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On Market Timing and Investment Performance. II. Statistical Procedures for Evaluating Forecasting Skills*

The evaluation of the performance of investment managers is a much studied problem in finance. Based upon the model developed in Part I of this paper, the statistical framework is derived for both parametric and nonparametric tests of market-timing ability. If the manager's forecasts are observable, then the nonparametric test can be used without further assumptions about the distribution of security returns. If the manager's forecasts are not observable, then the parametric test can be used under the assumption of either a capital asset pricing model or a multifactor return structure. The tests differ from earlier work because they permit identification and separation of the gains of market-timing skills from the gains of micro stock-selection skills.

I. Introduction

In Merton (1981; hereafter referred to as Part I), one of us developed a basic model of market-timing forecasts where the forecaster predicts when stocks will outperform bonds and when bonds will outperform stocks but does not predict the magnitude of the superior performance. In that analysis, it was shown that the pattern of returns from successful market timing has an isomorphic correspondence to the pattern of returns from following certain option investment strategies where the implicit prices paid for the options are less than their "fair" or market values. This isomorphic correspondence was used to drive an equilibrium theory of value for market-timing forecasting skills. By analyzing how investors would use the market timer's forecast to modify their probability beliefs about stock returns, it was shown that the conditional probabilities of a correct forecast (conditional on the return on the market) provide both necessary and sufficient conditions for such forecasts to have a positive value.

In the analysis presented here, we use the

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