

MUTUAL FUND PERFORMANCE*

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I. INTRODUCTION

WITHIN the last few years considerable progress has been made in three closely related areas—the theory of portfolio selection,¹ the theory of the pricing of capital assets under conditions of risk,² and the general behavior of stock-market prices.³ Results obtained in all three areas are relevant for evaluating mutual fund performance. Unfortunately, few of the studies of mutual funds have taken advantage of the substantial backlog of theoretical and empirical material made available by recent studies in these related areas. However, one paper pointing the direction for fu-

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¹ The original work in the field was that of H. Markowitz; see his "Portfolio Selection," *Journal of Finance*, XII (March, 1952), 71-91, or the subsequent expanded version, *Portfolio Selection, Efficient Diversification of Investments* (New York: John Wiley & Sons, 1959). For extensions see my "A Simplified Model for Portfolio Analysis," *Management Science*, IX (January, 1963), 277-93, and Eugene F. Fama, "Portfolio Analysis in a Stable Paretian Market," *Management Science*, XI (January, 1965), 404-19.

² See, e.g., my "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk," *Journal of Finance*, XIX (September, 1964), 425-42.

³ For a summary of this work see Eugene F. Fama, "The Behavior of Stock-Market Prices," *Journal of Business*, XXXVIII (January, 1965), 34-105.

ture studies of mutual fund performance has appeared. Drawing on results obtained in the field of portfolio analysis, Jack L. Treynor has suggested a new predictor of mutual fund performance⁴—one that differs from virtually all those used previously by incorporating the volatility of a fund's return in a simple yet meaningful manner.

This paper attempts to extend Treynor's work by subjecting his proposed measure to empirical test in order to evaluate its predictive ability. But we will also attempt to do something more—to make explicit the relationships between recent developments in capital theory and alternative models of mutual fund performance and to subject these alternative models to empirical test.

II. IMPLICATIONS OF RECENT DEVELOPMENTS IN CAPITAL THEORY

A. PORTFOLIO ANALYSIS THEORY⁵

The theory of portfolio analysis is essentially normative; it describes efficient techniques for selecting portfolios on the basis of predictions about the performance of individual securities. The key element in the portfolio analyst's view of the world is his emphasis on both expected return and risk. The selection of a preferred combination of risk and expected return must, in the final analysis, depend on the preferences of the investor and cannot be made solely by the tech-

⁴ "How To Rate Management of Investment Funds," *Harvard Business Review*, XLIII (January-February, 1965), 63-75.

⁵ The material in this section is based on the references given in n. 1.