

Investment INSIGHTS

The importance of a well-diversified portfolio

Smart ways to buffer portfolios against the slings and arrows of market upheaval are to properly diversify and maintain an investment discipline.

Diversification had been the hallmark of intelligent, long-term investing for decades. Then came the global financial crisis and the seeming failure of diversification to protect portfolios, along with the perceived depreciation of all asset classes at once. It was understandable or perhaps even essential to question whether the old rules about having a well-diversified portfolio still apply. The answer? As much as ever.

The value of diversification can be seen most clearly through a long lens.

Historically, a simple stock-bond breakdown in a portfolio may have sufficed. Stocks and bonds did not move in lockstep and were typically “uncorrelated,” meaning if one was underperforming, the other likely was outperforming. Until everything changed. The U.S. stock market peaked in October 2007, when the Dow Jones was over 14,000. Over the next year, the market would continue its steep decline, and by the time the market bottomed in March of 2009, the Dow was down by roughly 6,600—a 50% loss in a scant 17 months. Although a safe haven compared to stocks, investment-grade bond performance dipped as well over roughly the same time period, with total return going from 3.00% to 0.12%, according to the U.S. Barclays Aggregate Index.

The crisis taught us that during times of severe market stress, stocks and bonds could, in fact, be correlated. Rather than dispense with diversification altogether, however, we sought to revisit and redefine what it truly meant to be well diversified.

Today, a well-diversified portfolio is not one that merely comprises a slapdash mix of stocks and bonds, but is one that is diversified within those asset classes at a refined, nuanced level, such as across economic sectors and geographic regions, as well as perhaps nontraditional assets.

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FIGURE 1
Asset class performance can vary greatly from year to year

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
MSCI EM 34.0%	MSCI EM 32.2%	MSCI EM 39.4%	Barclays Agg 5.2%	MSCI EM 79.0%	Russell 2000 Growth 29.0%	ILBs 11.1%	MSCI EM 18.2%	Russell 2000 Growth 43.3%	Russell 1000 Value 13.5%
MSCI EAFE 13.5%	MSCI EAFE 26.3%	Russell 1000 Growth 11.8%	ILBs 0.5%	Russell 1000 Growth 37.0%	Russell 2000 Value 25.0%	Barclays Agg 7.8%	Russell 2000 Value 18.1%	Russell 2000 Value 34.5%	Russell 1000 Growth 13.1%
Diversified Portfolio 7.9%	Russell 2000 Value 23.5%	MSCI EAFE 11.2%	Diversified Portfolio -27.2%	Russell 2000 Growth 34.0%	MSCI EM 19.0%	Russell 1000 Growth 2.6%	Russell 1000 Value 0.4%	Russell 1000 Growth 33.5%	ILBs 6.9%
Russell 1000 Value 7.1%	Russell 1000 Value 22.3%	ILBs 7.9%	Russell 2000 Value -28.9%	MSCI EAFE 32.0%	Russell 1000 Growth 17.0%	Diversified Portfolio 1.3%	MSCI EAFE 17.3%	Russell 1000 Value 32.5%	Diversified Portfolio 6.8%
ILBs 5.8%	Russell 2000 Growth 13.4%	Diversified Portfolio 7.7%	Russell 1000 Value -36.9%	Diversified Portfolio 22.4%	Russell 1000 Value 16.0%	Russell 1000 Value 0.4%	Russell 1000 Growth 15.3%	MSCI EAFE 23.3%	Barclays Agg 6.0%
Russell 1000 Growth 5.3%	Diversified Portfolio 12.6%	Russell 2000 Growth 7.1%	Russell 1000 Growth -38.4%	Russell 2000 Value 21.0%	Diversified Portfolio 13.5%	Russell 2000 Growth -2.9%	Russell 2000 Growth 14.6%	Diversified Portfolio 15.4%	Russell 2000 Growth 5.6%
Russell 2000 Value 4.7%	Russell 1000 Growth 9.1%	Barclays Agg 7.0%	Russell 2000 Growth -38.5%	Russell 1000 Value 20.0%	MSCI EAFE 8.0%	Russell 2000 Value -5.5%	Diversified Portfolio 11.7%	Barclays Agg -2.0%	Russell 2000 Value 4.2%
Russell 2000 Growth 4.2%	Barclays Agg 4.3%	Russell 1000 Value -0.2%	MSCI EAFE -43.4%	ILBs 8.8%	Barclays Agg 7.0%	MSCI EAFE -12.1%	ILBs 5.6%	ILBs -2.1%	MSCI EM -1.8%
Barclays Agg 2.4%	ILBs 1.4%	Russell 2000 Value -9.8%	MSCI EM -53.3%	Barclays Agg 6.0%	ILBs 5.4%	MSCI EM -18.4%	Barclays Agg 4.2%	MSCI EM -2.3%	MSCI EAFE -4.5%

Source: Ibbotson Associates

The "Diversified Portfolio" portfolio assumes the following weights: 15% S&P 500; 25% Russell Midcap; 21% MSCI World ex USA; 39% Barclays U.S. Aggregate Bond. The chart depicts the total returns of various unmanaged market indices representing different asset classes and investment styles (growth/value). It is not possible to invest directly in an index. The following indices serve as proxies for the asset classes: Russell 1000® Growth Index and Russell 1000® Value Index (large-cap growth & value stocks); Russell 2000® Growth Index and Russell 2000® Value Index (small-cap growth & value stocks); MSCI EAFE® (Net) Index (developed international stock markets); MSCI Emerging Markets (Net) Index (emerging stock markets); Barclays Capital U.S. Aggregate Bond Index (investment-grade taxable bonds); and Barclays Capital World Government ILB Index (hedged) (inflation-linked bonds, or ILBs).

You can never fully escape volatility and the potential for capital loss—that is, unless you're able to predict the future, knowing when to buy and sell in advance. If that is the case, read no more. But if you are like the rest of us, smart ways to buffer portfolios against the slings and arrows of market upheaval are to properly diversify and maintain an investment discipline. These essential contributors to investing success are, however, often negatively influenced by two basic truths: Markets are unpredictable and investors can sometimes be their own worst enemies.

The unpredictability of the markets

As the physicist Niels Bohr said, "Prediction is very difficult, especially if it's about the future." This is especially true of the capital markets. For instance, when *Barron's* surveyed 47 top economists and market

strategists on their 2014 outlook, all but one predicted interest rates would rise; one predicted they would remain flat. All were wrong, as historically low rates fell even lower. Then there was the oil price freefall of 2014, which few if any market observers saw coming.

Why are markets so hard to predict? Well, there's a complex interaction of a continuous river of information, such as earnings, economic growth, central bank policy, investor sentiment, etc., that can be simultaneously ambiguous and contradictory. Complicating this data jet stream is a range of sociopolitical events that may be difficult, even impossible, to anticipate, such as currency devaluations, military conflicts, and changes in government, the ultimate impact of which cannot always be immediately discerned.

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Risk & reward

Optimizing a portfolio to most efficiently serve an investor’s needs is an exercise in complex mathematics and investment theory that has been refined over many years. However, while volatility can be reduced through diversification, even a well-diversified portfolio cannot eliminate volatility entirely.

Whatever the endeavor, risk is an inextricable partner of reward. Investments are no different. Reward cannot be realized without taking on risk. Asset allocation in no way alters this fundamental truth; it simply represents a more intelligent way to manage this natural order.

If you look at Figure 1, you can see just how much of a challenge it is to anticipate which asset class (and subasset class) will come out on top from year to year. Certain asset classes are not correlated, meaning they do not react the same way to a common set of economic and market factors. For example, as previously noted, stocks and bonds are traditionally not correlated, i.e., one

has tended to perform well when the other did not. Okay, so why not just have a portfolio with a portion that’s stocks and a portion that’s bonds, right?

The asset classes in your portfolio should reflect your objectives, risk tolerance, and investment time horizon. If a portfolio comprises purely large-cap stocks and government bonds, it could be considered a concentrated portfolio, not a well-diversified one. Compared to a diversified portfolio, a concentrated one may bring higher returns for a certain period of time, but it will typically do so with greater volatility. The diversified portfolio may provide a better outcome, even given comparable long-term returns, because of less volatility (see Figure 2). Here’s why: Smaller losses during market downturns may allow for greater compounding of wealth (more assets stay in the portfolio, able to continue growing).

A well-diversified portfolio is one that accounts for the wide performance swings within asset classes. Diversification will enable the capture of some of the upside of asset classes that are performing well in a certain year and keep one from being too fully invested in those that are not performing well. As we saw in Figure 1, there is a great disparity in performance among large-, mid-, and small-cap stocks (as shown by the various

FIGURE 2
Volatility diminishes returns

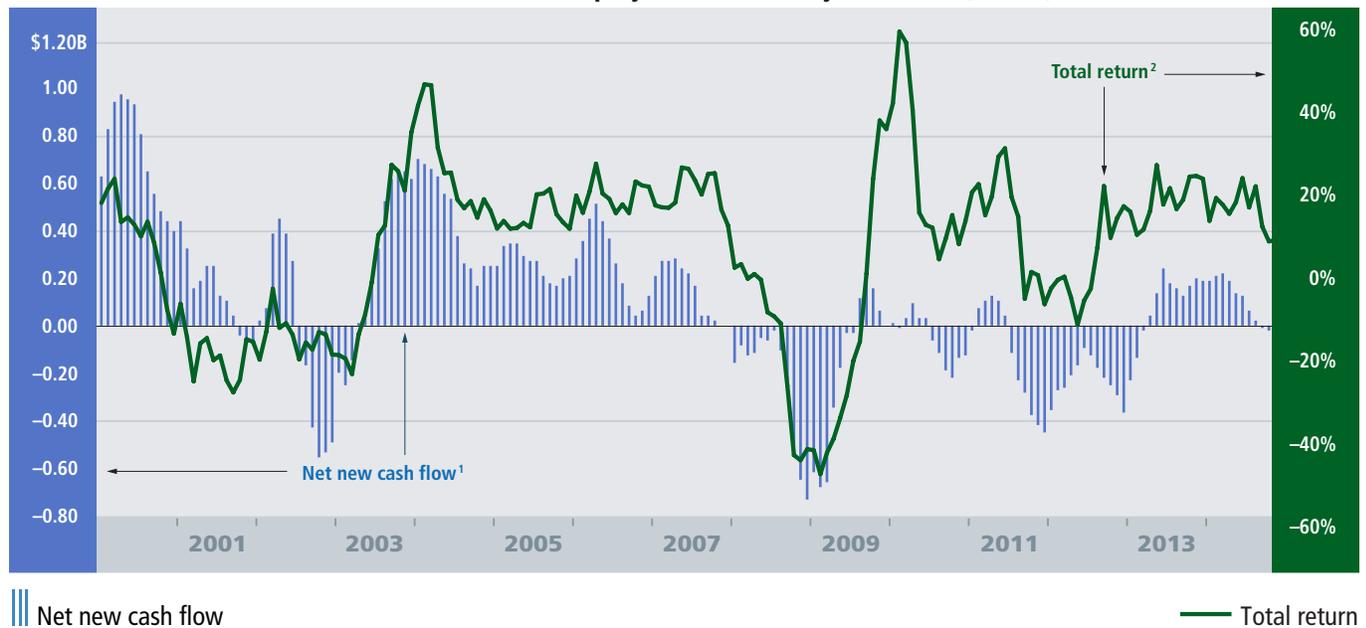


Source: WTIA

A simple illustration may help to explain the drag that negative returns can have on a portfolio. Consider two portfolios valued at \$100,000: Portfolio 1 earns 10% in year one and 10% in year two, while Portfolio 2 earns 40% in the year one and -20% in the year two. Each portfolio experienced a similar simple average annual return (10%), but the impact of a negative return readily shows up in actual ending portfolio value and the portfolios’ respective compounded average annual return (“annualized”). In the case of Portfolio 1, its value at the end of year two is \$121,000, with a 10% compounded annual return, while Portfolio 2’s value at the end of year two is \$112,000, with a 5.8% compounded annual return.

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FIGURE 3
Net new cash flow to stock funds is related to World Equity Returns, monthly, 2000–2014 (\$ billions)



Cash often flows in as returns rise (and vice versa) and investors chase performance or run from dips—the exact opposite of what they should do—and end up buying high and selling low.

¹ Net new cash flow is plotted as a six-month moving average.

² The total return on equities is measured as the year-over-year percent change in the MSCI All Country World Daily Total Return Index.

Sources: Investment Company Institute and Morgan Stanley Capital International

Russell Indexes), as well as developed international (MSCI EAFE) or emerging markets (MSCI EM). There’s no way to predict with any degree of certainty whether an asset or subasset class will be an outperformer or underperformer for any particular year. Referring to Figure 1, in 2010, for example, small-cap stocks were tops; in 2012, they were six out of the nine on the chart and, in 2013, they were back on top. Look at the white boxes, however, which reflect the diversified portfolio, and its lower volatility *over time*.

The predictability of human emotions

If market unpredictability isn’t enough to vex investors, their own decision making can also undermine their long-term investment success. And why do investors behave in ways counter to their best interests and historical experience? The answer lies in our innate emotions and biases. Nobel Prize winner and behavioral finance expert Daniel Kahneman developed what is

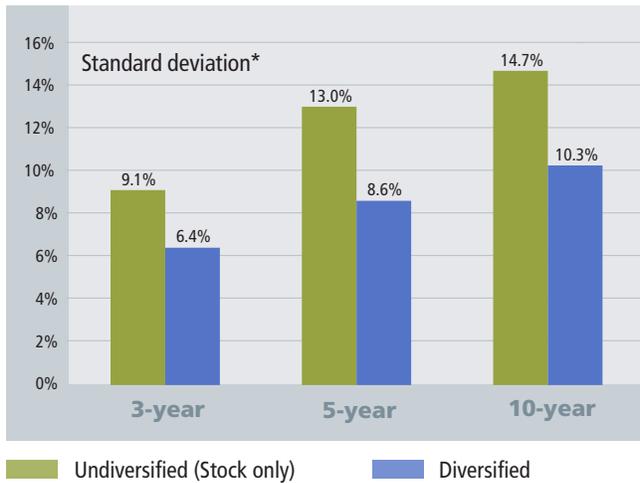
known as “prospect theory,” which holds that individuals are more likely to be influenced by short-term volatility—i.e., assigning more value to shorter-term gains and losses—as opposed to sitting tight and keeping their eyes on the (longer-term) prize.

To illustrate this point, Figure 3 overlays annual market returns and the net new cash flow into stock mutual funds (i.e., the amount individuals are investing net of withdrawals).

As you can see, investors tend to “Buy high, sell low,” rather than follow the age-old adage of “Buy low, sell high.” What leads investors to buy high and sell low when they should be doing the reverse—or nothing at all? Powerful emotions like fear and greed can influence people and move them to consistently make irrational decisions. In a bull market, greed can push reason and common sense aside in the belief that prices will go

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FIGURE 4
Diversified vs. concentrated portfolios:
Diversification tends to lessen volatility



*This chart compares the two types of portfolios when it comes to measuring standard deviation, an indicator of volatility. The more a portfolio's value goes up and down, the higher its (standard) deviation from the average.

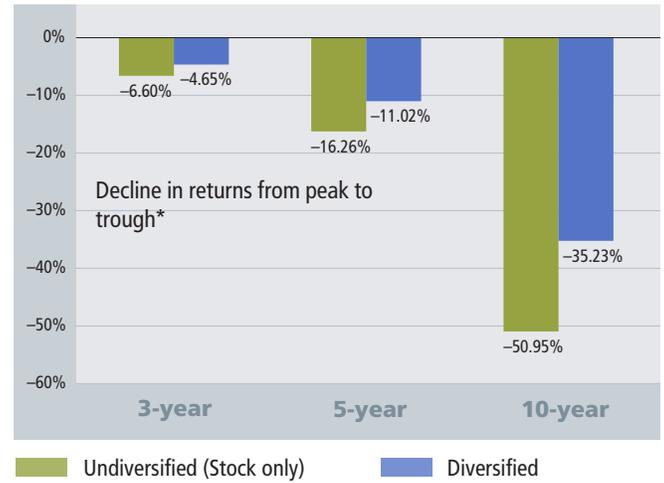
Diversified portfolio comprises 15% S&P 500, 25% Russell Midcap, 21% MSCI World ex USA, 39% Barclays U.S. Aggregate Bond.

Undiversified (Equity only) portfolio comprises 100% S&P 500.

Diversification does not ensure a profit or guarantee against a loss. Past performance is no guarantee of future results.

Source: Bloomberg, WTIA

FIGURE 5
Diversified vs. concentrated portfolios:
The lows aren't as low



*This chart illustrates the "maximum drawdown," a metric indicating risk to principal that measures the highest peak-to-trough loss of an investment over a given time span.

higher irrespective of valuations (think the "dot-com" bubble that burst in 2000).

Alternatively, during a bear market or a market crash, the fear of losing money can result in a "flight" impulse that may lead to selling investments at precisely the worst time. The most recent example of this was the massive selling of stock funds during the credit crisis that began in 2008. Investors who "cut and ran" subjected their wealth to purchasing power risks and the opportunity of being overinvested in cash. Also, not only did they sell at an inopportune time, many remained out of the market waiting for "the right time" to redeploy assets and failed to participate in the price recovery that began in March of 2009. Trying to time when to buy and sell creates two opportunities to get it wrong.

Humans also possess inherent biases that can impact decision making and lead to expensive errors in investment judgment, including:

- Confirmation bias, the tendency to listen to only the news or facts that support our conclusions or beliefs
- Selective memory, a propensity to forget past mistakes, or recast them in a decidedly more positive light
- Negativity bias, placing greater emphasis on bad news than good news

A well-diversified portfolio can reduce volatility

The goal of a well-diversified portfolio is to seek the highest possible return for a given level of investment risk in a portfolio. Consider the example of the shop owner who decides to diversify his business by selling umbrellas and sun block. He understands that the sales of each

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“The asset allocation plan also provides an ongoing discipline to maintain a steady hand amid volatile markets or asset class bubbles.”

item are inversely correlated. When it rains, he sells many umbrellas, but no sun block. When the sun shines, the reverse occurs. While he may be able to sell more umbrellas when it's raining if he hadn't devoted shelf space to sun block, he understands that the weather will inevitably change and he needs to be ready for those sunny days. Since we can predict neither the weather nor the markets, we must be prepared for all eventualities through robustly diversified portfolios that may potentially see us through both sunny and rainy market cycles.

As we saw in Figure 2, volatility can diminish returns. The next question becomes how we lower volatility, and the answer is by having a diversified (as opposed to a concentrated) portfolio. To illustrate this principle, consider two portfolios: One is 100% stock (as represented by the S&P 500 index) and the other is a diversified portfolio that consists of 15% S&P 500, 25% Russell Midcap, 21% MSCI World ex USA, and 39% Barclays U.S. Aggregate Bond.

In Figure 4, we see less volatility over various timeframes, which would ultimately reduce the drag of volatility on returns. Figure 5 tells a similar story but in a slightly different, perhaps more tangible way. This chart describes the worst peak-to-trough losses during dramatic events over the past 15 years. In each instance, the diversified portfolio's losses were less than the stock-only portfolio.

As these illustrations suggest, diversification works by moderating some of the negative returns during adverse markets, though not necessarily eliminating them. Minimizing volatility for a given level of return is important to long-term investment success. To better understand why this is true, you need to appreciate the relationship between volatility and market performance. Volatility tends to decline as the stock market rises and increase as the market falls. As volatility increases, compound returns decrease. The greater the volatility, therefore, the larger the drop in the compound return.

Diversification may also enhance returns

It may be counterintuitive to suggest that portfolio returns may be enhanced even as risk is reduced, yet historical experience suggests it is possible. Compare the diversified and stock-only portfolios in Figure 6, which details the individual calendar year returns of each hypothetical portfolio. As the results indicate, between the years 2000 and 2014, the stock-only portfolio outperformed the diversified portfolio 53% of the time (8 out of 15 years), while underperforming 47% of the time (7 out of 15 years).

However, the extent of drawdown (loss in portfolio value) in the stock-only portfolio was significantly greater than in the diversified portfolio. Consequently, as Figure 7 shows, the outperformance by the diversified portfolio was 60 percent. On a cumulative basis, from January 2000–December 2014, the diversified portfolio was up 147%, while the stock-only portfolio was up 86% (on a compounded return basis)—a difference of almost 61 percentage points.

Reducing exposure to risk will, at times, reduce a portfolio's ability to maximize gains, especially in a strongly positive market. This opportunity cost can be viewed as a safeguard from the deleterious impact of imperfect and unknowable information about the future. Ultimately, however, the ability of an asset allocation to capture a proportion of the gains with lower overall volatility can, on a long-term basis, position investors to

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FIGURE 6
Annualized portfolio returns of diversified vs. stock-only portfolio



Slow and steady...

A diversified portfolio has had less volatile returns long term, and outperformed a concentrated portfolio, even at the 2008 market bottom.

The diversified portfolio comprises 15% S&P 500, 25% Russell Midcap, 21% MSCI World ex U.S., 39% Barclays U.S. Aggregate Bond and returned 6.25% on an annualized basis between January 1, 2000, and September 30, 2015. The undiversified (equity only) portfolio comprises 100% S&P 500 and returned 4.27% over the same period.

Diversification does not ensure a profit or guarantee against a loss. Past performance is no guarantee of future results.

Source: Bloomberg, WTIA

outperform a less diversified, more volatile portfolio. The potential to enhance gains can be further bolstered by rebalancing, selling those assets that have risen in value while buying those assets that have declined in value (more on this to follow).

How to build a well-diversified portfolio

As with any endeavor, the prospects for success improve with a plan. An Investment Policy Statement should serve as a roadmap, with a clearly defined goal and a carefully designed route based on enduring portfolio construction principles.

The asset allocation plan also provides an ongoing discipline to maintain a steady hand amid volatile markets or asset class bubbles. While asset allocation won't cure investors of their innate human biases or emotions, it should serve as a framework that promotes discipline, preventing them from wreaking havoc on a portfolio.

FIGURE 7
Growth of \$1 invested in diversified vs. stock-only portfolio



...can win the race

While a concentrated portfolio may reign supreme short term, a diversified portfolio should do better over time.

As mentioned earlier, asset allocation is an exercise in combining different assets with varying risk and return drivers (and thus not fully correlated to one another), in an effort to lower volatility, while mitigating the sacrifice to portfolio return. By considering the returns, risks, and the correlations among asset classes, an investment plan—as codified in a client's customized Investment Policy Statement—seeks to develop a portfolio that targets an optimum balance of return and risk specific to his or her investment objectives.

Building an asset allocation strategy requires first an understanding of the return and risk characteristics of each asset class and its correlation to other asset classes. Using this information, these asset classes are blended together, typically via mathematical calculations, to optimize the blend of asset classes in pursuit of the maximum potential return at a defined risk level.

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Traditionally, portfolios have been diversified both across and within asset classes. Stock portfolios, for example, were typically allocated by the standard measures of market capitalization and/or style (growth, value). In recent years, however, we have found that the ebbs and flows of the economic cycles will not be sufficiently captured by these means. Instead, we believe it is important to diversify using the economic drivers of asset classes. One way to accomplish this is by diversifying among economic sectors. Utilities, technology, and healthcare, for example, vary in their degree of sensitivity to economic cycles, and can thereby offer the potential for more precisely tuning risk exposures and correlation.

Rebalancing

Portfolio allocations are not static since different asset classes will perform differently over time. These shifts in asset class weightings may result in an increased risk level for a portfolio. For instance, a portfolio of 60% stocks and 40% bonds, after a sharp run-up in the stock market, may be transformed into a portfolio that is 70% stocks and 30% bonds. With the added stock weight, the portfolio is now holding a greater risk exposure, a level perhaps higher than what the investor is comfortable assuming. As a consequence, it's important to periodically (typically, annually) rebalance a portfolio to bring it back in line with the original asset allocation. Also, moving assets from higher performers to lower performers helps ensure investors "Buy low, sell high."

Conclusion

Though this discussion has focused on basic asset classes (e.g., stocks and bonds) to explore key asset allocation concepts, investors should consider a wide range of asset classes to build their portfolios, including U.S. and international stocks, investment-grade and speculative-grade ("high yield") bonds, international bonds, and alternative assets, including, where appropriate, private market solutions.

Your investment advisor can discuss these with you at greater length, as you work together to create the comprehensive Investment Policy Statement and well-diversified, customized portfolio targeted to your long-term investment objectives.

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Maximum drawdown is the maximum loss (compounded, not annualized) that the portfolio incurred during any sub-period – the largest available negative return resulting from consecutive periods over the full timeframe under examination. Conceptually, this is the biggest "peak to trough" loss. The result is typically negative, but a maximum drawdown of zero indicates that there were no losses over that timeframe.

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