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Downside risk mitigation: A key ingredient for successful participant outcomes

KEY POINTS

- Our research strongly suggests that downside mitigation is important to long-term investment outperformance in both rising and falling markets.
- These findings, along with the pronounced loss aversion of many plan participants, create a compelling case for core-menu options that emphasize buffering the downside.
- Downside mitigation alone is not sufficient to generate competitive long-term returns. Adept stock selection is also needed so as to keep up in rising markets.
- We believe a multi-factor, multi-manager approach that blends high-active-share strategies with downside-oriented factors — and aims to minimize the interest-rate sensitivity of many defensive strategies — can generate cost-efficient alpha and potentially create a favorable long-term return experience for participants.

The importance of downside risk management: Research findings

Many market observers believe that today's high stock- and bond-market valuations are setting the stage for disappointing future market returns. Indeed, subpar market returns may pose a threat to the long-term financial security of defined contribution (DC) plan participants, lending urgency to the task of finding sources of return that can augment market returns.[1]

Our research strongly suggests that mitigating downside risk is essential to achieving long-term investment outperformance. This finding is rooted in the power of compounding — a mathematical phenomenon that works in an investor's favor in bull markets, but against the investor in bear markets. In short, a dollar of alpha in a down market is worth more than a dollar of alpha in an up market.

To demonstrate this, our Investment Strategy Group created a hypothetical strategy using the monthly returns of the S&P 500 Index over a very long time frame — the 80 years ended June 2017. We assumed that for every month the market was up, the strategy lagged and captured only 95% of the market return. In every month the market was down, the strategy

About the authors

Kent and **Gregg** are members of the Investment Strategy Group, which conducts original research on portfolio- and risk-management topics. In addition, members of the group are lead portfolio managers on several team-managed solutions offered by the firm. **Jed** is a senior member of the Defined Contribution Solutions Group. He is responsible for assisting clients with long-term investment strategy and policy issues.

[1]"Accepting market returns: Risky business for defined contribution plans?", https://www.wellington.com/en/pub/accepting-market-returns-risky-business-defined-contribution-plans

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captured only 85% of the market's loss. So, if the market was up 10%, this hypothetical strategy returned only 9.5%, and if the market was down 10%, the strategy returned -8.5%.

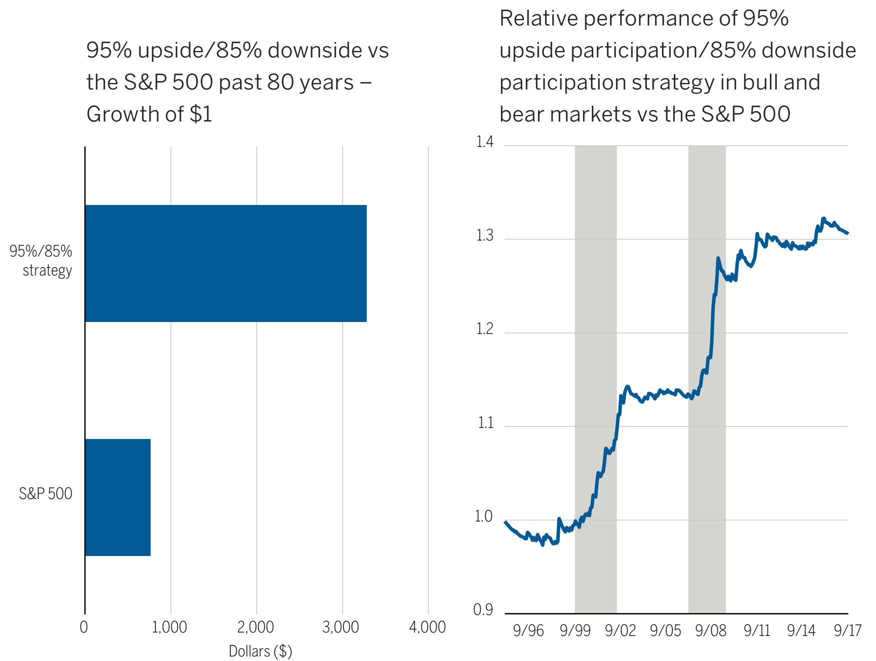
As the left side of **Figure 1** shows, at the end of the period, the cumulative value of $1 invested in the 95/85 strategy was more than four times the value of $1 invested in the market. The strategy produced annualized hypothetical returns more than 2% above the market's returns. Couple this with a standard deviation of returns that was 10% less than that of the market, and the reward-to-risk of the hypothetical 95/85 strategy was a staggering 37% higher than the market.

The 95/85 strategy did not appear to lag in strong bull markets.

In addition, the 95/85 strategy did not appear to lag in strong bull markets. To demonstrate this, we compared the cumulative returns of the 95/85 strategy and the market since 1995, a predominantly bullish period (right side of **Figure 1**).

Figure 1

The value of outperforming in down markets



Left-hand chart: cumulative returns for the 80 years ended June 2017; right-hand chart, cumulative relative performance January 1995 – June 2017 based on monthly returns. The 95%/85% strategy is hypothetical, shown for illustrative purposes only, and is not representative of an actual account managed by Wellington Management. Hypothetical returns were calculated with monthly S&P 500 Index returns. Each positive monthly return was multiplied by 0.95 and each negative monthly return by 0.85. The resulting monthly return stream was then used to calculate hypothetical performance and characteristics for the 95%/85% strategy. | Source: Wellington Management | **Hypothetical and past results are not necessarily indicative of future results and an investment can lose value. See Important Disclosures at the end of this paper.**

Not surprisingly, the 95/85 strategy performed much better than the market during major market stress episodes over this period: the tech-bubble meltdown early in the new millennium, the global financial crisis of 2008,

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and the safety trade of 2011. What was surprising to us is that the 95/85 strategy held its own despite lagging in every up month of the bull market of the 1990s (when the market was up 28% annually), the post-tech-bubble era of 2003 to 2007 (when the market was up 13% annually), and the post-crisis era that started in March 2009 (the market was up 18% annually from March 2009 through September 2017).

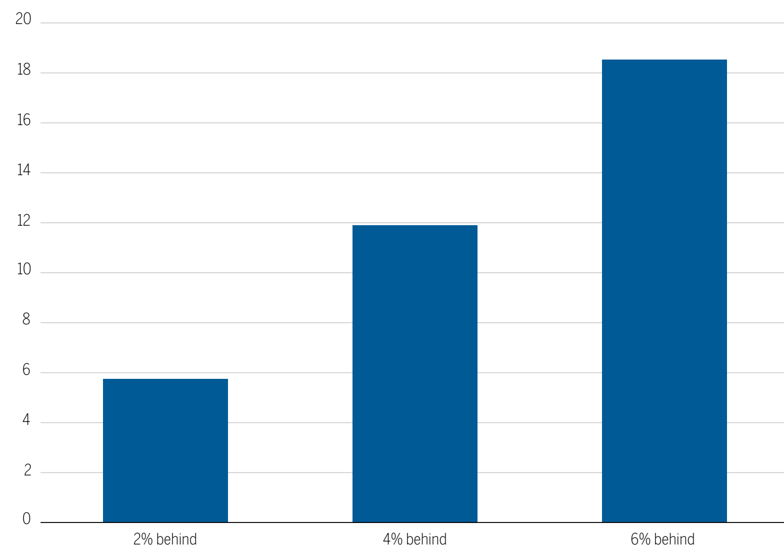
How was the strategy able to keep pace with the market despite lagging in these up months? The answer is compounding. Its value is clear when positive returns are involved. For example, if you earn 10% annually for 10 years, you don't just double your money (10% x 10 years), you end up with a cumulative return of almost 160% because each year's gains build on the previous year's gains. However, when negative returns are thrown into the equation, the power of compounding becomes the enemy. For example, assume an investor earns 10% in every odd year and loses 10% in every even year. After 10 years, the investor has actually lost about 5% because the gains in the up years didn't rise enough to compensate for the down years.

Excess returns work similarly. To illustrate, **Figure 2** shows how much a strategy would have to outperform to get back to even if it lagged the market by 2%, 4%, or 6% when the market was down 40%, a decline comparable to what we saw during the 2008 financial crisis. For example, if a strategy lagged by 2% when the market was down 40%, it would need to outperform by about 6% to get back to even. If it lagged by 6%, it would need to outperform by a whopping 18% to match the market return.

Figure 2

The value of outperforming in down markets

Alpha required to make up for lost ground in a down 40% market (%)



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If a strategy outperforms in down periods, it may not even have to keep up with the market in up periods to compound its advantage.

So if a strategy outperforms in down periods, it may not even have to keep up with the market in up periods to compound its advantage. For example, if it outperformed by 6% when the market was down 40%, it could actually lag by 10% when the market recovered and still be ahead.

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A very high percentage of top-quartile managers in a variety of market segments have outperformed in down markets.

Even in bull markets, there are down periods when outperforming can make all the difference. Since the current bull market began after the 2008 financial crisis, there have been six drawdowns of more than 10%. By reducing losses during these volatile periods, the hypothetical 95/85 strategy was able to keep up in what were otherwise very strong periods in the market.

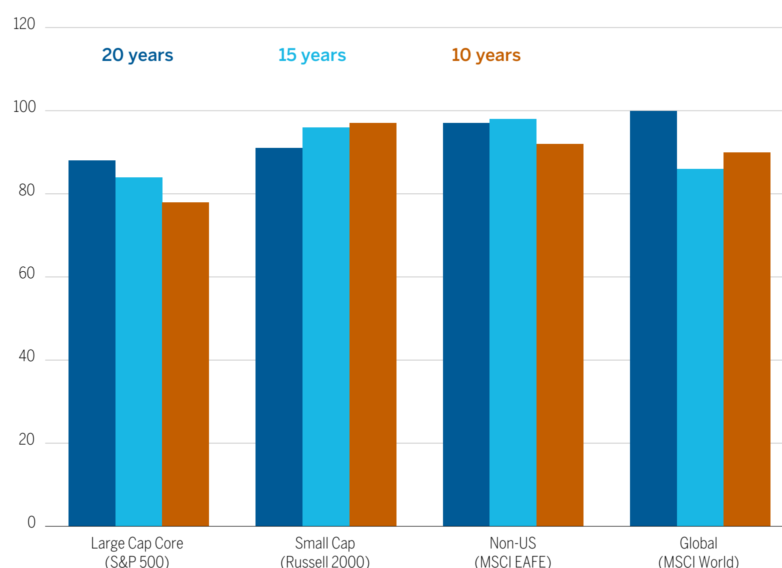
The importance of downside risk mitigation: Empirical evidence

A very high percentage of top-quartile managers in a variety of market segments have outperformed in down markets. Using eVestment's database, we calculated the downside capture for top-quartile managers across a range of categories over the past 10, 15, and 20 years. **Figure 3** shows the percentage of top-quartile managers in each category who outperformed in down markets, meaning they had downside capture of less than 100%.

Figure 3

Downside mitigation matters in most markets

Percentage of top-quartile managers who mitigated risk in down markets



As of 31 December 2016 | Down markets are defined as months with negative absolute performance for a specified Index. A manager who mitigates risk in down markets (i.e., generates downside capture of less than 100%) would have outperformed the index during such months. Categories are based on eVestment definitions and include the top-quartile managers for each period based on relative performance. Indexes are commonly used benchmarks for each category, selected to best represent each applicable group. **Past results are not necessarily indicative of future results | See Important Disclosures at the end of this paper**. | Source: eVestment

For example, more than 75% of top-quartile large-cap core equity managers, and over 90% of small-cap managers, had downside capture of less than 100% over the longer-term time periods evaluated in **Figure 3**. (Annualized returns for the different time periods and market segments we examined averaged 7% – 10%, which is consistent with long-term averages.[2]) The degree of downside capture varied but was fairly consistent across the different peer universes.

We think this is even more remarkable when taking into consideration the fact that adding value through stock selection can be much more challenging in down markets. This is because managers tend to be overweight

[2]Sources: eVestment, Wellington Management

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Low-volatility strategies have historically performed well in most down markets, but can often have a high degree of interest-rate sensitivity.

stocks with high idiosyncratic risk, which are generally shunned in risk-averse markets. Further, in extreme down markets, correlations across stocks tend to rise, in turn reducing the opportunity for a manager to add value. Conversely, in rising markets, correlations generally fall, creating an environment in which managers may have a greater ability to add value through security selection. We believe that what enables top-quartile managers to truly shine, therefore, is a combination of style-driven protection in down markets and strong stock selection in up markets.

Should sponsors offer a standalone low-volatility menu option to mitigate downside risk?

Low-volatility strategies have historically performed well in most down markets. A hidden danger in such approaches is that they can often have a high degree of interest-rate sensitivity.

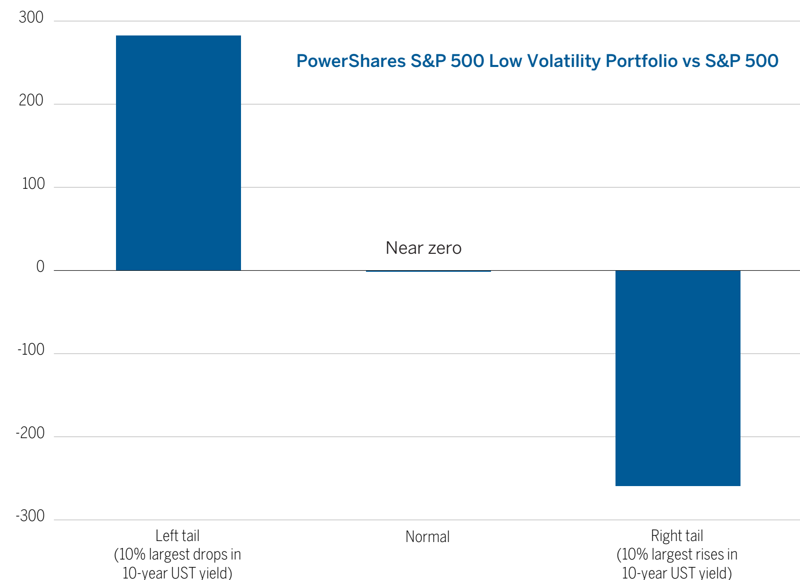
Figure 4 displays the excess return of the S&P 500 Low Volatility Index relative to the overall S&P 500 and Russell 1000 indexes on a monthly basis over the five years ended 30 June 2017. Results are sorted by periods when the 10-year US Treasury yield fell the most (left tail), rose the most (right tail), and all other periods ("normal"). The low-vol index outperformed by more than 3% on average during the months when the 10-year yield fell the most (left tail), but lagged by about 2% on average during months when the 10-year yield rose the most. With this in mind, we think a rising-rate environment, which we may be entering, poses a significant risk to low-volatility investments.

Figure 4

Low-volatility stocks in various interest-rate environments

Five years ended 30 June 2017 (monthly observations)

S&P 500 Low Volatility Index versus S&P 500 Index



S&P 500 Low Volatility Index proxied by the PowerShares S&P Low Volatility Portfolio, which is designed to replicate the index. This portfolio is cited for illustrative purposes only; its use in this illustration is not intended to constitute investment advice or as a recommendation to buy or sell any security. There is no representation that any Wellington portfolio includes this security. | **Past results are not necessarily indicative of future results and an investment can lose value**. | Sources: MSCI, Barra, Wellington Management

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We believe defensive strategies should include not only low-volatility investments but also a variety of other styles and techniques, partly to mitigate interest-rate risk.

Augmenting low-volatility investments with less interest-rate-sensitive defensive approaches

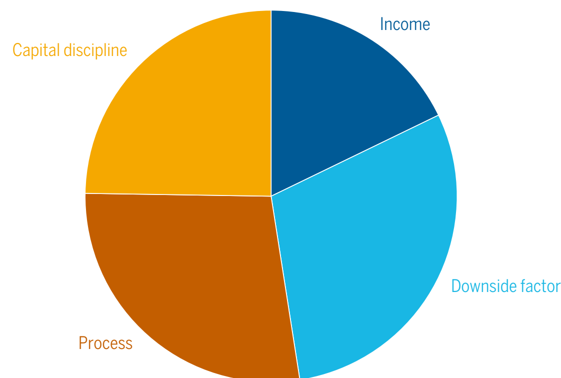
We believe defensive strategies should include not only low-volatility investments but also a variety of other styles and techniques, partly to mitigate interest-rate risk. Examples are strategies focused on quality or dividend growth, with a philosophy that leads them to companies that may perform well in down markets. An evolving and eclectic category of strategies that fits this profile is one that focuses on what we call "consistent capital compounders." These are companies that generate consistent free-cash-flow growth due to the nature of their industry, their management approach, or actions they take, such as judicious use of capital.

Strategies with a portfolio-management process that may be well suited to mitigating downside risk in specific investment universes, such as deeper value and more aggressive growth areas of the market, can also be useful. For example, deep-value strategies may avoid companies with balance-sheet leverage and the financing risk that goes with it, and focus instead on operating risk. In a rapidly rising market, these extreme pro-risk segments are often the only parts of the market to outperform. Low-volatility strategies have historically experienced their worst relative performance in such environments; they can easily lag by 20%, as many did in 2009 and 2013. That is why we think it's critical to have exposure to a diverse set of process-based downside-risk-mitigation strategies to keep up in quickly rising markets.

These different downside-oriented strategies can be combined using hypothetical stress testing and market environment tools to assess the probability of outperforming in a down market. (**Figure 5** is an example of this kind of blend.) Moreover, their weightings can be dynamically adjusted based on market conditions and valuations.

Figure 5

A diversified approach to downside risk mitigation



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Through this combination of active managers and factor portfolios, we seek to provide a consistent level of outperformance in a cost-effective way.

Another key consideration in mitigating downside risk is that it is virtually impossible to predict in advance whether a style will behave as expected. For example, value strategies did a remarkable job of lessening risk during the dot-com meltdown of the early 2000s but were completely ineffective during the 2008 financial crisis. Given their rate sensitivity, low-volatility strategies could underperform in a down market — the opposite of what's typically expected — if the down market is accompanied by rising interest rates.

A multi-factor, "belt-and-suspenders" structure focused on seeking downside mitigation has the potential to not only produce strong outperformance in down markets but also to keep up in rapidly rising markets. We think of it as "set it and forget it low vol" in that one doesn't need to time the market, as may be required to avoid drawdowns with traditional low-volatility-index approaches. We also believe a multi-faceted approach can help reduce interest-rate sensitivity and may significantly lessen the risk of a single approach to protection not working as expected.

Our downside-mitigation solution: US Downside Leaders

Wellington's Investment Strategy Group has expertise in risk management, manager research, and capital allocation, which we combine with the stock-picking skill of the firm's portfolio teams in multi-factor solutions. Our downside-risk-mitigation approach, called US Downside Leaders, is just such a solution, seeking to significantly outperform in down markets while keeping pace in up markets. This broad-market US strategy combines actively managed portfolios that tend to mitigate downside risk due to their process or style with complementary factor portfolios that have a history of protecting in down markets.

In constructing this approach, we look for:

- Independent strategies with high active share and high alpha potential
- Strategies with a distinct element of downside risk mitigation
- Factor portfolios with a history of protecting in down markets
- A diverse, complementary mix of styles and techniques so that alpha generation is possible in many different markets

More specifically, we aim to identify differentiated or high-conviction managers who have philosophies aligned with capital preservation within their area of expertise. While letting managers focus on their core competency — alpha generation — we apply risk-management tools that are independent of alpha generation, taking steps to ensure diversification across risk factors in the overall portfolio while maintaining a downside orientation and high alpha potential. In that effort, we use downside-oriented factor portfolios whose risk profiles complement those of the highly idiosyncratic active strategies. Through this combination of active managers and factor portfolios, we seek to provide a consistent level of outperformance in a cost-effective way.

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Conclusion

Low-volatility strategies have helped to mitigate risk in many market declines over the past decade, but they have also given a lot of their advantage back in rising, pro-risk markets and have significant interest-rate risk at this stage in the cycle. Every risk event is different, and one strategy rarely performs well in all environments. That is why we think a multi-manager, multi-factor approach — one that combines high-active-share active approaches that can potentially outperform in rising markets with cost-efficient factor exposures that typically do relatively well in down markets — is a sensible way to mitigate downside risk for participants over the long term.

Important disclosures

Figure 1 – 95/85 upside/downside hypothetical portfolio

The performance presented is hypothetical and is not representative of an actual account. Hypothetical performance is developed with the benefit of hindsight (i.e., actual knowledge of market conditions, results of similar strategies) and thus has many inherent limitations. No representation is made that any strategy or account will or is likely to achieve profits or losses similar to those shown herein. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently realized by any particular trading program. Except where indicated, hypothetical performance results are gross of commissions and other direct expenses, advisory fees, custody charges, withholding taxes, and other indirect expenses. Returns shown are total returns but do not include reinvestment of dividends. If all expenses were reflected, the performance shown would be lower. Actual fees will vary depending on, among other things, the applicable fee schedule and account size. For example, if US$100,000 was invested and experienced a 10% annual return compounded monthly for 10 years, its ending value, without giving effect to the deduction of advisory fees, would be US$270,704 with an annualized compounded return of 10.47%. If an advisory fee of 0.95% of average net assets per year was deducted monthly for the 10-year period, the annualized compounded return would be 9.43% and the ending dollar value would be US$246,355. Information regarding the firm's advisory fees is available upon request.

Figure 3 – Definitions of categories used in analysis

The categories used in the "Percentage of top-quartile managers mitigating risk in down markets" chart are based on the following eVestment classifications: Large Cap Core = Actively-managed US Equity products that primarily invest in a mixture of growth and value large-capitalization stocks. Common benchmarks for this universe include the Russell 1000 and S&P 500. US Small Cap = Actively managed US Equity products that primarily invest in a mixture of growth and value small-capitalization stocks. Common benchmarks for this universe include the Russell 2000 and S&P 600. Non-US = Actively managed EAFE Equity products that primarily invest in a mixture of growth and value large-capitalization stocks. Common benchmarks for this universe include the MSCI EAFE and MSCI World ex-US. Global = Global, All Country World Index, or Global ex-Japan Equity products inclusive of all style, capitalization, and strategy approaches.

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