

Performance Is In the Eye of the Beholder

Tracking the performance of an investment portfolio can be like buying a mattress or a car. Indicators come in all shapes and sizes, numbers are always the best in the last week (or month or year or 2 hours or forever) and a semi-famous person wants you to know that if you do not act now you will be left behind and get a bad deal.

Joking aside, tracking portfolio performance is, to some extent, an ethical balancing act. On one hand it needs to be done with objectiveness and credibility. On the other hand, the portfolio manager's pay is typically directly related to the performance.

The first step to achieving objectivity and credibility in portfolio performance reporting is to make it a numbers game. Let the value and return figures take center stage and speak as much for themselves as possible. However, while numbers do not lie, they might not tell the whole truth – inadvertently, of course.

As can be seen from the small examples on the right numbers need context and consistency to bring objectivity and credibility.

Example I
Portfolio value_{before} = 100
Portfolio value_{now} = 110

$$\text{Relative portfolio return} = \frac{110-100}{100} = 10\%$$

Choosing and sticking to a frequency of return is crucial for consistency. The frequency should be high enough to capture the underlying volatility in the portfolio, but not so high that returns are dominated by idiosyncratic movements.

Example II:
Value_{1 month ago} = 150
Value_{2 weeks ago} = 100
Value_{now} = 110

$$\text{Return}_{\text{monthly}} = \frac{110-150}{150} = -27\%$$

$$\text{Return}_{\text{biweekly}} = \frac{110-100}{100} = 10\%$$

Providing context for the return figure can be helpful, but the context must be diligently selected. There is not too much relevant information in the Danish KFX index if the portfolio contains US municipal bonds.

Example III:
Return_{held portfolio} = 10%
Return_{benchmark A} = 20%
Return_{benchmark B} = -5%

However, even with numbers, context and consistency the performance track record can lack comparability, and therefore transparency. It does not help that performance is reported every 3 calendar days if everyone else, internally and externally, reports performance on a monthly basis.

If only there were some kind of standardized approach which would ensure that performance tracking was comparable across all investment managers who adopt it.

Premium Standards

Fortunately, such standards exist in the form of the Global Investment Performance Standards (GIPS), which are followed by investment managers across the world.

“The Global Investment Performance Standards (GIPS) were created and funded by CFA Institute (formerly the Association for Investment Management and Research, or AIMR®) to provide an ethical framework for the calculation and presentation of the investment performance history of an investment management firm. The GIPS standards are a voluntary set of standards based on the fundamental principles of full disclosure and fair representation of performance results.

Having one global standard for performance measurement and evaluation benefits two major groups: investment management firms and their clients and prospective clients. Investment management firms that comply with the GIPS standards allow clients, prospective clients, and consultants the best opportunity to fairly evaluate their past performance. Compliance enables a firm to fairly compete against other firms throughout the world. The GIPS standards also provide a realistic, standardized framework and outline internal controls that are necessary to ensure performance figures are directly comparable.

Prospective clients have a greater level of confidence in the integrity of performance presentations and are able to more easily compare the track records of compliant firms. Compliance with the GIPS standards demonstrates a firm-wide commitment to ethical best practices and the employment of strong internal control processes. Additionally, current clients attempting to evaluate their manager's performance also benefit from the GIPS standards. However, compliance with the GIPS standards does not obviate the need for due diligence on the part of prospective or current clients or consultants in evaluating performance data and other important qualitative research on investment managers. Through voluntary compliance, firms can build an environment of credibility and trust in the investment industry."

Source: Global Investment Performance Standards Handbook, 3rd Edition, The CFA Institute, 2012

GIPS has provisions for input data, calculation methodology, valuation principles, disclosure, presentation and reporting, as well as fundamental compliance, and thus goes considerably beyond the topic of this piece. Also, it is worth noting that compliance is neither a system nor a department level characteristic, but a trait of a whole investment management firm. All portfolios, composites and strategies have to be included and all processes, statements, reports and presentations have to comply.

Though compliance applies to the whole firm, it is made considerably more straightforward if supported by the data structure, and if analytical methodologies align with and employ the GIPS provisions.

Getting With the Program

So, what does one have to do to be compliant with GIPS? Well, the provisions are detailed, but in terms of portfolio value and return the provisions can be summarized as follows.

The value of a portfolio is defined as the market value of the assets in the portfolio, and any accrued income or dividends earned on the assets on a given day. This is also called the fair value of the portfolio. Fair value is as such a snapshot of the portfolio on a specific date.

Example IV:

$$\begin{aligned} \text{portfolio market value}_{\text{today}} &= 103 \\ \text{portfolio accrued income}_{\text{today}} &= 7 \\ \text{portfolio fair value}_{\text{today}} &= 103 + 7 = 110 \end{aligned}$$

$$\begin{aligned} \text{portfolio market value}_{\text{yesterday}} &= 95 \\ \text{portfolio accrued income}_{\text{yesterday}} &= 5 \\ \text{portfolio fair value}_{\text{yesterday}} &= 95 + 5 = 100 \end{aligned}$$

Changes in value can come from different places.

Most obvious is, of course, price changes on assets. Even if there is no trading of the portfolio – no assets are bought or sold – movement in asset prices will cause the value of the portfolio to change and this has to be captured in the return.

Example V:

$$\text{portfolio return} = \frac{\text{fair value}_{\text{today}} - \text{fair value}_{\text{yesterday}}}{\text{fair value}_{\text{yesterday}}}$$

$$\text{portfolio return} = \frac{110 - 100}{100} = 10\%$$

If there is trading of the portfolio – assets are bought and / or sold – this will cause value changes. However, when this trading occurs the value has to be adjusted so that return is still derived on an 'apples to apples' basis.

Example VI:

$$\begin{aligned} \text{Fair value}_{\text{day 0}} &= 95 + 5 = 100 \\ \text{Trade}_{\text{day 1}} &= 10 \\ \text{Fair value}_{\text{day 1}} &= 113 + 7 = 120 \\ \text{Fair value}_{\text{day 1}} &= 116 + 9 = 125 \end{aligned}$$

Without adjustment the return would not reflect how much was earned on the portfolio from day 0 to day 1, because the portfolio is not the same on day 0 and day 1, the difference being the trade on day 1. In order to get a correct return for the portfolio on day 1, the portfolio value will have to be adjusted by the value of the trade.

Since there is no trade in the portfolio on day 2, the portfolio is the same on day 1 and day 2, and therefore no adjustment is necessary on day 2.

Trades are typically recorded as cash in- and -outflows from the portfolio. Therefore the correct daily return of an actively managed portfolio is:

While daily is the recommended calculation frequency for return according to GIPS, monthly is the recommended frequency for reporting return. To get from daily to monthly return the daily returns are linked together. This is known as the Time-Weighted Rate of Return, or **TWRR**.

Now the keen reader will notice that without any trading (the portfolio is not actively managed) the monthly return is equivalent to calculating the relative change from last month end to this month end. In other words, if there are no cash flows in and out of the portfolio, it is not required to calculate daily returns.

While there are a few other methods to calculate monthly return that attempt to capture cash flows without the requirement of daily valuation of the portfolio, the monthly TWRR as described above is the only methodology that is GIPS compliant after January 1st, 2010. The only exception is if the cash flows are immaterial in size, and even then the monthly TWRR is GIPS recommended.

For certain asset classes, real estate and private equity, there are provisions to calculate the Since Inception Internal Rate of Return (SI-IRR) in addition to the TWRR. The SI-IRR is the rate of return that satisfies the equation to the right.

Avoid the Hassle

No matter if you are providing or consuming investment portfolio track records, the GIPS standards ensure clarity, context, consistency and comparability. By adopting and adhering to the standards you achieve complete

Example VII:

Without adjustment (incorrect):

$$\text{portfolio return}_{\text{day 1}} = \frac{120 - 100}{100} = 20\%$$

$$\text{portfolio return}_{\text{day 2}} = \frac{125 - 120}{120} = 4\%$$

With adjustment (correct):

$$\text{portfolio return}_{\text{day 1}} = \frac{(120 - 10) - 100}{100} = 10\%$$

$$\text{portfolio return}_{\text{day 2}} = \frac{125 - 120}{120} = 4\%$$

Example VIII:

Daily return =

$$\frac{\text{fair value}_{\text{today}} - \text{cash flow}_{\text{today}} - \text{fair value}_{\text{yesterday}}}{\text{fair value}_{\text{yesterday}}}$$

Example IX:

$$\text{Monthly return} = ((1 + \text{daily return}_{d=1}) * (1 + \text{daily return}_{d=2}) * (1 + \text{daily return}_{d=3}) * \dots * (1 + \text{daily return}_{d=\text{month end}})) - 1$$

Monthly **TWRR** =

$$(\prod_{d=1}^D (1 + \text{daily return}_d)) - 1$$

Example X:

Monthly **TWRR** without trading =

$$(\prod_{d=1}^D (1 + \text{daily return}_d)) - 1 =$$

$$\frac{\text{fair value}_{\text{this month end}} - \text{fair value}_{\text{last month end}}}{\text{fair value}_{\text{last month end}}}$$

Example XI:

Fair value_{initial}

$$= \sum_{n=1}^N \text{cash flow}_n * (1 + \text{return})^n + \text{fair value}_{\text{now}} * (1 + \text{return})$$

transparency in your track record and ensure it can be measured at an objective scale. By demanding GIPS compliant performance track records from your portfolio managers, you ensure that you get a complete and standardized foundation for assessing your portfolio. And no one gets a lumpy mattress.

Resources

- For more information about the GIPS standards: www.gipsstandards.org
- For information about performance tracking tools employing the GIPS standards, please contact us at info@FRGrisk.com

