

The brief discussion of the Daily Valuation Method in the GIPS Guidance Statement on Calculation Methodology appears to recommend that when calculating the rate of return for a single day, transactions should be assumed to occur at the end of the day and included in the beginning market value of the following day.

The limited description of daily rate of return calculation does not recognize the potential for variation of returns based on the timing of flows. The description seems to imply that there is only one method available to calculate daily rates of return, when there are actually multiple methods available to estimate the timing of the flows that occur during a specific day and the rate of return that can be calculated.

First Rate Investment Systems provides clients the ability to use three different methods of estimating timing of flows within a single day: Beginning of the Day (BOD), Middle of the Day (MOD), and End of the Day (EOD). The specific calculation method used within the First Rate Performance engine is directed by the client institution based on their preference and a review of portfolio types, operational procedures and assets under management.

Beginning of the Day (BOD)

This calculation assumes that all flows for a portfolio in a single day occur before the opening of markets and are included in the beginning market value for the same day upon which the flow occurs. This calculation could be described as:

$$(EMV / (BMV + CF)) - 1$$

where:

EMV = Ending Market Value

BMV = Beginning Market Value

CF = the Net Cash Flows for the Current Day

Middle of the Day (MOD)

All flows into and out of a portfolio are assumed to occur at the midpoint of a single day in this calculation. Therefore, the net flows are divided in half, then this amount is added to the beginning market value and subtracted from ending market value of the portfolio for the same day on which the flows occurred. This calculation could be described as:

$$(EMV - (CF/2)) / ((BMV + (CF/2))) - 1$$

End of the Day (EOD)

This is the daily calculation that the GIPS Guidance Statement on Calculation Methodology recommends. This calculation assumes that all flows into and out of a portfolio occur after the market closes on that specific day and therefore subtracts the net flows for that day from the ending market value. As a result, the flows of the current day are not reflected in the market value of the portfolio for rate of return calculations until the beginning of the following day. This calculation could be described as:

$$((EMV - CF) / BMV) - 1$$

The most accurate use of these three calculations is best determined relative to when the actual flows occur throughout a day. This may be related to the actions of the client, the operational process of the investment institution or even the types of assets held within the portfolio.

For example, a portfolio holding only mutual funds would most accurately capture daily performance using the EOD calculation since all flows within this portfolio can only be recognized upon the establishment of NAVs for the assets of the portfolio after the markets have closed for that day.

In another example, rate of returns for short-term fixed income and money market portfolios are most accurately calculated using the BOD calculation due to the common operational practice of recognizing contributions made within a current day as if they happened at the start of the day.

In the situation of a portfolio with multiple cash flows during the day, the MOD calculation has the highest probability of accurately estimating the timing of flows when compared to the BOD and EOD methods; assuming that flows are distributed uniformly throughout the day.

Each of the calculation methodologies mentioned above would result in different performance returns when encountering events that are known to skew most calculation methodologies that estimate the timing of transactions – specifically, large flows and volatility in the market.

This can be demonstrated in the following example:

A portfolio holding \$1,000 in securities at the beginning of the day that receives a \$500 contribution and is valued at \$1,600 at the end of the day would generate the following performance return using the different calculation methods described above:

BOD: 6.67%

MOD: 8.00%

EOD: 10.00%

First Rate Investment Systems believes that an investment institution should have the discretion to select which of these calculation methodologies is most appropriate to estimate the timing of daily flows for their investment portfolios, and suggests that the GIPS Guidance Statement on Calculation Methodologies be modified to acknowledge at least these three different methods of daily rate of return calculation.