

Benchmarking Measures of Investment Performance with Perfect-Foresight and Bankrupt Asset Allocation Strategies

ROBERT R. GRAUER

ROBERT R. GRAUER is a professor of finance at Simon Fraser University in Burnaby, BC, Canada. grauer@sfu.ca

Different measures of investment performance disagree on the absolute and relative rankings of mutual funds (see, for example, Lehmann and Modest [1987] and Ferson and Warther [1996]). Perhaps this is not surprising because even the most basic performance measures employ different measures of risk. For example, Treynor [1965] and Jensen [1968] used beta as the measure of risk, while Sharpe [1966] used standard deviation. And it is well known that studies which benchmark performance measures using passive portfolios find disagreement among the measures. Fama and French [1996] found that the absolute values of the Jensen capital asset pricing model (CAPM) alphas are larger than the absolute values of the Fama–French [1993] three-factor model alphas. Ferson and Harvey [1999], however, used conditional measures to make strong claims against the Fama–French three-factor model. The lack of agreement among the CAPM (and APT) measures of performance prompted Chen and Knez [1996] to examine what elements constitute a performance measure. Chen and Knez proposed measures that can be identified from market data and are independent of any asset pricing model. But they concluded, as have other studies, that the rankings generated by the measures can be very different.

It is also well known that performance measures suffer from a number of conceptual

problems. First, Roll [1978] pointed out that Jensen's alpha is an ambiguous measure of performance because it is unclear whether a non-zero alpha signals abnormal performance in a disequilibrium setting or simply reflects the effects of a market proxy that is not mean–variance efficient.¹ The Grinblatt–Titman [1993] portfolio change measure eliminates the problem of choosing a market proxy by gauging performance using returns and investor portfolio weights at different points in time. Second, expected returns, alphas, and betas almost certainly vary with economic conditions, especially with active asset allocation strategies. Conditional forms of the Jensen [1968], Treynor–Mazuy [1966], and Henriksson–Merton [1981] performance measures that were developed by Ferson and Schadt [1996], Ferson and Warther [1996], and Christopherson, Ferson, and Glassman [1998] attempted to alleviate this problem by making alphas and betas functions of information variables. Third, Fung and Hsieh [1997] and Lo [2001], among others, argued that the use of static performance measures gives misleading performance results for hedge funds and commodity traders who employ dynamic trading strategies, which frequently include short sales, leverage, and derivatives. Moreover, there have been attempts to adjust performance measures to allow for different types of dynamic trading strategies. For example, Fung and Hsieh addressed the problem by generalizing the Sharpe [1992] static asset-class factor model to