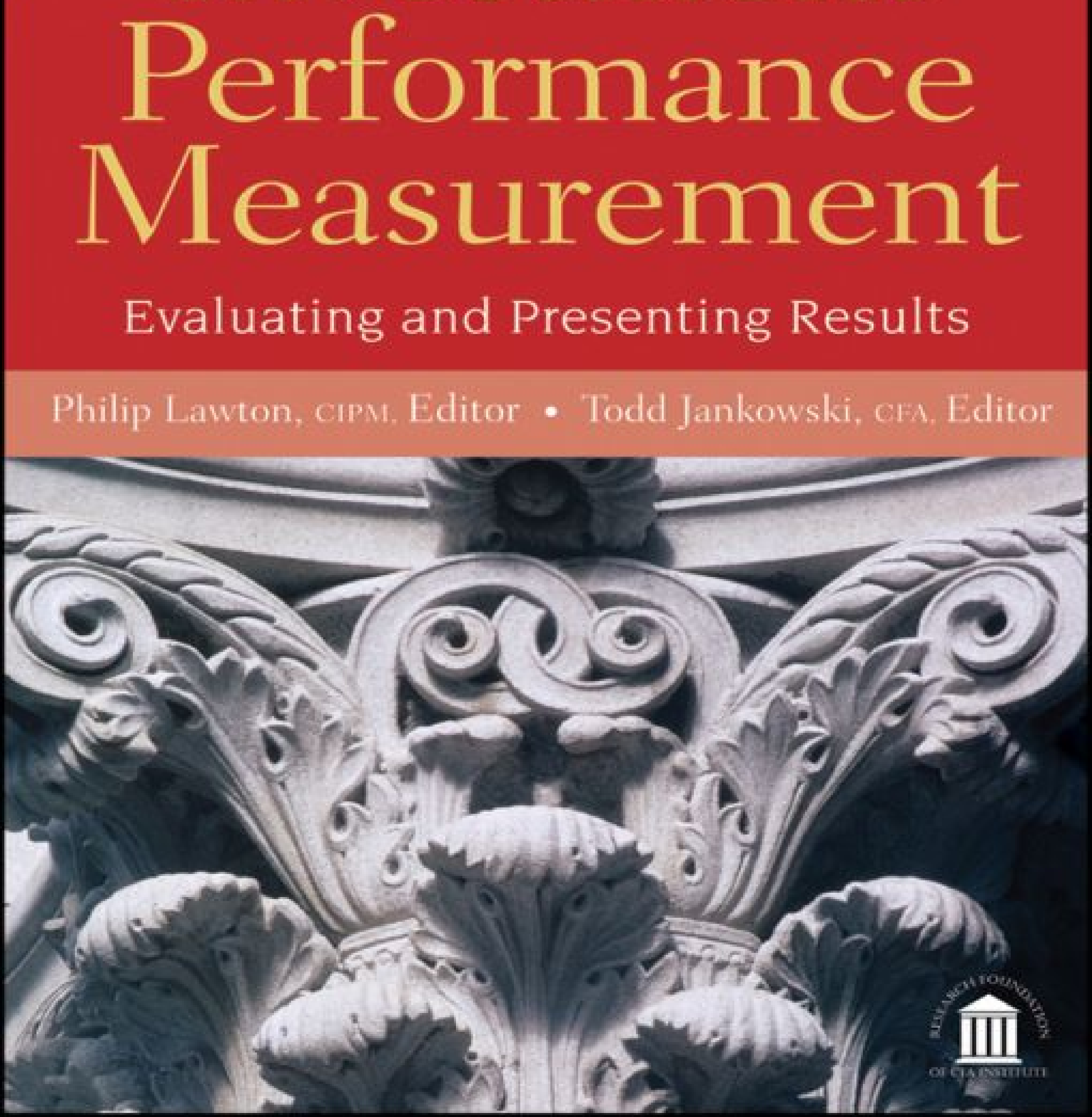
CFA INSTITUTE INVESTMENT PERSPECTIVES

Investment Performance Measurement

Evaluating and Presenting Results

Philip Lawton, CIPM, Editor • Todd Jankowski, CFA, Editor



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CFA Institute Investment Perspectives Series is a thematically organized compilation of high-quality content developed to address the needs of serious investment professionals. The content builds on issues accepted by the profession in the CFA Institute Global Body of Investment Knowledge and explores less established concepts on the frontiers of investment knowledge. These books tap into a vast store of knowledge of prominent thought leaders who have focused their energies on solving complex problems facing the financial community.

CFA Institute is the global association for investment professionals. It administers the CFA® and CIPM curriculum and exam programs worldwide; publishes research; conducts professional development programs; and sets voluntary, ethics-based professional and performance-reporting standards for the investment industry. CFA Institute has more than 95,000 members, who include the world's 82,000 CFA charterholders, in 134 countries and territories, as well as 135 affiliated professional societies in 56 countries and territories.

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Research Foundation of CFA Institute is a not-for-profit organization established to promote the development and dissemination of relevant research for investment practitioners worldwide. Since 1965, the Research Foundation has emphasized research of practical value to investment professionals, while exploring new and challenging topics that provide a unique perspective in the rapidly evolving profession of investment management.

To carry out its work, the Research Foundation funds and publishes new research, supports the creation of literature reviews, sponsors workshops an seminars, and delivers online webcasts and audiocasts. Recent efforts from the Research Foundation have addressed a wide array of topics, ranging from private wealth management to quantitative tools for portfolio management.

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INVESTMENT PERFORMANCE MEASUREMENT

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FOREWORD

Investment management firms and their relationship managers need to be able to communicate their results to clients clearly and fairly. Investors, portfolio managers, advisers, and consultants need to be able to evaluate these results and ascertain to what extent performance was attributable to asset allocation, security selection, or other decisions. Technology staff, accountants, and compliance officers also need to understand performance measurement to design and audit systems that generate these results.

The field of performance measurement has made great strides since Gray P. Brinson, L. Randolph Hood, and Gilbert L. Beebower published their pioneering work on attribution analysis in 1986 and the Committee for Performance Reporting Standards of the Financial Analysts Federation (a predecessor of CFA Institute) proposed the development of performance presentation standards in 1987. These Standards have developed progressively over the last 20 years through the work of CFA Institute and almost 30 country sponsors. Today, the Global Investment Performance Standards (GIPS®) articulate a set of industrywide ethical principles that provide investment firms with guidance on how to calculate and report their investment results. Furthermore, a professional designation program has developed for professionals desiring to specialize in this area: the Certificate in Investment Performance Measurement (CIPM®).

This volume provides the reader with the tools necessary to measure, present, and evaluate investment performance results. It is a compilation of some of the best writings on presenting and evaluating investment performance. These include articles from the Research Foundation of CFA Institute, the *Financial Analysts Journal, CFA Institute Conference Proceedings Quarterly, CFA Magazine,* and the CIPM program. We are grateful to the distinguished team of authors for sharing their knowledge with investors and investment professionals through CFA Institute.

The 41 papers included here are organized in five sections beginning with an overview and followed by sections on performance measurement (what happened), performance attribution (why it happened), performance appraisal (how the investment manager did), and the Global Investment Performance Standards (how results should be presented).

CFA Institute is pleased to present *Investment Performance Measurement: Evaluating and Presenting Results,* the second in our CFA Institute Investment Perspectives series. We hope you will find it a useful guide and resource in performance measurement.

Robert R. Johnson, CFA
Deputy CEO
CFA Institute

INTRODUCTION

Evaluating performance insightfully and presenting it fairly are crucial to the vitality of an investment firm. Security analysts and portfolio managers make decisions under conditions of uncertainty about the relative attractiveness of market sectors and individual investments; the role of performance analysts is to explain the outcome of those decisions. At its best, the intelligent feedback provided by trained, experienced performance analysts can help the firm improve its decision process and refine its investment strategies, and the performance presentations they prepare can contribute to the firm’s success in expanding client relationships and winning new business. Whether markets are rising or falling, resilient investment organizations value highly qualified performance professionals. Indeed, there is a curious countercyclicality to the demand for their expertise: It is when results are most disappointing that cogent explanations are most urgently needed.

In the chapter that opens this volume in the CFA Institute Investment Perspectives series, authors Jeffery V. Bailey, Thomas M. Richards, and David E. Tierney state that three questions arise in the process of evaluating the performance of an account—that is, a portfolio or a group of portfolios:

1. What was the account’s performance?
2. Why did the account produce the observed performance?
3. Is the account’s performance a result of luck or skill?

The first question falls in the domain of performance measurement, more narrowly defined in this context than in common usage. It is answered by calculating the account’s rate of return over the evaluation period. Rate-of-return calculations are relatively straightforward in the case of traditional, long-only equity portfolios holding assets denominated in a single currency, but they are appreciably thornier for portfolios with more esoteric strategies. Once the return of the portfolio has been determined, it remains to judge whether the results meet the client's expectations, usually by comparing the portfolio's return with the return of a valid benchmark. Bailey, Richards, and Tierney set forth widely accepted criteria of benchmark validity and useful tests of benchmark quality.

The second question belongs to the realm of performance attribution. It is answered by applying quantitative techniques to establish the sources of the portfolio's return relative to the benchmark (i.e., to determine which investment decisions added value and, of course, which ones did not). Here, too, the mathematics of attribution analysis is fairly easy to grasp in the case of single-currency, long-only equity portfolios considered over a single evaluation period, but it is more challenging for portfolios holding both long and short positions, measured over multiple periods, or invested in fixed-income securities, derivatives, and assets denominated in multiple currencies. Attribution analysis, often accompanied by portfolio characteristics analysis, enables proficient performance professionals to discern what the firm does well and not so well. It also facilitates productive dialogue with clients who may be reassured to find that the firm is investing as expected, following its mandate and adhering to its discipline even when the agreed-upon strategy is out of favor in the marketplace.

The third, and the most difficult and consequential, question pertains to performance appraisal. When conducting manager searches and monitoring managers' performance, institutional investors and their consultants seek to identify the investment firms most likely to produce consistently favorable results—firms whose track records arise not merely from fortunate timing but from the competent, disciplined execution of coherent, evidence-based investment strategies. Luck may change at any moment, whereas in stable organizations, skillfulness may reasonably be expected to persist. Because it is costly to terminate an advisory relationship and transfer assets to a new manager, investors must select managers prudently, and if portfolio returns prove disappointing, as they sometimes will, investors must attempt to distinguish between a simple run of bad luck and a much more serious lack, or loss, of skill. It is generally acknowledged, however, that investors cannot definitively establish, in a realistic timeframe, whether investment results are because of the manager's skill or dumb luck. In practice, therefore, performance appraisal commonly focuses on related and somewhat more decidable issues, to wit, determining whether the manager has taken acceptable risks and whether, over time, the investor has been adequately compensated for them.

In addition to evaluating decisions made on behalf of existing clients, performance professionals employed by investment firms are responsible for preparing presentations for the use of prospective clients. Working in close collaboration with numerous other organizations over the last two decades, CFA Institute has been a leader in developing voluntary performance presentation standards that protect the interests of prospective clients. The Global Investment Performance Standards (GIPS®) advance the ethical ideals of presenting investment results fairly and disclosing them fully. The Standards set forth minimum requirements and recommend best practices related to input data, calculation methodology, composite construction, disclosures, and the presentation and reporting of investment performance—all intended to ensure that a firm claiming compliance gives prospective clients complete and accurate information about its historical results. Now widely endorsed (and still evolving), the GIPS standards are a signal contribution to the investment industry, benefiting investors and investment firms around the world. It behooves anyone with an interest in performance measurement to become familiar with them.

The foregoing survey of the field of investment performance measurement accounts for the way in which we have organized the papers selected for this specialized collection from the wealth of CFA Institute publications. Participants in the Certificate in Investment Performance Measurement (CIPM®) program will recognize some papers from their study of the curriculum; this volume contains most of the Principles-level readings and several Expert-level readings.[a]

OVERVIEW

The "Overview" section contains the outstanding essay, previously mentioned, by Jeffery V. Bailey, Thomas M. Richards, and David E. Tierney. "Evaluating Portfolio Performance" is a masterful introduction to performance measurement, attribution, and appraisal. The authors explain the algebra of time-weighted and money-weighted rates of return, evaluate various types of benchmarks (notably including custom security-based benchmarks), present a widely used method of attribution analysis for individual portfolios and a systematic approach to attribution analysis at the total fund level, and give a well-considered account of the objectives and techniques of performance appraisal, including *ex post* risk measures, quality control charts, and manager continuation policies. To those who are exploring the field for the first time, the value of this paper is inestimable; however, we recommend it no less enthusiastically to readers long acquainted with the challenges of performance evaluation.

PERFORMANCE MEASUREMENT

The section of this book devoted to performance measurement includes only one paper on rate-of-return calculations. In his important treatment of after-tax performance evaluation, James M. Poterba argues that the return calculation methodology should capture the contingent tax liability associated with unrealized gains held in the portfolio at the end of an evaluation period. For the rest, this section centers on issues surrounding the construction and selection of performance benchmarks.

Re-published here in full, Laurence B. Siegel’s monograph “Benchmarks and Investment Management” recounts the historical development of benchmarking in the context of modern portfolio theory and judiciously addresses a range of fundamental and often contentious issues. By comparing the philosophies and methodologies of two major index providers, Christopher G. Luck illustrates how the choice of a benchmark can affect the behavior of active portfolio managers. Lee N. Price describes three progressively accurate techniques for approximating the after-tax return of a pre-tax benchmark. Arguing that generic, capitalization-weighted bond indices do not represent the true opportunity set for most fixed-income portfolios, William L. Nemerever suggests using derivative securities to construct alternative benchmarks. Brent Ambrose and Arthur Warga demonstrate that dollar-duration weighting results in significantly more reliable estimates of fixed-income portfolio yields than the conventional market-value-weighted approach. Finally, Crystal Detamore-Rodman presents the views of several