

Alley Company Commentary

Risk-Adjusted Returns: What Does it Mean?

The objective of investing is to increase the purchasing power of capital. This means that the total return after taxes from the portfolio must exceed the inflation rate. How high this “real” return is, and how risky the means of achieving it, are what investing is all about.

This commentary provides insight into how investors can think about the important relationship between return and risk as they strive to increase the purchasing power of their capital. We examine the return and risk history of several asset classes and highlight the area of investment where we believe the best risk-adjusted returns are found. Most investors understand return potential and often get wide-eyed when they hear a good story. However, a smaller number of investors understand how to meld the analysis of risk into their overall investment program. We believe that developing an understanding of the return/risk relationship in investing is critically important.

Risk Factors: Inflation and Volatility

Inflation

Some investors think of risk as the chance of loss or the actual experience of loss. Others believe that short term volatility in market quotations indicates higher risk. In reality, for the long-term investor, volatility is not the primary risk; instead, the major risk is the diminution of purchasing power from the long-term erosive effects of consumer price inflation.

A comparison of stocks and bonds is useful in analyzing inflation risk. Since stocks are claims on the earnings of real assets – assets whose value is intrinsically related to labor and capital – it is reasonable to expect that their returns will follow the growth of these assets through time. Bonds, on the other hand, while having stable nominal flows of income and relatively predictable payoffs, do not have this growth element and thus cannot fight inflation in the long run.

A study by Jeremy Siegel, professor of finance at the Wharton School, using stock and bond market data from 1802-1992, shows that for average holding periods of 1, 10, and 30 years, stocks outperform bonds on a *real return basis*. The study also shows that stocks are riskier for holding periods up to 10 years, but once the holding period exceeds 10 years, stocks actually have lower risk than bonds because of their *inflation hedging quality*. As one of the most respected investors of all time, Irving Fisher, stated, “In steadiness of real income, or purchasing power, a list of diversified common stocks surpasses bonds.”

Volatility

Viewed from a statistical standpoint, risk can be defined as the uncertainty – expressed as the variability, or standard deviation – of possible investment returns around the expected return of an asset or a portfolio of assets. In general, a high standard deviation of returns indicates a high probability that the actual return from investing in an asset will differ from its expected return. Paying attention to standard deviation is one way investors focus on risk and their own tolerance for risk, *rather than unduly concentrating on the pursuit of high returns.*

Volatility of returns is a real and psychological risk that deserves attention, primarily due to the fact that many investors do not have a long-term time horizon. As a rule, most investors' time horizons are different from one another, and therefore their tolerance for volatility will differ as well. Understanding one's tolerance for volatility becomes an important consideration in making investment choices.

Investment Choices and Risk

When making investment choices, investors must analyze return potential and risk in the context of their time horizon, inflation expectations, and tolerance for volatility, in order to fully appreciate what an investment will do for their purchasing power.

The table below encompasses a time period of 60 years, which qualifies as a long-term study. The analysis compares the annualized returns, the standard deviation of these returns, and the Sharpe Ratios for six broad asset classes.

Return vs. Risk

Asset Class	1945-2004		
	Annualized Return	Standard Deviation	Sharpe Ratio
U.S. Large Capitalization Equities	11.9%	17.2%	.424
U.S. Small Capitalization Equities	14.7%	25.7%	.393
International Equities (EAFE) *	11.7%	25.8%	.275
Emerging Markets Equities	13.4%	31.7%	.278
U.S. Long Treasury Bonds	5.8%	10.3%	.117
90 Day U.S. Treasury Bill	4.6%	3.1%	N/A

Source: Morgan Stanley, Alley Company

* EAFE is Europe, Australia, and Far East

Comparing U.S. small capitalization equities to U.S. large capitalization equities shows that small cap equities have generated 2.8 percentage points a year more in annualized return, 14.7% vs. 11.9%, but with approximately 50% more risk, 25.7% vs. 17.2%. A comparison of U.S. large capitalization stocks to U.S. Treasury Bonds, shows that while large cap stocks are more volatile, having a standard deviation of 17.2% vs. 10.3% for bonds, their returns are more than 100% better, 11.9% vs. 5.8% for bonds.

The Sharpe Ratio measures the return of an asset relative to its total volatility. It is calculated by dividing an asset's excess return above the risk-free rate – such as the 90-day U.S. Treasury Bill rate – by the standard deviation of the asset's returns:

$$\text{Sharpe Ratio} = \frac{\text{Asset's Return} - 90 \text{ day U.S. Treasury Bill rate}}{\text{Standard Deviation of Asset's Return}}$$

The higher the Sharpe Ratio for an asset, the better is its return/risk ratio, or the more attractive is that asset's *risk-adjusted return*.

As stated earlier, stocks have superior inflation hedging qualities that over time make them attractive. However, not all investors have the required long-term investment horizon, and as a result measuring risk based on volatility of returns becomes an important consideration when choosing investment alternatives.

Our belief is that investors must focus on *risk-adjusted returns* in both their individual portfolios and more broadly in their asset allocation considerations. Historically, the best *risk adjusted returns* have been found in U.S. large capitalization equities as illustrated in the Return vs. Risk table. This supports our long-held view that this asset class, defined by us as *core equity*, is the best way to achieve investment returns that can beat inflation over the long term, and thus increase the purchasing power of capital. It's not that other asset classes are unworthy of investment, but rather that *core equity* should be the centerpiece, with other asset classes blended into the asset allocation mix according to the investor's tolerance for risk.

Please visit Alley Company's website at www.alleycompanyllc.com to read commentaries on other investment topics that serve to underscore our investment philosophy.

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