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# Improving portfolio efficiency with multi-asset absolute return strategies

## Key takeaways

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

**Absolute return 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 post credit crisis, investors have still benefited from including absolute return strategies in their investment portfolios.**

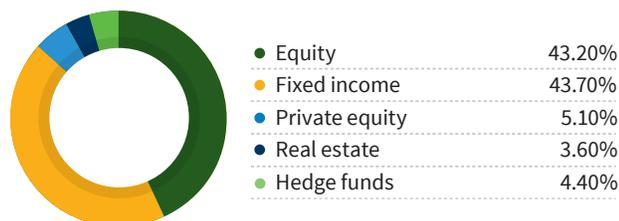
Most institutional investors are searching for strategies to improve risk-adjusted returns (Sharpe ratio) without sacrificing return. Two approaches dominate: pursuing a portfolio's desired rate of return with less volatility or seeking to increase returns without a significant boost in volatility. Investors have in recent years 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.

Recent studies, by contrast, demonstrate a reliance on traditional asset classes. A Towers Watson study, analyzing the 2012 asset allocations of 556 Fortune 1000 U.S. pension plans, revealed a focus on traditional asset classes. Though there is a small allocation to alternative asset classes, such as REITs, private equity, and hedge funds, the vast majority of the allocation consists of stocks and bonds.

FIGURE 1

## The Towers Watson study found a focus on traditional asset classes in plan allocations



Source: Towers Watson, “2012 Asset Allocations in Fortune 1000 Pension Plans,” November 2013.

Note: Towers Watson study had a 2.9% allocation to an “Other” category, and a 3.5% allocation to “Cash.” For simplicity of analysis, the “Other” category was grouped with “Equity,” and “Cash” was grouped with “Fixed Income.”

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 1986 (Figure 1 and Figure 2), if the average defined benefit (DB) plan had used this allocation, it would have generated a hypothetical annualized return of 5.04% over cash with 7.85% volatility. As of June 30, 2013, these results certainly satisfy the typical pension plan requirements that target an actuarial rate of return of about 5% over cash.

With the memory of the market events of 2008 still relatively fresh, however, investors may be pondering whether they will be able to meet their future funding needs.

To create a more efficient portfolio for meeting investment goals, pension funds may want to consider incorporating more benchmark-agnostic alternative strategies, sometimes known as absolute return strategies, to help improve plan efficiency.

### Impact of absolute return on plan efficiency

To test the effects that absolute return strategies can have on an overall plan, we constructed two efficient frontiers: one without absolute return strategies and one with absolute return strategies. The analysis used historical asset class returns since 1986. Asset classes were represented by the following proxies:

FIGURE 2

## Asset class proxies used in the Putnam study

Asset class/Strategy	Proxy
Equities	S&P 500 Index
Fixed income	Bloomberg Barclays Intermediate Treasury Index
Private equity	Cambridge Associates U.S. Private Equity Index
Real estate	FTSE EPRA/NAREIT U.S. Index
Absolute return strategies	HFN Multi-Strategy 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.

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

Since 1986 through June 30, 2013, the HFN Multi-Strategy Index has produced an annualized excess return over cash (Citigroup 3-month T-Bill Index) of 6.98%, with a standard deviation of 8.62%, 6.31% downside volatility, a Sharpe ratio of 0.81, and an equity beta of 0.36. When using an index like the HFN Multi-Strategy Index, one 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.

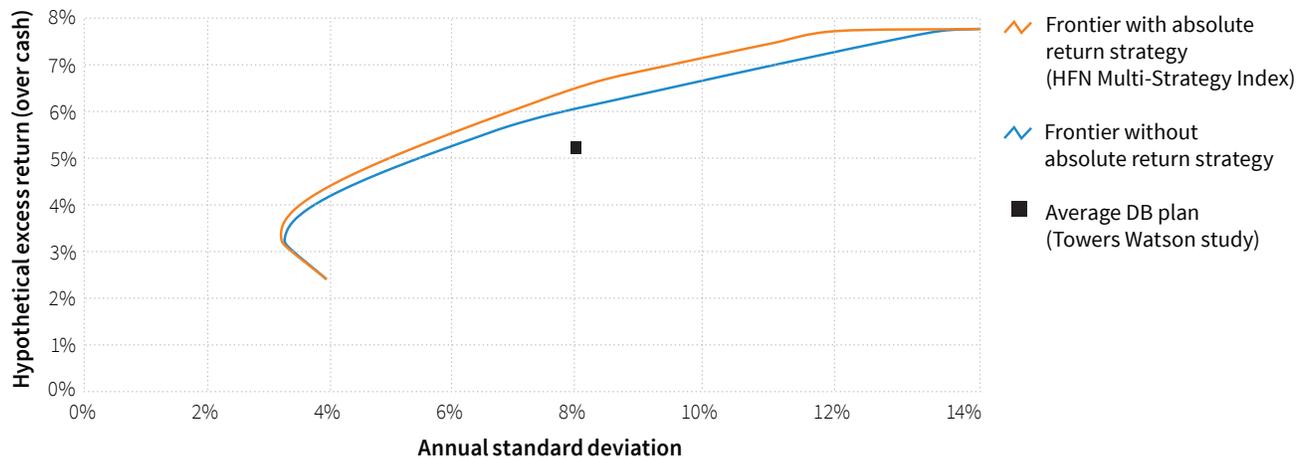
Figure 3 compares two efficient frontiers comprising asset classes used by most DB plans (stocks, bonds, private equity, and real estate), one with and one without an allocation to absolute return strategies. We also show the hypothetical return of the average allocation from the Towers Watson study if it were held constant over the historical period being analyzed.

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

- No negative asset class values (e.g., no shorts on an asset class/strategy)
- A fully invested portfolio (e.g., no leverage allowed)
- A constraint on private equity to a maximum exposure of 25% (Time-series data likely underestimates asset class volatility. The appropriate allocation to private equity is heavily dependent on manager access and liquidity.)

FIGURE 3

## Comparison of efficient frontiers — Historical returns from March 31, 1986–June 30, 2013

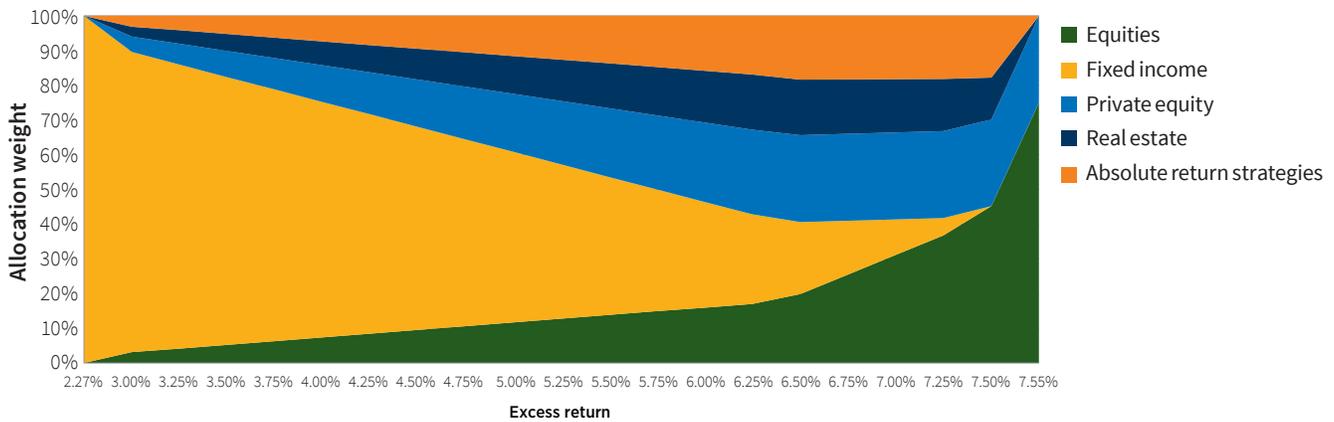


Sources: Towers Watson, Putnam Investments, and Evestment.

For use with institutional investors and investment professionals.

FIGURE 4

### Efficient frontier with absolute return strategies (March 31, 1986–June 30, 2013)



Sources: Towers Watson, Putnam Investments, and Evestment.

Analysis shows that the inclusion of absolute return strategies in a broader portfolio context not only improved efficiency, but also shifted 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 4 shows the efficient frontier of allocations to the various asset classes/strategies, including absolute return. It is important to note that although the average excess return for absolute return is 6.98%, allocation to

absolute return continues to increase to over 18%. Only if an investor wishes to completely maximize return is an allocation to absolute return not warranted. In this analysis, it would be an excess return of 7.55%. In that extreme scenario, however, the resulting portfolio would be highly concentrated in equities and private equity, and would likely expose investors to greater risks. The goal of absolute return strategies is not to be the highest-returning asset class, but to provide higher efficiency with lower equity beta.

## A closer look at the average defined benefit plan allocation

We also looked closely at the hypothetical performance of the average pension plan allocation outlined in the 2013 Towers Watson study. When it is included on the efficient frontier comparison (Figure 5), it is quite noticeable that the hypothetical return for the average pension plan allocation falls considerably below both efficient frontiers.

To improve the average DB plan's overall Sharpe ratio, two scenarios were tested: (1) maintain the historic rate of return with less volatility; and (2) increase 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.

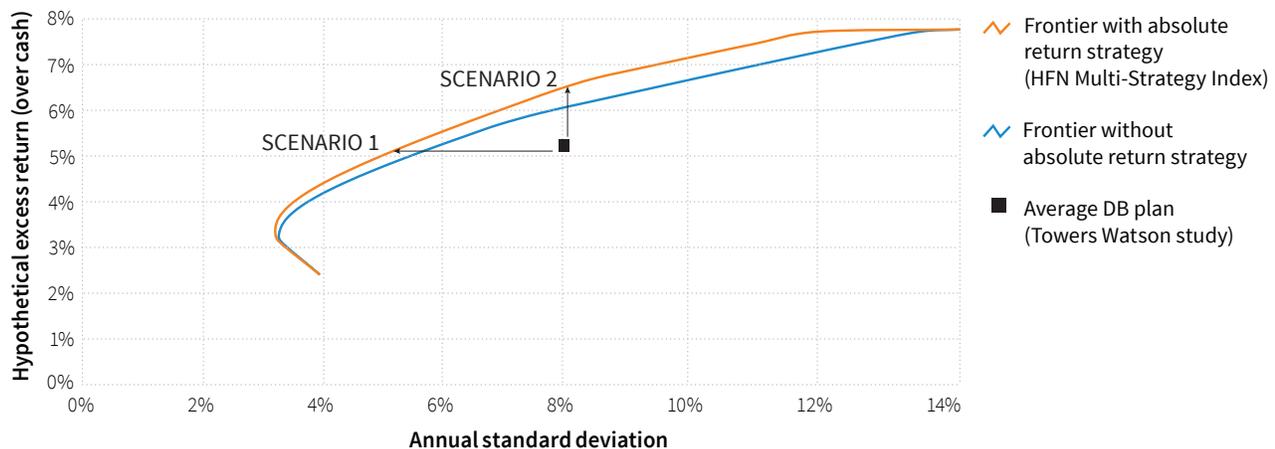
Figure 6 illustrates the two scenarios. Notice that in Scenario 1, one is able to deliver the same excess return while reducing annualized volatility by 257 bps (7.85% less 5.28%). In Scenario 2, one is able to generate an additional 131 bps of annualized excess return (6.36% less 5.04%) with similar volatility.

In Scenario 1, the portfolio has 12% in absolute return; increased exposure to bonds, REITs, and private equity; and a significantly lower allocation to equity.

Scenario 2 has a still greater allocation to absolute return, at 19%, with nearly half the portfolio in equalized allocations to fixed income and private equity, increased exposure to REITs, and a relatively modest 16% in equities.

FIGURE 5

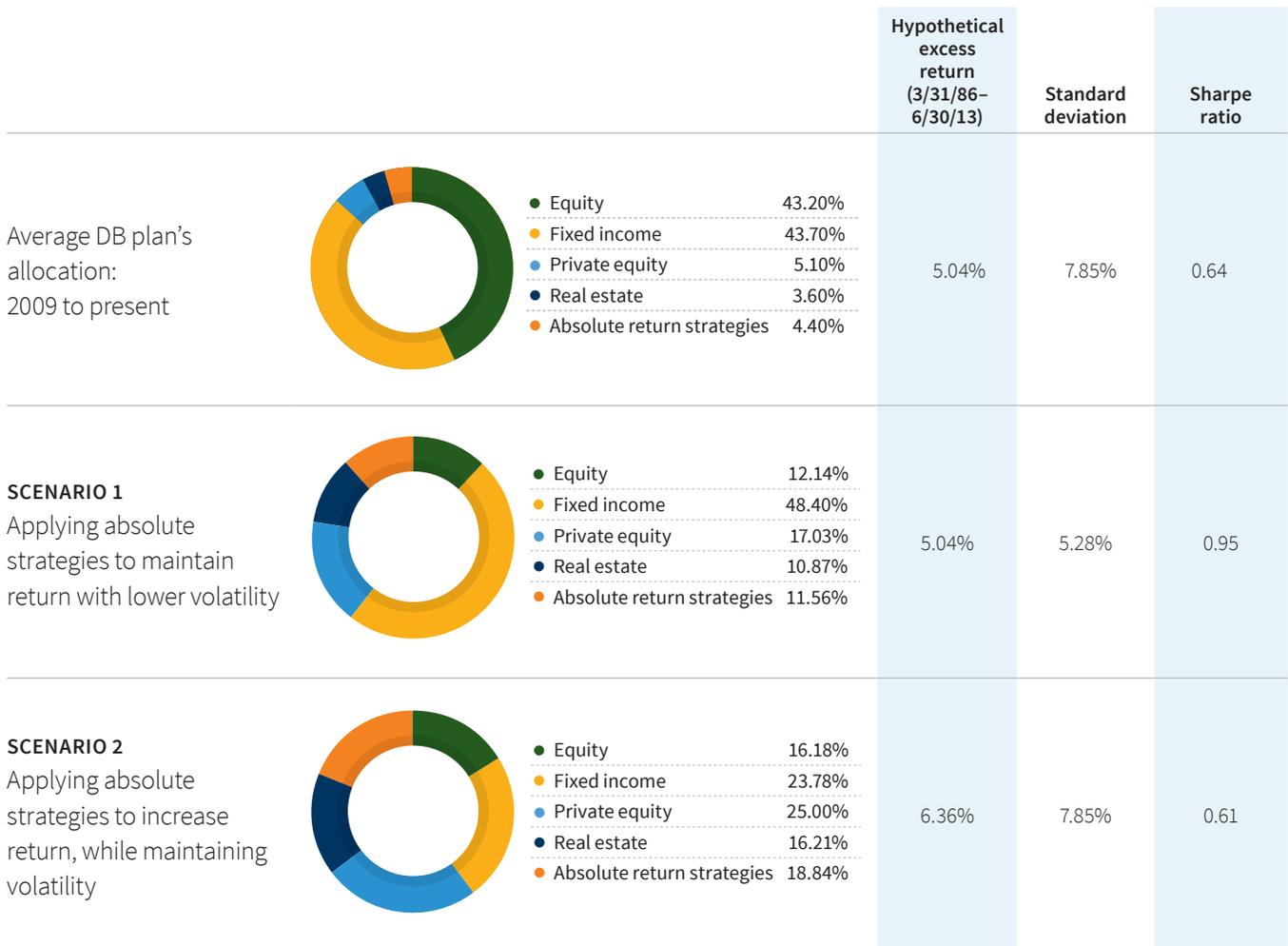
## The average defined benefit plan does not achieve optimal risk efficiency (March 31, 1986–June 30, 2013)



Sources: Towers Watson, Putnam Investments, and Evestment.

FIGURE 6

## Funding an absolute return allocation depends upon investor goals



Absolute strategies were applied to the average defined benefit plan's allocation as defined by the Towers Watson study "2012 Asset Allocation in Fortune 1000 Pension Plans," November 2013.

Sources: Towers Watson, Putnam Investments, and Evestment.

### 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 the investor's goals. In one case, an investor or plan 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. The allocation that is targeting the same return with lower volatility maintains a significant 48% allocation to fixed income, with only 12% earmarked for equities. When the risk profile becomes more aggressive, the allocation to fixed income falls to 24%, with larger allocations to higher-risk assets.

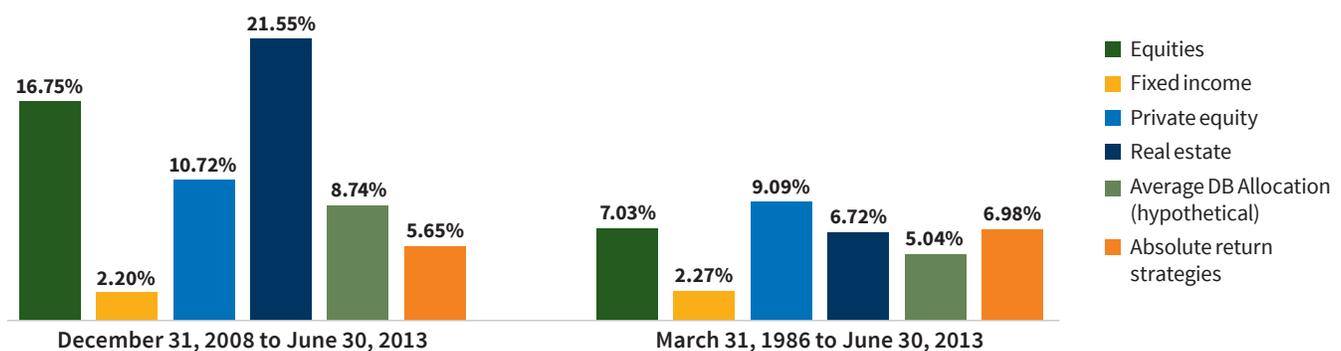
### Analyzing more recent history, and the effect of absolute return strategies

Many have questioned the usefulness of incorporating absolute return strategies in a broader portfolio context, specifically citing recent performance. Post 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 more traditional portfolios post 2008.

We would argue that it is potentially ill-advised to use the returns of the past five years as the point estimate for long-term asset class returns. For example, from December 31, 2008, to June 30, 2013, the S&P 500 has generated 16.75%/year over cash. In contrast, the excess return for the S&P 500 from December 31, 1985, to June 30, 2013, has been 7.03%. This 7.03% return is consistent with equity return over even longer periods of history, and is likely a more stable equity return assumption than the more recent 16.75%. As illustrated in Figure 7, looking

FIGURE 7

Excess returns more closely track equity returns over a longer-term investment horizon



Sources: Towers Watson, Putnam Investments, and Evestment.

at the HFN Multi-Strategy Index, the excess return of 5.65%/year experienced from December 31, 2008, to June 30, 2013, is much closer to the 6.98%/year excess return generated from March 31, 1986, to June 30, 2013.

In addition, as Figure 8 illustrates during the shorter time period December 31, 2008, through June 30, 2013, an investor who had implemented the Towers Watson 2013 study allocation would have generated an excess return of 9.81% with annualized volatility of about 8.74%, resulting in a Sharpe ratio of 1.12. Clearly, this traditional allocation has received a significant boost from the strong equity markets experienced since 2009. Replicating previously mentioned scenarios 1 and 2, we can test whether or not an investor is able to deliver the same type of return or volatility as the Towers Watson allocation, and solve for the optimal asset allocation. In Figure 8, we can see that Scenario 1 is able to generate the 9.81% excess return with 8.62% annualized volatility for

a Sharpe ratio of 1.14. Scenario 2 is able to generate an excess return of 9.92% by taking on 8.74% in annualized volatility, resulting in a Sharpe ratio of 1.13.

Interestingly, despite being in the midst of one of the strongest equity markets in generations, including more absolute return strategies can still improve portfolio efficiency when compared with the average defined benefit plan allocation. Though the benefit is less pronounced when analyzing post credit crisis asset class returns, the evidence is still very telling regarding the potential usefulness of these strategies. In an environment where absolute returns strategies have lagged equities substantially, investors could achieve the same return as investors using the Towers Watson study average asset allocation by allocating just over 20% of assets to absolute return strategies and significantly reducing their allocation to equities.

FIGURE 8

# Absolute return strategies can still improve portfolio efficiency in an environment of strong equity returns

			Hypothetical excess return (12/31/86-6/30/13)	Standard deviation	Sharpe ratio
Average DB plan's allocation: 2009 to present	<ul style="list-style-type: none"> <li>● Equity 43.20%</li> <li>● Fixed income 43.70%</li> <li>● Private equity 5.10%</li> <li>● Real estate 3.60%</li> <li>● Absolute return strategies 4.40%</li> </ul>		9.81%	8.74%	1.12
<b>SCENARIO 1</b> Applying absolute strategies to maintain return with lower volatility	<ul style="list-style-type: none"> <li>● Equity 12.20%</li> <li>● Fixed income 26.55%</li> <li>● Private equity 25.00%</li> <li>● Real estate 15.29%</li> <li>● Absolute return strategies 20.97%</li> </ul>		9.81%	8.62%	1.14
<b>SCENARIO 2</b> Applying absolute strategies to increase return, while maintaining volatility	<ul style="list-style-type: none"> <li>● Equity 13.35%</li> <li>● Fixed income 26.17%</li> <li>● Private equity 25.00%</li> <li>● Real estate 15.09%</li> <li>● Absolute return strategies 20.39%</li> </ul>		9.92%	8.74%	1.13

Sources: Towers Watson, Putnam Investments, and Evestment.

## 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 and pension plan efficiency. When looking at a longer set of asset class history, the potential benefit of the inclusion of more absolute return strategies appears to be quite significant. Even when looking at more recent history, however, a diversification benefit still persists, despite significantly above-trend returns for equity markets. 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 plan.

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