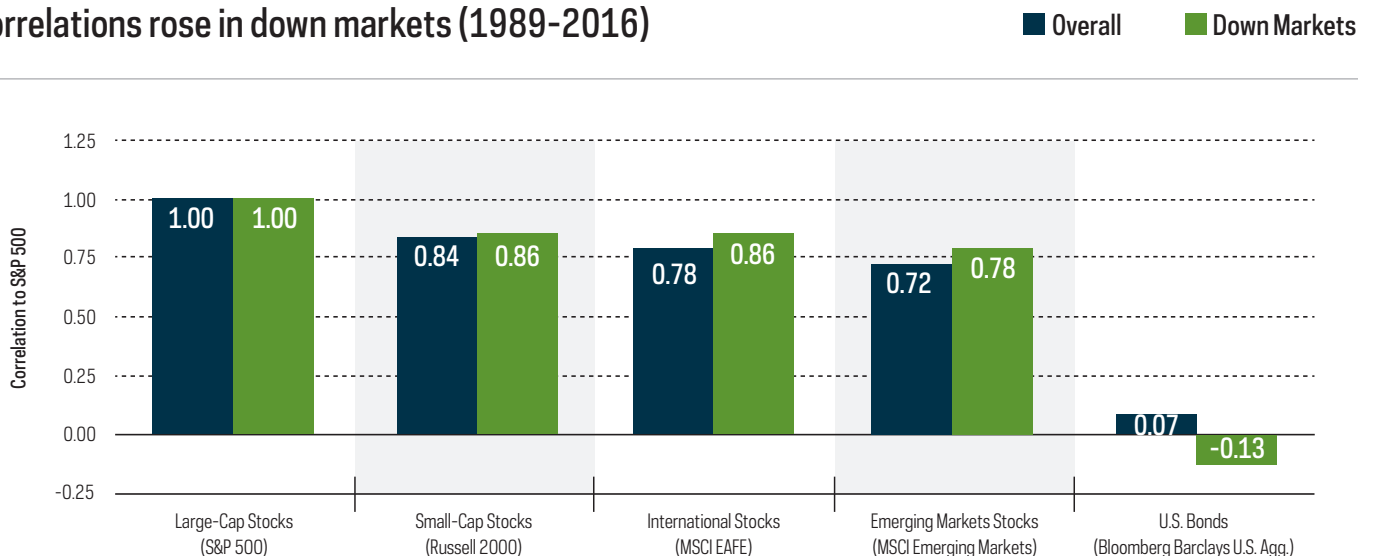
For many years, combining a variety of equity asset classes with varying correlations to the S&P 500, along with a healthy dose of U.S. bonds, did a good job of providing enough diversification for portfolios.

What investors didn't anticipate is that during periods of market distress, the correlations of these traditional "diversifiers" would increase—sometimes significantly. But that's exactly what happened. During the down markets of the last two decades, not only did these traditional asset classes move in the same direction, they moved more closely together. In other words, their diversifying effects broke down—just when they were needed most.

Time and broader trends have also led to a rise in correlations. Take international stocks. With globalization, correlations to the S&P 500 went from 0.47 in the 1980s to 0.54 in the 1990s to 0.88 in the early 2000s.

Meanwhile, U.S. bonds have continued to provide diversification, especially during stressful times. However, in today's environment of historically low interest rates, there's no guarantee U.S. bonds will continue to be effective diversifiers.

Correlations rose in down markets (1989-2016)



CONSIDER ALTERNATIVE INVESTMENTS

Alternative investments may be part of the solution. Alternatives can refer to asset classes or strategies. Generally speaking, they are investments outside long-only positions in the traditional asset classes of stocks, bonds and cash. Many alternatives have a low correlation to traditional assets, although that's not always the case.

Alternative asset classes include a variety of real, hard and financial assets. Real, hard assets are tangible items that hold inherent value—like real estate, commodities, precious metals and collectibles. These asset classes are often used for inflation protection. Financial assets are intangible and include investments like currencies, volatility and private equity.

Alternative strategies are investments that employ investment techniques or processes that are not in the mainstream and are therefore considered “alternative.”

Many alternative strategies use leverage or short selling in their efforts to generate returns. For example, a hedge fund may use long and short positions in equities or fixed income, while a managed futures fund may combine long and short positions in commodities and currencies.

Alternative asset classes and strategies historically may have been relatively difficult to access for the majority of investors, in some cases because of large investment minimums and long lock-up periods for capital invested. They also may have been less liquid or difficult to value—other factors that have made them “alternative.” But with new products increasingly available, many of these barriers are starting to fall away.

While alternative investments can be used for diversification, seeking to enhance returns and manage risk in a portfolio, they have their own risks that need to be considered when investing. For example, commodity prices are highly volatile, and investors may experience significant losses in a short period of time. Investments such as futures are subject to a high degree of fluctuation and should be considered speculative. And short positions could lose significant value if security prices rise. That said, what makes alternatives attractive is that their risks are different from those of traditional asset classes.

ALTERNATIVE INVESTMENTS

Alternative Asset Classes

Alternative asset classes include a wide variety of investment types that provide exposure to real, hard or financial assets.

- Real estate
- Commodities
- Precious metals
- Currencies
- Volatility
- Private equity
- Infrastructure

Alternative Strategies

Alternative strategies tend to use unconventional approaches (like leverage and short selling).

- Geared investing
 - Leveraged investing
 - Inverse investing
- Long/short strategies
- Market neutral
- Absolute return
- Convertible/merger arbitrage
- Managed futures
- Global macro

BEYOND THE CONVENTIONAL

For a portfolio of conventional investments with a high correlation to the stock market, adding alternatives allows more possibilities to diversify when seeking to enhance return and manage risk in a portfolio.

The chart on the following page shows a wide range of traditional and alternative asset classes and strategies with their correlations to large-cap stocks, as represented by the S&P 500. As you can see, alternatives tend to have lower correlations than traditional investments, providing better diversification potential.

Let's look at an example, such as managed futures. These investments are generally composed of commodities and currencies, which tend to perform countercyclically to stocks and bonds and, when added to a portfolio, could act as a hedge against inflation. Another example

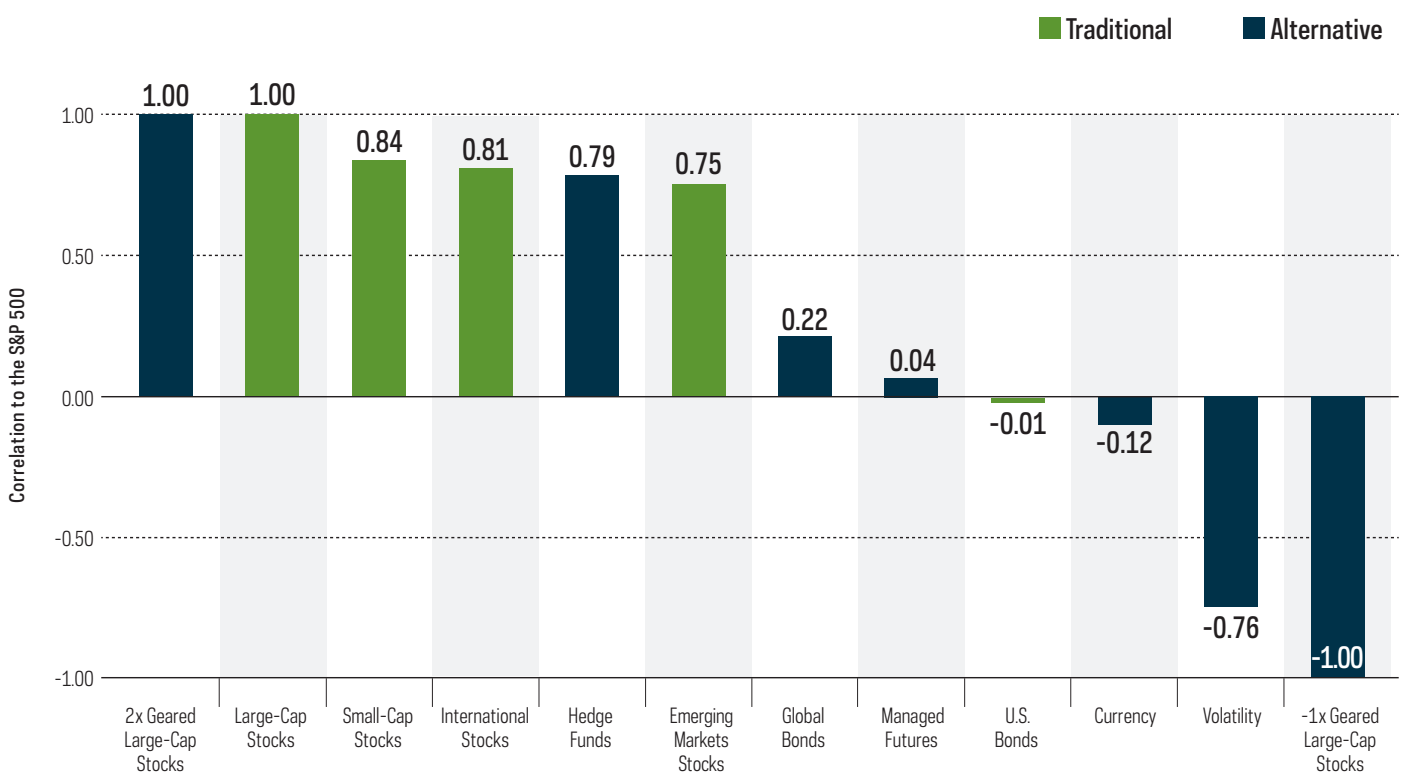
of an alternative investment is volatility, which has a negative correlation to the stock market. Historically, when the S&P 500 experienced a down year, the volatility index generally moved in the opposite direction.

By going beyond the conventional and complementing your core strategy with alternative investments, you may have the potential to better diversify your sources of return and manage risk. You also may be able to take advantage of changing market conditions and potentially profit from them.

BROADEN THE MENU

Diversify your sources of return

Return correlations 1994-2016



2x Geared Large-Cap Stocks = 2x daily S&P 500; Large-Cap Stocks = S&P 500; Small-Cap Stocks = Russell 2000; International Stocks = MSCI EAFE; Hedge Funds = HFRI Fund-Weighted Composite; Emerging Market Stocks = MSCI Emerging Markets; Global Bonds = Bloomberg Barclays Global Agg.; Managed Futures = Barclay CTA; U.S. Bonds = Bloomberg Barclays U.S. Agg.; Currency = U.S. Dollar Index; Volatility = CBOE VXO/VIX (VXO from 12/1992-9/2003, VIX from 10/2003-12/2016); -1x Geared Large-Cap Stocks = -1x daily S&P 500. Investors should monitor geared holdings consistent with their strategies, as frequently as daily. Past performance is no guarantee of future results. Diversification may not protect against market loss.

CONSIDER YOUR BALANCE OF RISK AND RETURN

Investing has become much more challenging. The key to success in today's environment is to build your portfolio to withstand the "hurricane," not just fair weather.

Traditionally, people believed that investing in higher-risk investments like stocks would lead to higher potential rewards over time. But amid the persistently high volatility environment of the last decade, investors with conventional portfolios composed primarily of stocks were not necessarily rewarded for taking on more risk.



A broader menu

Selecting from a broader menu of investments including alternative asset classes and strategies might have helped investors improve the risk/return dynamics of their portfolios. That's because alternative investments have risk and return characteristics that are different from those of traditional investments.



Adding variety

Adding a variety of investments designed to provide returns under different market conditions can help you prepare for the storms before they hit. The good news is investors have access to a wider range of tools than ever before. Bear in mind that alternative investments may entail significant risks and you could lose your entire investment.

ARE ALTERNATIVES APPROPRIATE FOR YOU?

At this point, you may be wondering where and how you can get access to alternatives and if these investments are even appropriate for you.

Historically, alternatives were only available to institutional and high-net-worth investors because of limited access, low liquidity and lack of transparency, among other barriers to entry. But as alternatives have become more popular, they have become more widely available, more liquid and more transparent. Increasingly, investors can get access to alternatives through mutual funds and exchange traded funds (ETFs).

Examine your portfolio

- Are you as diversified as you should be?
- Do you have enough investments that are likely to go up when your core portfolio is down?

Your financial advisor can help you determine if there's a place in your portfolio for these investments and what asset classes and strategies may be right for you.

Talk to your advisor about the possibility of adding alternative investments to your portfolio.

GLOSSARY OF TERMS

Absolute return strategies seek to provide positive returns in a wide variety of market conditions. This strategy employs investment techniques that go beyond conventional long-only investing, including leverage, short selling, futures, options, etc.

Arbitrage refers to the simultaneous purchase and sale of an asset in order to profit from a difference in the price of identical or similar financial instruments, on different markets or in different forms. For example, **convertible arbitrage** looks for price differences among linked securities, like stocks and convertible bonds of the same company. **Merger arbitrage** involves investing in securities of companies that are the subject of some form of corporate transaction, including acquisition or merger proposals and leveraged buyouts.

Commodity refers to a basic good used in commerce that is interchangeable with other goods of the same type. Examples include oil, grain and livestock.

Currency refers to a generally accepted medium of exchange, such as the dollar, the euro, the yen, the Swiss franc, etc.

Equity long/short involves using a combination of long and short positions in stocks with the objective of reducing market risk and enhancing return.

Equity market neutral is a strategy that involves attempting to remove all directional market risk by being equally long and short.

Futures refers to a financial contract obligating the buyer to purchase an asset (or the seller to sell an asset), such as a physical commodity or a financial instrument, at a predetermined future date and price.

Geared investing provides inverse or magnified exposure to equities, fixed income, currencies and commodities.

Global macro strategies aim to profit from changes in global economies that are typically brought about by shifts in government policy, which impact interest rates and in turn affect currency, bond and stock markets.

Hedge funds invest in a diverse range of markets and securities, using a wide variety of techniques and strategies, all intended to improve returns, reduce risk or both.

Infrastructure refers to companies that actually own and operate the transportation, communications, energy and water assets that provide essential services to our society.

Leverage refers to using borrowed funds to make an investment. Investors use leverage when they believe the return of an investment will exceed the cost of borrowed funds. Leverage can increase the potential for higher returns but can also increase the risk of loss.

Managed futures involves taking long and short positions in futures and options in the global commodity, interest rate, equity and currency markets.

Precious metals refer to gold, silver, platinum and palladium.

Private equity consists of equity securities in operating companies that are not publicly traded on a stock exchange.

Real estate refers to land plus anything permanently fixed to it, including buildings, sheds and other items attached to the structure.

REIT is a security that trades like a stock on the major exchanges and invests in real estate directly, either through properties or mortgages.

Short selling or "shorting" involves selling an asset before it's bought. Typically, an investor borrows shares, immediately sells them and later buys them back to return them to the lender.

Volatility is the relative rate at which the price of a security (or benchmark) moves up and down. Volatility is also an asset class that can be traded in the futures markets. Tradable volatility is based on **implied volatility**, which is a measure of what the market expects the volatility of a security's price to be in the future.

FIND OUT MORE

Understanding the concepts in this guide is an important step in deciding if alternative investments are appropriate tools for you. ProShares.com offers additional educational materials and specific product information to help with your decisions. Be sure you understand a fund's risks and costs, as well as its underlying benchmark, before investing. You should always consult the prospectus of any investment you are considering.

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Data source for charts: Bloomberg, Annualized stock market return based on the S&P 500's price index. Historical correlation statistics based on the median of annual correlations rolled monthly. ProShares is the leader in dividend growth, alternative and geared (leveraged and inverse) strategies; Source: ProShares, Strategic Insight and Lipper, based on number of funds and/or assets, as of December, 31 2016.