Assessing Risk-adjusted Rate of Return

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Risk-adjusted Rate of Return is a performance measure that adjusts for the initial risk an investor takes at the time of a purchase.

Every investor works with risk, but if they can quantify it, they should be able to make more informed decisions about which risks are worth taking. Calculating risk-adjusted return enables investors to compare volatile stocks with steadier, lower-risk investments.

Risk-adjusted return draws on historical averages, but it's more accurate as a predictor of future returns than past performance alone—which can be misleading.

It can also indicate whether a security's returns result from considered investment decisions, or from assumptions about relative risk that may or may not be justified. This is especially useful for appraising the track records of portfolio and fund managers.

What to Do

There is no single formula for risk-adjusted return. Several versions exist, each with plus and minus points. The best one to use will depend on an investor's priorities; do they want to analyze opportunities, or to expose potential pitfalls?

Each method draws on specific data, including the rate of return of the security being considered, the market rate and its standard deviation, and the risk-free rate (typically 90-day U.S. Treasury bills for a period of three years).

The Sharpe Ratio

The *Sharpe ratio*, one of the best-known methods, describes how the volatility of a stock might affect expected return, and the potential rewards for investors prepared to take the risk. A high result reveals a good historical performance, and indicates potentially high returns in relation to the risk taken.

The formula looks like this:

(asset return – risk-free return) / std. deviation of asset return = Sharpe ratio

Example:

Suppose one investment returns 48%, while another returns 27%. At first glance, the better return is the most obviously attractive. But closer scrutiny reveals a high volatility and a low Sharpe ratio. So the other, less immediately appealing stock turns out to bet the best investment decision.

The Treynor Ratio

Another method, the *Treynor ratio*, takes the formula a little further by calculating the excess of return per unit of risk:

(asset return – risk-free return) / asset beta = Treynor ratio

Here, beta (which is calculated separately) defines the volatility of a stock by expressing its reaction to the changing marketplace. A higher beta indicates more volatility, while a lower value suggests a steadier investment.

Jensen’s Measure

Finally, *Jensen’s measure* is often used to assess whether the initial risk taken was worth the eventual reward. It’s also helpful for comparing the success rate of fund and portfolio managers with that of a market index. The formula is:

(asset return – risk-free return)—asset beta (benchmark return – risk-free return) = Jensen’s measure

What You Need to Know

- Yet another more complex formula, the *Sortino ratio*, focuses particularly on the potential downside risks of an investment.
- The values of these ratios say very little by themselves—they are only meaningful when compared with the results for other investments.
- These ratios are best used in a fairly broad context alongside other types of analysis. By themselves, they may be wide of the mark. For example, Sharpe ratios on technology stocks were high in 1999, predicting none of the volatility that followed just a year later. Similarly, it doesn’t always follow that that fund managers have shown brilliant intuition if an investment that performs steadily gives a good return per unit of risk.
- Measuring risk-adjusted performance helps investors to rank portfolios of securities as well as individual stocks, and is useful for assessing mutual funds with comparable aims.

Where to Learn More

Web Site:

Motley Fool: www.fool.com