Vanguard's Investment Philosophy

We Believe #2

Broad diversification, with exposure to all parts of the stock and bond markets, reduces risk.

Successful investment management companies base their business on a core investment philosophy, and Vanguard is no different. Although we offer many strategies with both internally and externally managed funds, common themes run through the investment advice we provide our clients. Indeed, these tenets have been a part of the company since our inception and are embedded in Vanguard's culture. We've distilled our philosophy into nine statements, the second of which is presented here. For Vanguard, these nine statements represent both the past and the future—enduring principles that guide the investment decisions we help our clients make.

Vanguard believes that . . .

2. Broad diversification, with exposure to all parts of the stock and bond markets, reduces risk.

Diversification is a powerful strategy for managing portfolio risk. Diversification *within* an asset class reduces a portfolio's exposure to risks associated with a particular company, sector, or market. Diversification *across* asset classes reduces a portfolio's exposure to the risks common to an entire asset class.

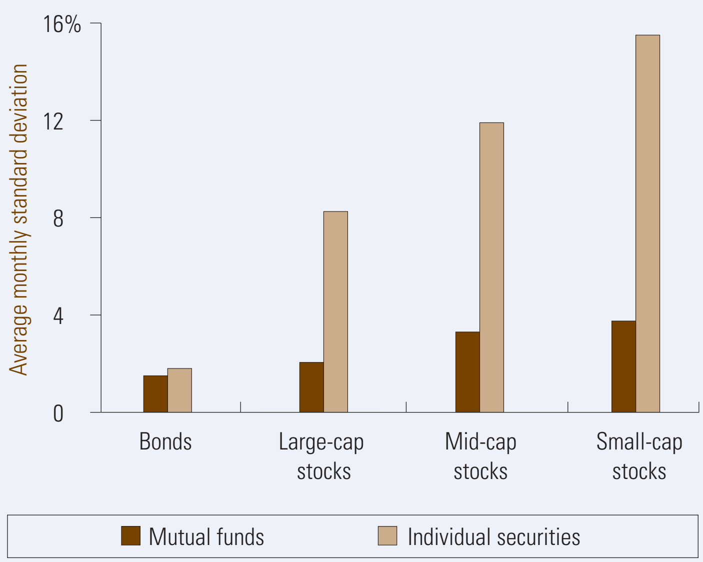
Diversification does not ensure a profit or protect against a loss in a declining market.

Diversification reduces risk

The level of diversification within a portfolio helps determine the level of volatility in the portfolio's returns. Diversification allows investors to tailor their portfolios to match their unique risk preferences. It's also a critical tool in structuring a portfolio to support a particular spending strategy. For example, if an endowment plans to spend a fixed dollar amount each year, portfolio volatility must be controlled to reduce the risk that withdrawals may occur when the portfolio's value is sharply reduced, resulting in a large erosion of principal.

In practice, diversification is a rigorously tested application of common sense: Markets and asset classes will behave differently from each other at any given point in time. Owning a portfolio with at least some exposure to all key market components ensures the portfolio of some participation in stronger sectors while also mitigating the negative impact of weaker-performing sectors.

Figure 1. Standard deviation of average monthly cross-sectional returns: Various U.S. market segments, 1994 through 2004



Sources: Vanguard Investment Counseling & Research; Center for Reseach in Security Prices; Lehman Brothers.
Note: Mutual fund data represent gross returns and exclude those of index funds.

Three levels of diversification

Diversification works on three levels within an investment program. First, within each individual stock or bond portfolio, the investor holds a number of different individual securities to reduce risk. Second, the investor holds multiple portfolios that provide exposure to different market segments and different investment strategies. These first two levels can be described as diversification *within* an asset class. Third, the investor holds a combination of stocks, bonds, and cash. This level is diversification *across* asset classes—holding a combination of stocks, bonds, and cash. The common theme among all three levels of diversification is that the combination of assets with returns that move more or less independently of one another reduces portfolio risk.

Diversification by individual company

The total return of any individual security consists of two uncorrelated components: the market, or *systematic*, return and the firm-specific, or *idiosyncratic*, return. The idiosyncratic component simply reflects the reality that each company is exposed to unique risks specific to its own business and financial situation.

In broadly diversified indexes such as the Dow Jones Wilshire 5000 Composite Index and the Lehman Brothers Aggregate Bond Index, idiosyncratic risk approaches zero. Investors whose portfolios are based on such broad indexes are subject only to systematic risks—those that reverberate through the entire market. By contrast, a portfolio made up of just a handful of securities, no matter how carefully researched, is subject to high levels of idiosyncratic risk. Figure 1 shows differences between the volatility of individual securities and diversified mutual funds in various asset and subasset classes at one point in time.

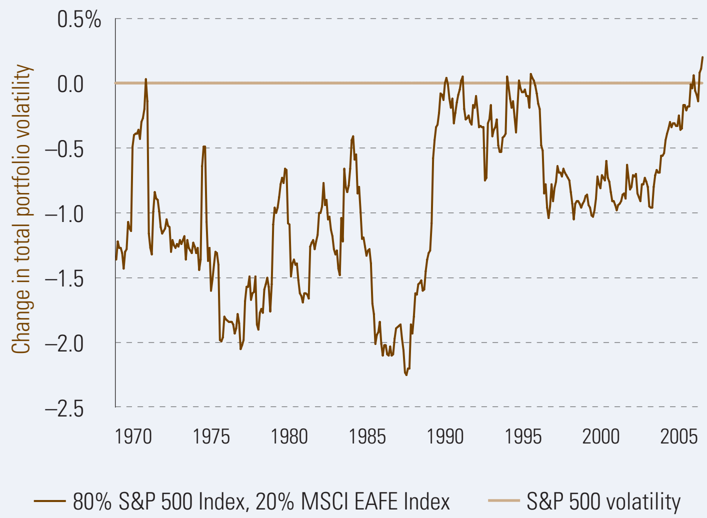
On average for various asset classes, mutual funds have far lower standard deviation than individual securities.

Academic studies (e.g., Campbell et al., 2001) have demonstrated that the number of stocks needed to provide sufficient diversification against idiosyncratic risk has increased over time.[1] Although overall stock market volatility has not changed, researchers have found that individual stock volatility has increased substantially since the 1980s. (This seeming paradox reflects the fact that although individual stock volatility has increased, the correlations among stocks have declined, moderating overall market volatility.) As the volatility of individual stocks has increased, so has the number of stocks needed to diversify a portfolio. Conventional wisdom once held that adequate diversification could be achieved with 30 stocks—"the rule of 30." In fact, 200 or more stocks are now required.[2]

Diversification by market segments

At the market-segment level, diversification implies combining a number of investment strategies in a single portfolio. Consider a portfolio that tracks the Standard & Poor's 500 Index—mostly large-capitalization U.S. stocks. The volatility of this portfolio can be reduced by adding international investments. The correlation coefficient between the S&P 500 Index and its international counterpart, the Morgan Stanley Capital International Europe, Australasia, Far East (MSCI EAFE) Index, is 0.55. (A correlation of 1 means that security prices move in lockstep; a figure of –1 implies that the security prices move inversely to one another.) A portfolio that allocates 20% of its assets to international stocks experiences less volatility than an all-U.S. portfolio over time. In Figure 2, the dark-brown line represents the difference between the volatility of an all-U.S. portfolio and a portfolio with 80% of its assets in U.S. stocks and 20% in international stocks. Although the degree of risk reduction varies over time, the more diversified portfolio is almost always less volatile.

Figure 2. Long-term impact on volatility of portfolio combining international and domestic equities: 36-month rolling change in standard deviation, 1970 through 2005



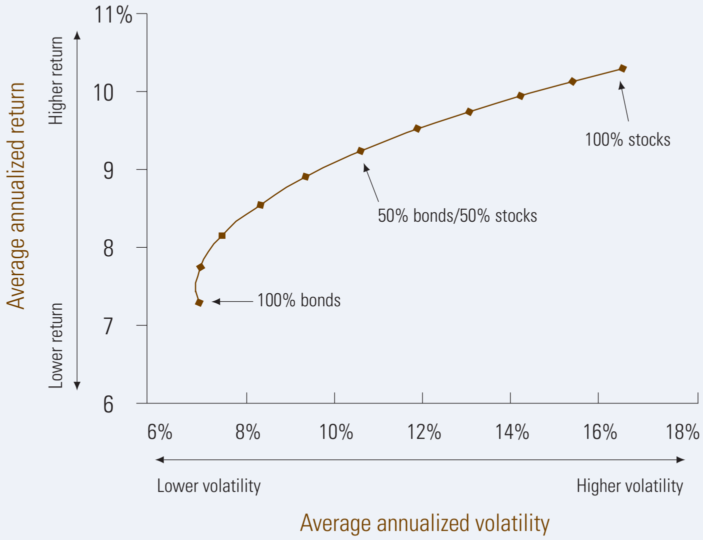
Source: Vanguard Investment Counseling & Research.

Similar diversification benefits can be achieved in a portfolio that is concentrated in a particular industry or investment style—growth or value, for example—simply by adding exposure to underrepresented market segments. The combination of investments should have segment weightings similar to those of a broad benchmark. The simplest way to achieve this goal, of course, is to invest in an index fund that tracks a broad market benchmark.

1 J.Y. Campbell, M. Lettau, B.G. Malkiel, and Y. Xu, 2001, Have Individual Stocks Become More Volatile? An Empirical Exploration of Idiosyncratic Risk, *Journal of Finance* 56 (February): 1–43.

2 Burton Malkiel and Yexiao Xu, 1999, The Structure of Stock Market Volatility (Working Paper, Princeton University, Princeton, N.J., June).

Figure 3. Evaluating portfolio risk and return: 1960 through 2005



Source: Vanguard Investment Counseling & Research.
Notes: Stocks based on S&P 500 Index from 1960 through 1970; Dow Jones Wilshire 5000 Index from 1971 through 2005. Bonds based on Ibbotson Government/Credit Index from 1960 through 1975; Lehman Aggregate Bond Index from 1976 through 2005.

Diversification by asset class

Just as diversifying within asset classes can reduce portfolio risk, so can diversifying across the primary liquid asset classes—stocks, bonds, and cash. Figure 3 shows a mean-variance efficient frontier to illustrate the risk-reduction benefits of diversifying across stocks and bonds. A 100% stock portfolio, as indicated in the upper-right-hand corner of the chart, has historically produced the highest returns, but with the highest volatility. As the portfolio allocation shifts from stocks to bonds, portfolio volatility is reduced. Although the stock/bond portfolio has a lower expected return than the all-stock portfolio, it achieves the diversification benefit of reduced volatility.

If the goal is simply to minimize a portfolio's volatility, then Figure 3 indicates that an investor should establish an allocation of approximately 80% bonds/20% stocks. Of course, the expected return of this allocation is less than that of a portfolio with a higher allocation to stocks. In the end, investors must determine the balance of risk and return appropriate for their unique circumstances. There is no universal answer.

Conclusion

Diversification is a powerful strategy for managing the risk of return volatility, allowing investors to establish portfolios with risk profiles that are consistent with their goals and preferences. Although every portfolio is subject to market risk, idiosyncratic risks are largely avoidable. Investors can diversify away firm-, sector-, and style-specific risks by investing in funds that seek to track broad market indexes. Incorporating asset classes such as stocks, bonds, and cash can also reduce a portfolio's volatility.

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