Strategic Investment Group®

Fiduciary Insights

HOW RISK MANAGEMENT ADDS WEALTH

INVESTORS INSTINCTIVELY ASSOCIATE RISK CONTROL WITH AVOIDING LOSSES. But limiting risk is also a way to build wealth, especially when combined with systematic, informed risk budgeting constraint.

Introduction

Some investors, while embracing risk management, have largely focused on downside protection in their understanding of risk analysis. But risk control is not simply about avoiding the perils of aggressive investing; controlling risk can actually add to the accumulation of wealth in a portfolio. The proper allocation of risk, using a risk budget, can greatly enhance returns within a given risk limit, which increases the compound growth rate of wealth.

Investors tend to view the risk/return relationship as a trade-off in which pursuing higher long-term returns requires tolerating more risk. This oversimplifies the role of risk within the portfolio. Lower risk — in the form of reduced volatility — can actually lead to greater median expected wealth in the long run. Even investors who are not concerned with absolute loss in the short-term should pay attention to volatility and its impact on long-term return.

The High Cost of Volatility

Exhibit 1 illustrates the hypothetical effect of volatility on an investment with an assumed 7.5% arithmetic return. When viewed in terms of a compound annual growth rate (CAGR), or geometric average, the deleterious effect of volatility is readily apparent.

In this illustration, reducing risk from 15% to 10% while holding arithmetic return constant increases the compound rate of growth (geometric return) from 6.4% to 7.0%. The difference between the two return measures is referred to as "volatility drag." As the variability of returns increases, so does the volatility drag, reducing the portfolio's terminal wealth.

This effect is more pronounced when withdrawals are factored in. Exhibit 2 shows the results of a simulation in which $100 is

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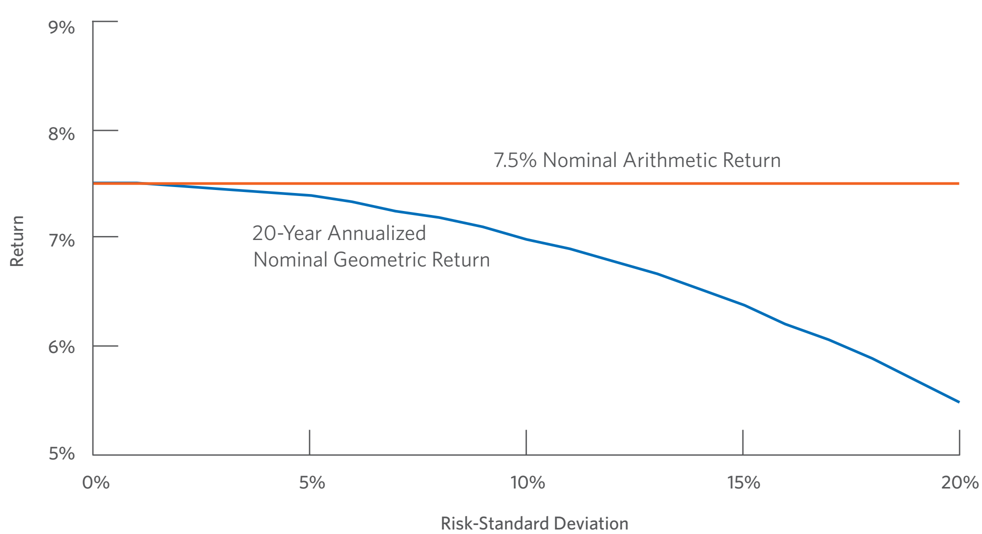
EXHIBIT 1*:
The Effect of Volatility on Return
Key assumptions: Volatility reduces geometric return.



invested for 20 years at a 7.5% nominal expected arithmetic return, with $5 annual withdrawals increasing at an inflation rate of 2.5%. Although raising the risk tolerance of the portfolio widens the potential return distribution, it also reduces the median terminal wealth. Conversely, lowering volatility, if achieved without significant degradation in average arithmetic return, increases the median terminal wealth.

The lesson is not that investors should minimize risk to maximize the compound rate of growth. It is that investors seeking higher returns should add risk efficiently. Risk is an essential component of investing, but the efficient allocation of risk within the portfolio is vital.

Diversification can reduce portfolio volatility. When different assets are not perfectly correlated, diversification allows the addition of riskier assets while maintaining the desired level of total portfolio risk. The best way to manage diversification is to develop and use a system for budgeting risk. This allows the investor to focus on taking risk only where reward is likely and to mitigate the effect on total portfolio volatility by taking uncorrelated "bets."

Role of Risk Budgeting

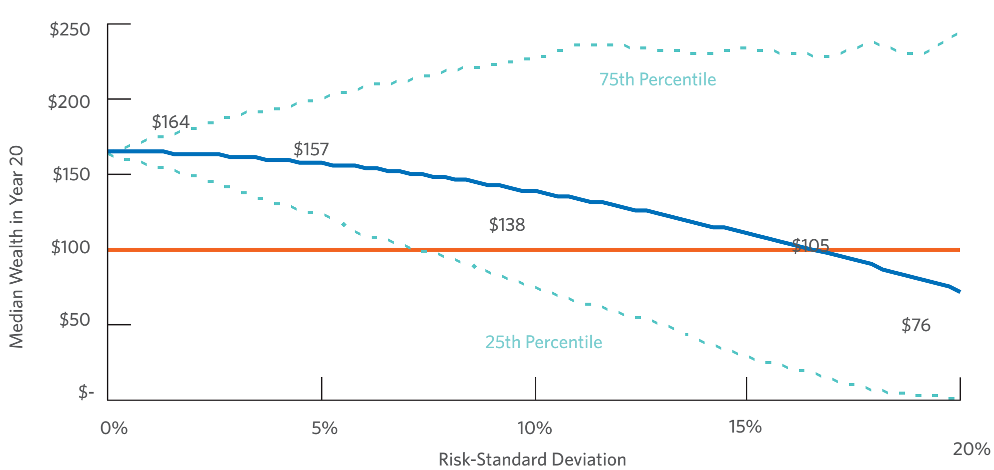
Risk budgeting is a method of allocating risk. Essentially, it is an accounting system for risk which imposes quantitative discipline on the use of diversification, with the objective of managing risk efficiently. By enabling us to identify risk, return, and diversification opportunities, it helps us to identify the best potential risk/return trade-offs, to extract more return per unit of risk, and to squeeze more compound growth and, therefore, terminal wealth out of a portfolio. Squeezing more return out of a portfolio can be very valuable. Exhibit 3 shows the hypothetical increase in the dollar value of three differently sized portfolios ($250 million, $500 million, and $750 million) resulting from increasing annual return from 7.5% to 8.5%. The ability to get more return per unit of risk adds powerfully to ending period wealth.

The issue facing investors is how best to maximize the potential returns within a given risk budget. One increasingly popular method involves the separation and independent

EXHIBIT 2*:

The Effect of Volatility on Wealth

Key assumptions: Volatility reduces median terminal wealth.



management of alpha and beta pools. Separating alpha from beta allows an investor to spend less of the risk budget on beta allocations and more on alpha allocations, where market inefficiencies offer a greater return for a given level of risk.

In a typical pension portfolio, roughly 80-90% of the total contribution to variance comes from equities. If long-only active equity management is not a reliable and consistent source of alpha, some of the risk it produces should be allocated elsewhere. This is especially true if capital markets are poised to deliver lower-than-historical returns, as many market observers believe.

Many alternative assets, as individual investments, are risky. However, the volatility of a well-diversified basket of hedge funds may be lower than that of a group of highly correlated equity managers. Alpha is much more diversifiable than beta. Moreover, the basket of hedge funds may reduce total portfolio risk while contributing compelling returns.

The low correlations of alternative investments and specialized strategies to the traditional beta markets allow an investor to reallocate assets from beta to alpha without adding additional risk. If beta allocations are necessary to keep a portfolio in line with investment policy, futures overlay strategies can be used to maintain desired beta exposure while simultaneously exploiting alpha opportunities.

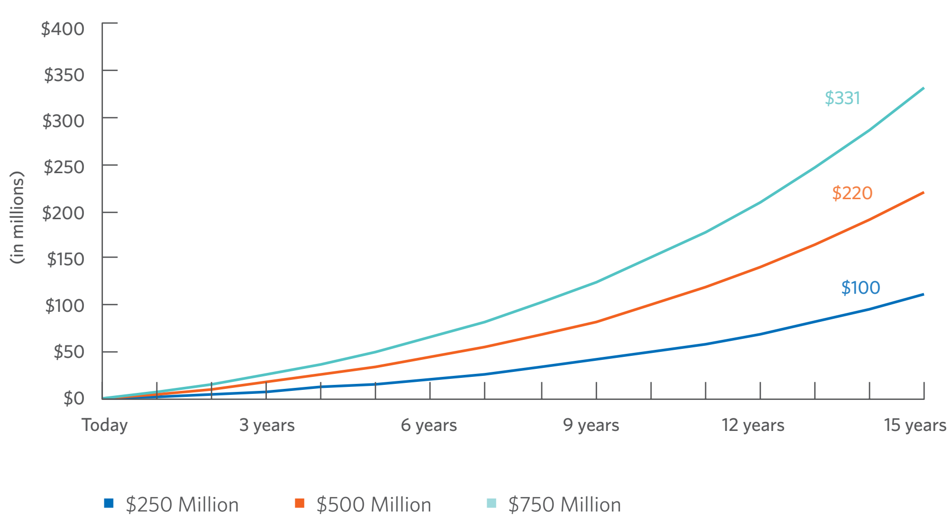
These alpha opportunities are not limited to alternative asset classes. The potential for excess returns may arise in certain quarters of conventional asset classes, such as in the small cap segment of the non-U.S. equity market where market coverage is not as widespread as in the large caps and in which skilled managers may be able to add alpha consistently. Likewise, niche strategies in the high yield fixed income sector may provide opportunities for managers with specialized skill sets to produce extra return.

Risk budgeting is an accounting system for risk which imposes quantitative discipline on the use of diversification, with the objective of managing risk efficiently.

Conclusion

Risk management is a useful tool for maximizing returns and wealth, and not just a way of protecting investors from undue losses. Budgeting risk efficiently between beta market investments and alpha-producing assets is as important as the level of total portfolio risk. The compound growth of wealth is further enhanced when risk budgeting successfully delivers alpha within a volatility controlled portfolio.

EXHIBIT 3*:
Wealth Effect of One Percentage Point of Alpha
Key assumptions: Extra alpha can translate into big dollar gains.



Strategic Investment Group

Strategic, a pioneer in dedicated Outsourced CIO (OCIO) solutions since 1987, offers a comprehensive service platform for managing customized portfolios for institutional and private investors. Our proprietary process combines active portfolio management, rigorous risk management, and open architecture manager selection.

Strategic functions as our clients' investment partner and co-fiduciary, effectively becoming an extension of their resources. Clients are then free to focus on their core businesses, while we focus on providing the highly specialized portfolio management expertise that clients need to meet their investment goals. Depending on a client's needs and preferences, Strategic can orchestrate the management of an entire portfolio comprising multiple asset classes, focus on specific asset classes, such as alternatives (e.g., hedge funds, real estate, and/or private equity) or international investments, or manage strategies with high potential for adding value (e.g., portable alpha through investor-friendly turnkey structures). Customized liability-driven investing (LDI) solutions, whether through an integrated total portfolio approach or a targeted long-duration strategy, are also available, as are solutions that address mission-related investment objectives.

We strive to build enduring partnerships with our clients by strengthening their investment programs through a dynamic, value-enhancing investment process, sound governance framework, and world class client service. Our mission is to empower investors through experience, innovation, and excellence.

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