

Efficiency Ratio: A New Methodology for Performance Measurement

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For a long time, performance measurement simply meant computing the historical returns of portfolios. This task, although simple in its formulation, is not trivial because of the presence of inflows and outflows. Their consideration in the computation was not standardized, resulting in spurious performance comparisons. Then, standardized definition of the time-weighted rate of returns (TWR) put some order into the matter.

After the work of Markowitz [1952], it became clear that performance measurement must take into account not only the return but also the risk. The use of risk as an integral part of the performance made it even more difficult to compare portfolios, since two-dimensional measures offer only a partial ordering. Sharpe succeeded in reducing this dimensionality with introduction of the security market line, based on equilibrium theory and the capital asset pricing model (CAPM). The Sharpe ratio has found broad acceptance, and continues to be today's world standard for risk-adjusted performance, although it is not immune to criticism.¹

The Sharpe ratio considerably improves the fair comparison of portfolios, which is one of the main goals of performance measurement. In fact, performance comparison is so fundamental that both methods and presentation have been standardized.²

The *efficiency ratio* methodology that we introduce is a contribution toward more transparency and universality in performance mea-

surement and performance comparison. All comparisons accomplished with today's methods are relative in nature; they tend to give an answer to the question: "What is the performance of a portfolio relative to other portfolios?" The efficiency ratio methodology tends to answer the question: "Which performance could have been achieved by the portfolio?"

Of course, the "best possible" portfolio must be defined with great care. It is not simply the asset displaying the highest return during the performance period. It must be a portfolio in the same investment universe, of the same risk level, and satisfying all the investment constraints imposed on the portfolio manager.

A simple example shows the considerable transparency that the efficiency ratio provides. In particular, we will see that its orientation toward the return potential of the investment environment of the portfolio is crucial. Exhibit 1, Panel A, illustrates a historical risk/return display of Portfolios A and B and of a comparison index. This graph provides us very little guidance as to the performance comparison of the portfolios relative to one another, or relative to the index.

We now compute the highest historical return that could have been achieved for all risk levels. Panels B and C display two different possible resulting ex post efficient frontiers. In Panel B, Portfolio B is clearly better than Portfolio A. Conversely, the performance of Portfolio A in Panel C is definitely better than that of Portfolio B.