



Best Practices  
Model Portfolio  
Performance

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CFA Institute



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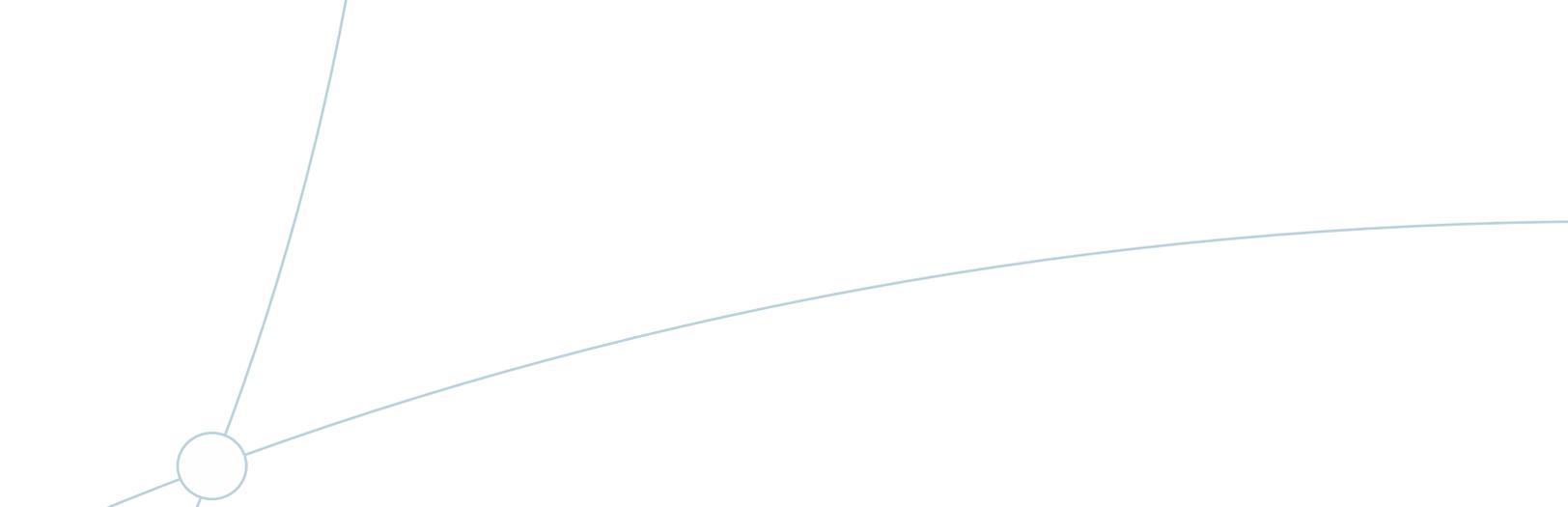
225 YEARS



# Introduction

Calculating the investment performance of an actual portfolio of assets is a relatively straightforward endeavor. Much has been written on the topic by academics and practitioners, and the Global Investment Performance Standards (GIPS®) from CFA Institute establish global ethical best practices for calculating and presenting investment performance. Investment managers will often create a model (or “paper”) portfolio to seek to demonstrate the performance of a new strategy for which they do not yet have any actual portfolios or to provide to a third-party platform that will sell the strategy to and interact with the end client.

Calculating and presenting the performance of these non-actual portfolios can be much more challenging and is filled with opportunities for bias and cherry picking. The rapid growth in the use of model portfolios recently has created competitive pressures on firms to cast themselves in the most favorable light. This pressure, coupled with the lack of industry guidance, can result in firms pushing the limits of acceptable practices related to the calculation and presentation of performance. These factors have only heightened sensitivity from the industry and its regulators as to the opportunity for misleading investors. This paper endeavors to offer guidance for asset management firms to present their model portfolio performance results in an appropriate and consistent manner.



## Purpose and Scope

The terminology used to describe non-actual performance is used interchangeably by some and discretely by others. These terms include, but are not limited to, model, hypothetical, backtested, simulated, synthetic, and theoretical performance. In order to bring clarity and consistency, we suggest definitions for these terms. The purpose of this paper is to introduce ethical best practice principles for maintaining model portfolios that are provided to a third-party platform or directly to prospective or existing clients as well as for calculating and presenting model portfolio performance. This paper will be expanded in the future to address other types of non-actual performance.

## Definitions

### **Backtested Performance**

*Ex-post* testing of an investment model to see how it would have performed historically. Backtesting attempts to demonstrate how an investment strategy, constructed with the benefit of hindsight, would have performed as if it had been implemented historically.

### **Ex-ante Performance**

Projected future performance. *Ex-ante* performance is non-actual and, as such, is hypothetical.

### **Ex-post Performance**

Performance over historic (after the fact) periods.

### **Hypothetical Performance**

Performance of a model or synthetic portfolio (i.e., non-actual performance). Hypothetical performance can be *ex-post* and/or *ex-ante*.

### **Model Portfolio**

A list of investments and transactions for an investment strategy that are not actually held by the portfolio but can be backtested over historical periods and/or run contemporaneously. Model portfolios are typically constructed using individual securities (stocks and bonds), ETFs, pooled funds, or other investment products. Also known as a paper portfolio, a policy portfolio, or a target portfolio.

### **Paper Portfolio**

See Model Portfolio.

### **Simulated Performance**

See Hypothetical Performance.

### **Synthetic Portfolio**

The *ex-post* combination of actual portfolio returns. For example, taking an actual equity portfolio and combining it with an actual fixed-income portfolio to create a synthetic balanced portfolio. The underlying performance is that of actual portfolios, but they are synthetically combined according to a prescribed asset allocation. Synthetic performance is considered to be hypothetical performance.

### **Theoretical Performance**

See Hypothetical Performance.



## Maintaining Model Portfolios

- Model portfolios must be run in real-time and not on an *ex-post* basis.
- Model portfolios must not be managed materially differently from actual portfolios and must meet all relevant operational and compliance requirements that would apply to actual portfolios (with the exception of such items as custody reconciliations that are dependent on the actual underlying portfolio assets)
- Model portfolios must be supported by books and records necessary to substantiate the reported performance, just as those items are needed for actual portfolios.
- Model portfolios must include cash.
- Firms must document their initial funding assumption and rationale (e.g., liquidity limitations of the strategy).
- Firms must document their transaction execution assumptions (e.g., all transactions are executed, without exception, on the day they are communicated using closing prices).



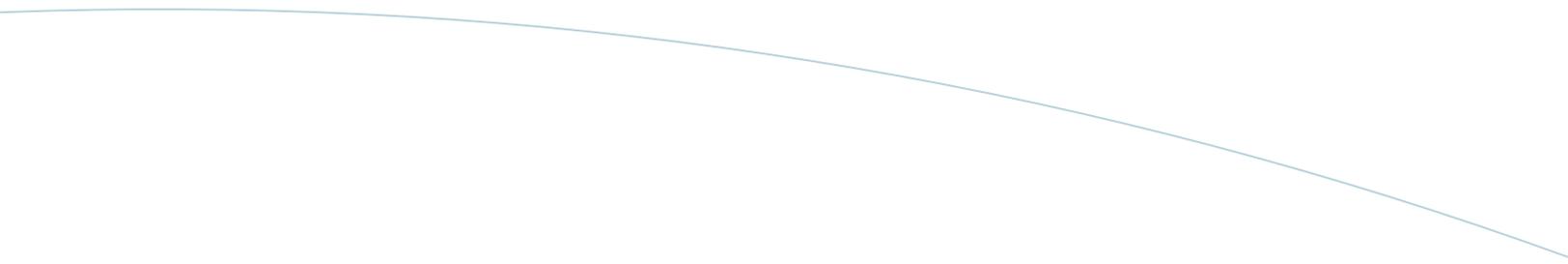
## Calculating Model Portfolio Performance

- Model portfolio performance must be calculated using the same methodology as an actual portfolio.
- Model portfolio performance should include estimated transaction/trading costs.
- Model portfolio performance should be validated by comparing the model performance with the performance of any of the firm's actual portfolios managed according to the model or as reported by the various platform providers (if available). Firms should obtain agreements with platform providers to require that reporting be provided back to the firm on the actual performance of the accounts (individually or in aggregate) on which the model has been implemented. Firms should understand any material deviations between the calculated performance and the performance as reported by the platform providers and determine whether any disclosure is appropriate.



## Presenting Model Portfolio Performance

- Model portfolio performance must not be presented in a false or misleading manner.
  - Model portfolio performance must not be mathematically or presentationally linked (i.e., shown consecutively in the same column) to actual performance. Firms must not present model and actual performance consecutively in the same column because it may be misleading. Firms may be permitted to present model and actual performance separately on the same page, provided each is clearly identified.
- Model portfolio performance must include the following disclosures, among others, made clearly and prominently:
- Performance does not represent actual returns and the interpretation of the results should take into consideration the limitations inherent in the results of the model.
  - If the model portfolio is not maintained contemporaneously, performance is constructed with the benefit of hindsight, including the ability to adjust the method for selecting securities until returns for the past period are maximized.

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- The basic description of the model, assumptions, inputs, and quantitative parameters necessary to interpret the performance results. For example,
    1. “All of the securities used in the model were available during the time period presented.”
    2. “The model assumes that the markets were sufficiently liquid to permit the types of trading used in the model.”
  - Any material changes to the model, assumptions, or inputs during the periods shown and the reasons for such changes.
  - Any material facts and material differences between any model portfolio performance and the benchmark or a similarly managed product to which it is compared.
  - The pricing assumptions made and sources used.
  - Whether model performance has taken into account advisory fees, transaction/trading costs, or other fees or charges, and if so, these should be identified.
  - The portfolio rebalancing assumptions, including frequency and process.
  - The portfolio return calculation methodology.
  - Any assumptions regarding cash balances and external cash flows.
  - The treatment of reinvestment of dividends, interest, capital gains, and withholding taxes.
  - The possibility of loss.
  - The dates over which the model performance is presented and the creation date of the model.
  - The performance of any actual portfolios managed according to the model, if any are managed by the firm.

## About the Authors

Jonathan A. Boersma, CFA, is the former Head of Professional Standards and former Executive Director of the Global Investment Performance Standards (GIPS) at CFA Institute.

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CFA Institute and State Street have partnered together to promote the highest standards of professional excellence in the financial services industry. Read more about the partnership here.

The authors welcome industry feedback on this paper. Comments can be sent to [invperformance@cfainstitute.org](mailto:invperformance@cfainstitute.org).

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