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# Improving portfolio efficiency with multi-asset absolute return strategies

## Key takeaways

**Benchmark-agnostic absolute return strategies can help improve portfolio efficiency and diversification.**

**Absolute return strategies may be used to pursue a specific historic rate of return with less volatility or to increase portfolio return potential without a significant boost in volatility.**

**Despite significant above-trend returns for equities since the 2008 credit crisis, investors have still benefited from including absolute return strategies in their investment portfolios.**

With many asset markets priced near all-time highs and at risk of volatility from policy uncertainty around the world, investors stand to benefit from seeking more resilient strategies likely to enhance risk-adjusted returns (measured by Sharpe ratio) without sacrificing performance goals. Two approaches dominate: pursuing a portfolio's desired rate of return with less volatility or seeking to increase returns without a significant boost in volatility. In recent years, investors have made progress toward these goals by refining the optimal asset allocation mix.

At Putnam, we believe a more powerful tool for further improvement comes from adding a new layer of diversification with absolute return strategies. In our investment research and practice, we find that absolute return strategies, which we define as unconstrained, benchmark-agnostic strategies that focus on more efficient returns with less systematic risk (beta), can help improve the overall efficiency of an investment plan.

FIGURE 1

## Most investors hold 60% stock/40% bond allocation



Source: American Association of Individual Investors (AAII). Data as of 12/31/15.

### Investors have historically maintained balanced asset allocations

Despite recent progress, most investors continue to hold a portfolio that closely resembles a traditional 60% stock/40% bond allocation. Evidence of this can be found by looking at the historical equity allocation from the American Association of Individual Investors (AAII) Asset Allocation Survey, where the historical equity allocation is 60%.

In recent decades, this reliance on traditional asset classes has served investors well, as rising equity markets accompanied by falling interest rates have created a favorable environment. Using historical asset class data going back to 1990 (Figure 1 and Figure 2), if the average investor maintained a 60% equity/40% fixed-income allocation and rebalanced it quarterly, it would have generated a hypothetical annualized return of 9.56% with 8.18% volatility.

With the memory of the 2008 financial crisis still in mind and with potential sources of volatility on the horizon — including a change in the U.S. administration, the political restructuring of the European Union, and China’s efforts to manage a heavy debt burden while shifting away from export-led growth — many investors may be looking for new ways to outfit their portfolios for a more uncertain global market landscape while pursuing their funding needs.

FIGURE 2

## Asset class proxies used in the Putnam study

Asset class/Strategy	Proxy
Cash	Merrill Lynch 3-Month T-Bill Total Return Index
Commodities	S&P Goldman Sachs U.S. Commodity Index
Global fixed income	Bloomberg Barclays Global Aggregate TR USD
Non-developed foreign equity	MSCI EM (Emerging Markets) USD
Foreign equity	MSCI EAFE Free USD
U.S. equity	MSCI USA USD
Absolute return strategies	HFRI Fund Weighted Composite Index*

Indexes are unmanaged and do not incur expenses. You cannot invest directly in an index. Past performance is not a guarantee of future results.

\* Returns adjusted for autocorrelation.

We think it is particularly timely, then, to revisit portfolio allocations, recognizing that equity and fixed-income performance has been extremely strong for over five years thanks to unusually low interest rates and policy accommodation. Now is the time to build more efficient portfolios that are less dependent on benchmark-oriented strategies by including alternative investments. We believe diversifying allocations to include absolute return strategies can enhance a portfolio’s efficiency in pursuing risk-adjusted returns.

### Impact of absolute return on portfolio efficiency

To test the effects that absolute return strategies can have on an overall portfolio, we first constructed an efficient frontier utilizing three asset classes that most investors are familiar with: equities, fixed income, and commodities. Next, we calculated a new efficient frontier that included a static 20% allocation to absolute return strategies, in an effort to see if we could improve on the original frontier. A 20% allocation to absolute return strategies was primarily chosen to keep the analysis simple, and uses historical asset class returns since 1983. Figure 2 shows the proxies in which asset classes were represented.

It is also important to understand that although alternatives often get classified as one broad asset class, there are many categories of alternative strategies, with each offering its own unique risk and return characteristics. For example, there are strategies offering

inflation protection that typically involve investments in real assets like commodities or REITs. Another category of alternatives could focus on growth amplification and incorporate private equity or direct real estate investments. Although there is value in each of these categories, at Putnam we believe absolute return strategies that focus on volatility management are of significant importance to individual investors' portfolio construction.

To represent absolute return, we chose an index that exhibits the characteristics we are seeking: unconstrained, benchmark-agnostic strategies that focus on volatility management, and more efficient returns with less systematic risk (beta). The HFRI Fund Weighted Composite Index proved to be the best proxy with the most available data.

From 1990 to December 31, 2015, the HFRI Fund Weighted Composite Index produced an annualized return of 7.11%, with a standard deviation of 8.66%, a Sharpe ratio of 0.82, and an equity beta of 0.37. Employing the HFRI Fund Weighted Composite Index runs the risk of introducing survivorship bias; however, its longer track record and performance characteristics still make it a reasonable proxy for absolute return strategies in general.

Figure 3 compares two efficient frontiers: one with an allocation to equities, fixed income, and commodities, and a second that includes a 20% allocation to absolute return strategies. It also shows the hypothetical return of a 60% equity/40% fixed-income portfolio. One may notice that a 60% equity/40% fixed-income portfolio lies close to the first frontier, but this is to be expected as our first frontier contains healthy allocations to stocks and bonds, with a small amount allocated to commodities.

For the analysis, the following constraints were implemented in order to limit complexity and maintain diversity:

- No negative asset class values (i.e., no short positions in an asset class/strategy)
- Portfolio must remain fully invested and unlevered
- For the frontier that incorporates absolute return, maintain a static 20% allocation to the strategy

Analysis shows a 20% allocation to absolute return improved efficiency by shifting the entire efficient frontier up and to the left. This provides further evidence of the diversification benefit that comes with including strategies that are focused on producing attractive risk-adjusted returns while remaining less dependent on traditional benchmarks.

FIGURE 3

## An allocation to absolute return can enhance risk-adjusted returns shown on the efficient frontier

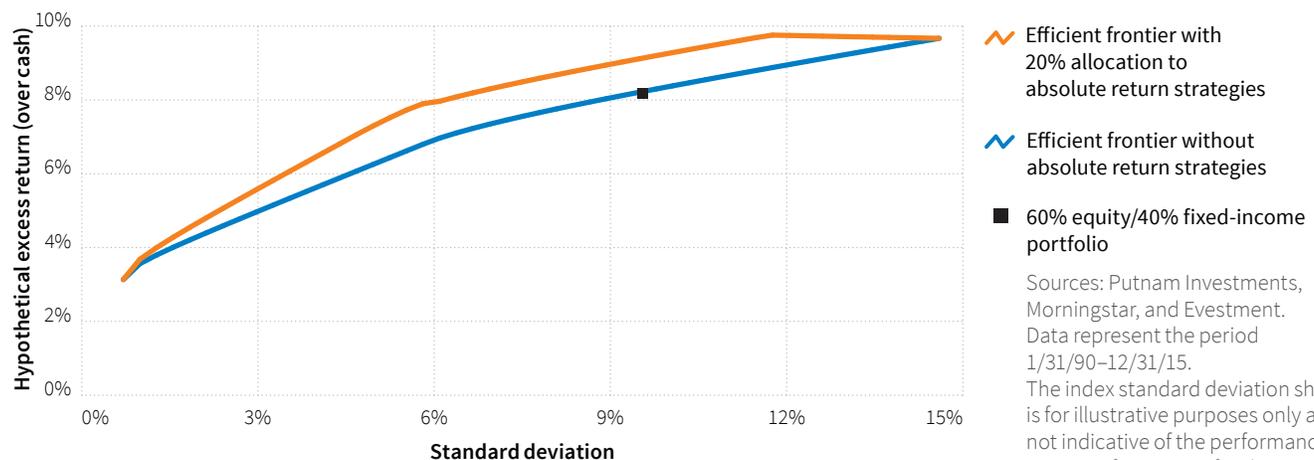
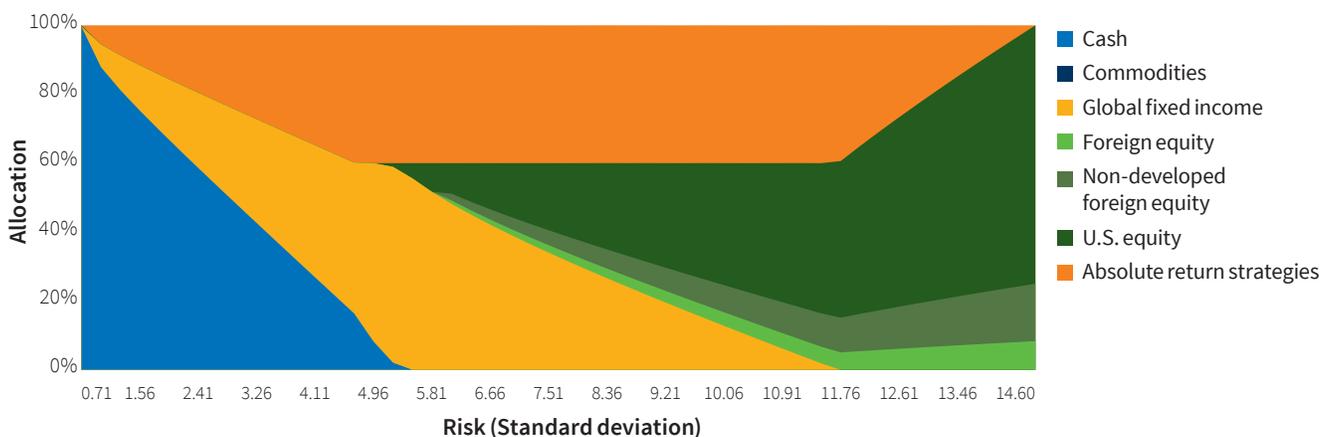


FIGURE 4

## Efficient frontier including absolute strategies



Sources: Putnam Investments, Morningstar, and Evestment. Data represents the period 1/31/90–12/31/15. The index standard deviation shown is for illustrative purposes only and is not indicative of the performance of any specific Putnam fund.

Figure 4 shows the efficient frontier of allocations to the various asset classes/strategies, including absolute return, by portfolio volatility. It is important to note that although the average excess return for absolute return is less than that of equities at 7.11%, an allocation to absolute return still proves to be useful in improving portfolio efficiency. The only case in which an allocation to absolute return is not warranted is when an investor wishes to maximize return without regard for volatility. In this analysis, it would be a return of 9.67% and volatility of 14.59%. In that extreme scenario, however, the resulting portfolio would be completely concentrated in equities and would likely expose investors to greater potential risks. The goal of absolute return strategies is not necessarily to be the highest-returning asset class, but to provide higher efficiency with lower equity beta.

### A closer look at the typical 60% equity/40% fixed-income portfolio

We also looked closely at the hypothetical performance of the traditional investor portfolio allocation of 60% equity and 40% fixed income. When it is included on the efficient frontier comparison (Figure 5), it is quite noticeable that the hypothetical return for this portfolio lies near the traditional efficient frontier, but falls considerably below the

efficient frontier that includes a 20% allocation to absolute return. It is clear that most investors are missing out on improved portfolio efficiency (i.e., a better Sharpe ratio).

To improve the average investor’s portfolio and resulting Sharpe ratio, two scenarios were tested: maintaining the historic rate of return with less volatility and increasing returns without a significant boost in volatility. As Figure 5 illustrates, both scenarios require the portfolio to move toward the efficient frontier, either to the left or up.

Figure 6 illustrates the two scenarios. Notice that the Scenario 1 portfolio delivers very similar return while reducing annualized volatility by 262 bps (9.56% less 6.94%). The Scenario 2 portfolio generates an additional 90 bps of annualized return (9.08% less 8.18%) with similar volatility.

In Scenario 1, with the addition of a 20% allocation to absolute return, exposure to equities is reduced significantly, while the allocation to fixed income is only marginally reduced.

In Scenario 2, with the addition of a 20% allocation to absolute return, exposure to fixed income is reduced significantly, while the allocation to equities is only marginally reduced.

FIGURE 5

The typical 60% equity/40% fixed-income portfolio can become more efficient with an absolute return allocation

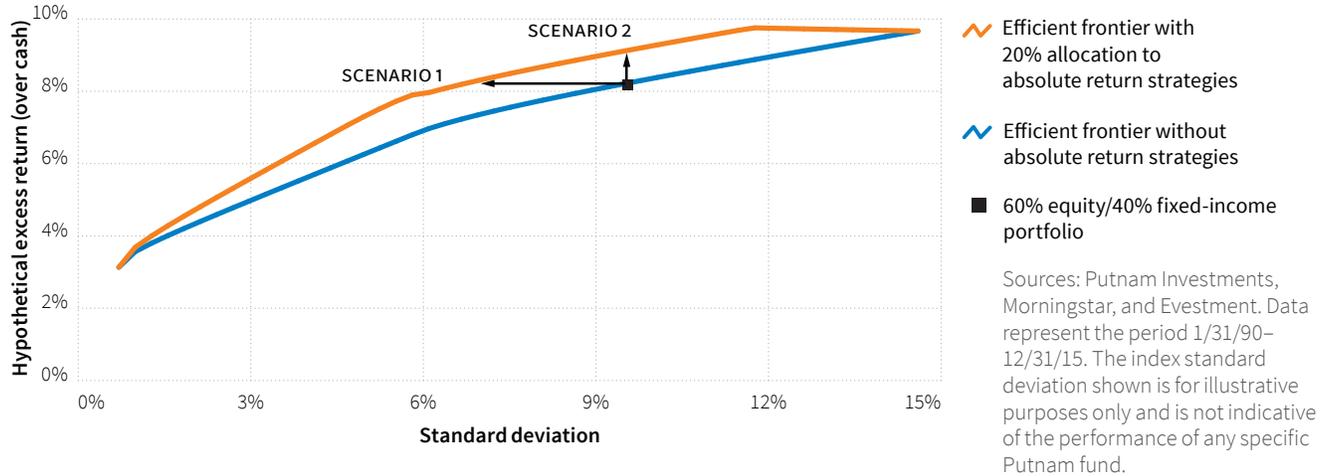


FIGURE 6

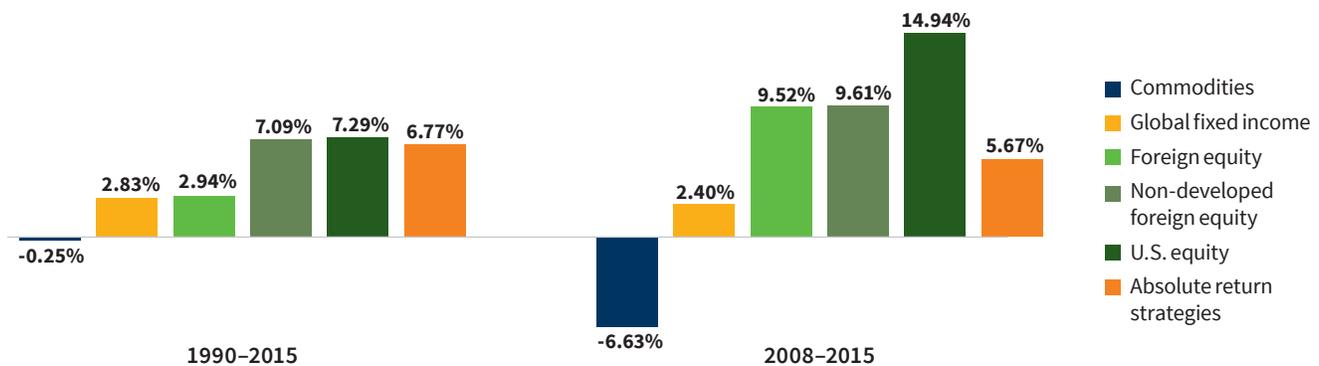
Funding an absolute return allocation depends upon investor goals

		Sharpe ratio	Hypothetical return	Standard deviation
Typical 60% equity/40% fixed-income portfolio — 1990–2015	<ul style="list-style-type: none"> <li>Global fixed income 40%</li> <li>Foreign equity 10%</li> <li>Non-developed foreign equity 5%</li> <li>U.S. equity 45%</li> <li>Absolute return strategies 0%</li> </ul>	0.53	8.18%	9.56%
<b>SCENARIO 1</b> Applying absolute strategies to maintain return with lower volatility	<ul style="list-style-type: none"> <li>Global fixed income 40%</li> <li>Foreign equity 0%</li> <li>Non-developed foreign equity 5%</li> <li>U.S. equity 15%</li> <li>Absolute return strategies 40%</li> </ul>	0.74	8.20%	6.94%
<b>SCENARIO 2</b> Applying absolute strategies to increase return, while maintaining volatility	<ul style="list-style-type: none"> <li>Global fixed income 20%</li> <li>Foreign equity 5%</li> <li>Non-developed foreign equity 5%</li> <li>U.S. equity 30%</li> <li>Absolute return strategies 40%</li> </ul>	0.63	9.08%	9.43%

Sources: Putnam Investments, Morningstar, and Evestment. Due to rounding, totals may not equal 100%. Data represent the period 1/31/90–12/31/15. The index performance shown is for illustrative purposes only and is not indicative of the performance of any specific Putnam fund.

FIGURE 7

## Equities have outperformed their long-term average since 2008



Sources: Putnam Investments, Morningstar, and Evestment. The index performance shown is for illustrative purposes only and is not indicative of the performance of any specific Putnam fund.

### Funding approach depends on investors' goals

A common question among investors is how to fund an increased allocation to absolute return strategies. The answer may not be entirely straightforward, as it largely depends on each investor's goals. In one case, an investor more concerned with reducing volatility and keeping risk low might consider selling equities to fund allocations to absolute return. In another case, as investors move out on the risk spectrum, they might consider selling bonds to fund the absolute return allocation.

The scenarios in Figure 6 illustrate these approaches well. In Scenario 1, which is the allocation that targets the same return with lower volatility, the allocation to fixed income remains significant at 40%, while the equity allocation is reduced to 20%. In Scenario 2, which seeks a higher rate of return with no increase in volatility, the allocation to fixed income falls to 20%, while the allocation to equities remains significant.

### Analyzing more recent history, and the effect of absolute return strategies

Many have questioned the usefulness of incorporating absolute return strategies in a broader portfolio context and specifically cite recent performance. Since the 2008 credit crisis, many absolute return strategies have failed to keep pace with traditional risky assets, especially equities. This has caused some investment plans that incorporate more absolute return strategies to lag traditional portfolios.

We would argue that it is potentially ill-advised for investors to use equity performance since 2008 to estimate the long-term return expectations of this asset class. Equities had extraordinarily high returns, while other asset classes as well as absolute return strategies had results more in keeping with their long-term performance. Since 2008, the S&P 500 Index produced an excess return over cash of 14.94%, more than doubling its average 7.29% return over cash for the 25 years that ended December 31, 2015. Meanwhile, its volatility measured by standard deviation was essentially the same in the five-year and 25-year periods, at 14.59 versus 14.60, respectively. In the same time frame, absolute return strategies had results that were more consistent with their long-term performance. The excess return over cash was 5.67% in the five-year period, a difference of only 110 basis points from the 6.77% excess return for the 25-year period.

In addition, as Figure 8 illustrates, during the shorter time period of December 31, 2008, through December 31, 2015, an investor who maintained a 60% equity and 40% fixed-income allocation would have generated a return of 9.24%, with annualized volatility of about 10.24%, resulting in a Sharpe ratio of 0.89. Clearly, this traditional allocation has received a significant boost from the above-trend equity returns experienced beginning in 2009. Replicating the previously mentioned Scenario 1 and Scenario 2, we can test whether or not an investor is able to deliver the same type of return or volatility as the 60% equity/40% fixed-income portfolio while maintaining

a 20% allocation to absolute return. In Figure 8, we can see that the Scenario 1 portfolio generates the 9.18% return, with 9.33% annualized volatility, for a Sharpe ratio of 0.97. The Scenario 2 portfolio is able to generate a return of 9.84% only, with 10.32% annualized volatility, resulting in a Sharpe ratio of 0.94.

Examples like these cause many investors to question the usefulness of absolute return. Interestingly, these investors often ignore the fact that the past five years have seen equities deliver more than twice the return experienced over longer periods. In our opinion, the relative underperformance of absolute return strategies has been overstated. Looking deeper into performance over the seven years of strong equity results since the financial crisis of 2008, illustrated in Figure 8, an investor in both Scenario 1 and Scenario 2 could still generate impressive excess returns with Sharpe ratios of 0.97 and 0.94, respectively. This performance is quite respectable when compared with the 0.89 Sharpe ratio of a 60% equity/40% fixed-income portfolio. In addition, investors should be able to take comfort in the fact that by including absolute return, they likely have a more balanced,

more diversified portfolio that does not rely on equity markets to outperform their long-term averages in order to potentially generate positive returns and a competitive Sharpe ratio.

### Conclusion

Whether one is looking to generate a specific historic rate of return with less volatility or to increase portfolio returns without a significant boost in volatility, we believe that incorporating benchmark-agnostic absolute return strategies can help improve portfolio efficiency and diversification. When analyzing the effects over longer periods, the potential benefit of the inclusion of more absolute return strategies appears to be quite significant. Even when looking at more recent history, however, despite significant returns from equities, investors who incorporate absolute return strategies in a thoughtful manner have still managed to generate attractive risk-adjusted returns. This analysis provides strong evidence that unconstrained, benchmark-agnostic strategies that focus on more efficient returns with less systematic risk (beta) can be a powerful tool for improving the efficiency of an investment portfolio.

FIGURE 8

## Absolute return strategies can perform well in rising equity markets

			Sharpe ratio	Hypothetical return	Standard deviation
Typical 60% equity/40% fixed-income portfolio — 1990–2015		<ul style="list-style-type: none"> <li>● Global fixed income 40%</li> <li>● Foreign equity 10%</li> <li>● Non-developed foreign equity 5%</li> <li>● U.S. equity 45%</li> <li>● Absolute return strategies 0%</li> </ul>	0.89	9.24%	10.24%
<b>SCENARIO 1</b> Applying absolute strategies to maintain return with lower volatility		<ul style="list-style-type: none"> <li>● Global fixed income 15%</li> <li>● Foreign equity 5%</li> <li>● Non-developed foreign equity 0%</li> <li>● U.S. equity 40%</li> <li>● Absolute return strategies 40%</li> </ul>	0.97	9.18%	9.33%
<b>SCENARIO 2</b> Applying absolute strategies to increase return, while maintaining volatility		<ul style="list-style-type: none"> <li>● Global fixed income 15%</li> <li>● Foreign equity 10%</li> <li>● Non-developed foreign equity 0%</li> <li>● U.S. equity 45%</li> <li>● Absolute return strategies 30%</li> </ul>	0.94	9.84%	10.32%

Sources: Putnam Investments, Morningstar, and Evestment. Data represent the period 12/31/08–12/31/15. The index performance shown is for illustrative purposes only and is not indicative of the performance of any specific Putnam fund.

Sharpe ratio is a measure of historical adjusted performance calculated by dividing a fund's return minus the risk-free rate (ML 3-month T-bill) by the standard deviation of the fund's return. The higher the ratio, the better the fund's return per unit of risk.

Beta measures volatility in relation to the fund's benchmark. A beta of less than 1.0 indicates lower volatility; a beta of more than 1.0, higher volatility than the benchmark.

Standard deviation measures how widely a set of values varies from the mean. It is a historical measure of the variability of return earned by an investment portfolio over a 3-year period.

Absolute return funds are not intended to outperform stocks and bonds during strong market rallies.

**Consider these risks before investing:** Allocation of assets among asset classes may hurt performance. Bond prices may fall or fail to rise over time for several reasons, including general financial market conditions, changing market perceptions of the risk of default, changes in government intervention, and factors related to a specific issuer. These factors may also lead to periods of high volatility and reduced liquidity in the bond markets. Bond investments are subject to interest-rate risk (the risk of bond prices falling if interest rates rise) and credit risk (the risk of an issuer defaulting on interest or principal payments). Interest-rate risk is greater for longer-term bonds, and credit risk is greater for below-investment-grade bonds. Unlike bonds, funds that invest in bonds have fees and expenses. Lower-rated bonds may offer higher yields in return for more risk. Funds that invest in government securities are not guaranteed. Mortgage-backed securities are subject to prepayment risk and the risk that they may increase in value less when interest rates decline and decline in value more when interest rates rise. International investing involves currency, economic, and political risks. Emerging-market securities have illiquidity and volatility risks. The fund may not achieve its goal, and it is not intended to be a complete investment program. Risks associated with derivatives include increased investment exposure (which may be considered leverage) and, in the case of over-the-counter instruments, the potential inability to terminate or sell derivatives positions and the potential failure of the other party to the instrument to meet its obligations. The fund's effort to produce lower-volatility returns may not be successful and may make it more difficult at times for the fund to achieve its targeted return. Under certain market conditions, the fund may accept greater-than-typical volatility to seek its targeted return. You can lose money by investing in the fund. The fund's prospectus lists additional risks. **For Absolute Return 500 Fund and 700 Fund, these risks also apply:** Growth stocks may be more susceptible to earnings disappointments, and value stocks may fail to rebound.

Our alpha strategy may lose money or not earn a return sufficient to cover associated trading and other costs. Our use of leverage obtained through derivatives increases these risks by increasing investment exposure.

Diversification does not guarantee a profit or ensure against loss. It is possible to lose money in a diversified portfolio.

The BofA Merrill Lynch U.S. T-Bill 3-Month Index tracks the performance of the U.S. dollar-denominated U.S. Treasury bills publicly issued in the U.S. domestic market with a remaining term to final maturity of less than 3 months

The S&P Goldman Sachs U.S. Commodity Index is a composite index of commodity sector returns representing an unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities.

The Bloomberg Barclays Global Aggregate Index is a measure of global investment-grade debt including Treasury, government-related, corporate, and securitized fixed-rate bonds from both developed and emerging-market issuers.

MSCI Emerging Markets Index is a float-adjusted market capitalization index that consists of indices in 23 emerging economies: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates.

The MSCI EAFE Index is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the United States and Canada. The MSCI EAFE Index consists of the following 21 developed-market country indexes: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.

The MSCI USA Index is a market capitalization weighted index designed to measure the performance of equity securities in the top 85% by market capitalization of equity securities listed on stock exchanges in the United States.

The HRFI Multi-Strategy Index includes funds that run several different strategies in-house that contribute to the total performance of the fund. A multi-strategy product may consist of one or a number of managers simultaneously operating, for example, a distressed debt portfolio, merger-arbitrage, convertible arbitrage, and long/short equity strategies for the same fund.

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