PERFORMANCE PERSPECTIVES with David Spaulding

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Since 1990, The Spaulding Group has had an increasing presence in the money management industry. Unlike most consulting firms that support a variety of industries, we focus on the money management industry.

Our involvement with the industry isn't limited to consulting. We're actively involved as members of the CFA Institute (formerly AIMR), the New York Society of Security Analysts (NYSSA), and other industry groups. Our president and founder regularly speaks at and/or chairs industry conferences and is a frequent author and source of information to various industry publications.

Our clients appreciate our industry focus. We understand their business, their needs, and the opportunities to make them more efficient and competitive.

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MONEY-WEIGHTING AT THE SUB-PORTFOLIO LEVEL

A portfolio contains several equity securities, including XYZ Industries. At the end of April, there are 100 shares, with each share valued at $10 per share. When the stock price dips to $8.00 on the 5th of May, the manager decides to purchase another 100 shares. Ten days later, the price is now $6.00 per share. Since the manager is quite bullish about this stock, he decides to purchase another 200 shares. Five days later, the price has hit $4.00 per share. Once again, the manager sees this as a tremendous buying opportunity, and purchases 500 shares for his client. With but a few days left in the month, the price rises suddenly to end the month at $11 per share. So, what's the return on this stock, as it sits in this portfolio? You (hopefully) don't need a calculator for this one, as you should be able to figure it out in your head. The answer is quite simple: 10 percent. While you may be nodding your head, you no doubt realize that some will question this, since it doesn't make sense when we consider those additional purchases during the month that the manager made. Need proof that this is the return? Well, let's use the following, true daily rate of return formula:

$$R = \prod_{i=1}^{n} \frac{EMV_i}{BMV_i} - 1$$

and revalue the portfolio whenever a cash flow occurs:

$$R = \frac{800}{1000} \times \frac{1200}{1600} \times \frac{1600}{2400} \times \frac{9900}{3600} - 1 = \frac{1100}{1000} - 1 = 10\%$$

Remember, we're using time-weighted rates of return. And time-weighting eliminates the effect of cash flows. Therefore, those additional purchases meant nothing, as we simply compare the *starting* ($10) and *ending* ($11) values for the stock.

Back in 1971, the Investment Council Association of America (ICAA)[1] came up with their performance calculation standards. They recommended time-weighting and offered a rather simple formula (quite similar to the Original Dietz formula) to arrive at an approximation to the true time-weighted return. The reason they favored time-weighting was because money-weighted returns are impacted by the size and timing of cash flows, and since the client typically controls cash flows, it's not fair to reward or penalize a manager's return for something they didn't control.

1 Now the Investment Adviser Association.

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UPCOMING ARTICLES

But they pointed out that at the sub-portfolio level, money-weighted returns were preferred. Why? Because at this level, it's the manager who controls the cash flows. At this level, we're dealing with "internal" cash flows: buys, sells, income, and corporate actions. Since the manager is responsible for the buy and sell decisions, the ICAA felt that money-weighting was a better measure of performance.

Even though this recommendation has been out there for over 30 years, I haven't seen anyone do this; we typically see time-weighted returns being calculated at this level, just like we do at the portfolio level. AND, we often see the Modified Dietz formula being used. But if you recall, we recommend that you *revalue* portfolios when there are large cash flows.[2] In this example, we had HUGE cash flows (relative to the size of the asset) – way more than 10 percent.

The only problem I have with this recommendation (to use money-weighting at the sub-portfolio level) is that the internal flows aren't always completely independent of the client. If a client adds cash to the portfolio, the manager must invest it. Thus, some of the purchases are in response to external flows.

This being said, I'd prefer to see money-weighted returns being employed here. By money-weighted, I mean the Internal Rate of Return. We have previously touched on the argument that some feel that the Modified Dietz is a money-weighted return. I won't go into this again, other than to say that I acknowledge that the Modified Dietz is, under certain circumstances, a fine approximation to the IRR (just as it's an approximation to the true, TWRR, under certain circumstances). We'll present the money-weighted returns for this example in our next issue.

MINDING THE GAP

In our last issue, we encouraged you to let us know what you thought. Well, many of you did, as we received a record number of comments on our "Mind the Gap" segment. I want to share with you some of these e-mail messages. But first, we want to let you know of some other findings we had.

At our Spring meeting of the Performance Measurement Forum (in "Sin City"), I made a brief presentation of the "Mind the Gap" argument. Initially, many people stated that they were definitely in opposition to the notion of "closing the gap." However, several were won over to the idea. And, we learned that both Wilshire and BaseTwo bridge the gap in their software!

Mark Osterkamp of Wilshire[3] explained that they justify this in order to give credit to the manager for making these allocation decisions. Mark was kind enough to provide the following to me:

2 We recommend 10% as the threshold for "large."

3 Whose wife at the time was expecting their second child; they are now the proud parents of a future middle linebacker for the USC Trojans.

…we encouraged you to let us know what you thought. Well, many of you did…

"The example I typically use when I ferociously argue this point is as follows:

Let us assume that a TAA (tactical asset allocation) manager decides that the equity market is unfavorable in February of 2004. In January, the manager's allocation was 60% equities and 40% fixed income. During the month of February, the manager proceeds to sell out of every equity position and maintains no equity securities until December. In December, the manager decides to invest in the equity segment again. The manager's equity return for January and February was -2.1% and -1.1% respectively. December's equity return was 3.5%. The manager's benchmark return for the equity segment for the year was -15%. The manager's equity segment return for the year was 0.21% (-2.1,-1.1,3.5). The manager's decision NOT to be invested in equities was a good one and should be quantified by assuming a zero % rate of return for the periods there were no returns for that segment."

But not everyone agrees with Mark or me on this, as evidenced by some of the scathing[4] messages we got.

"I've always loved reading the Performance Perspectives because they keep me up to date to the most recent developments in the performance measurement business, and because they often contain very valuable insights. But when I received the latest (April 2005) issue, I was appalled by the 'mathemagical' slight-of-hand that was used to enable us to close gaps in performance. I really don't understand how someone with the standing and credentials the Spaulding Group enjoys, could make such a basic mistake! So what's wrong with the argument? OK, suppose that money exists in such minuscule denominations, say nanodollars (1 nanodollar = one billionth of a dollar). Well, if we admit that nanodollars may exist, then you'll probably agree that nanocents (1/100 of a nanodollar) may exist as well. Now, if we leave this minuscule nanodollar in the equity fund, and the equity fund earns 10% in the period under consideration, then we will have earned 10 nanocents in that period!! Which translates into a return of 10% just like the equity fund itself, as might be expected. That's exactly the point of calculating returns: to obtain a figure that is invariant for the size of the portfolio. And even if we did calculate a return of 0%, there would be no point in comparing it with an index that, perhaps went up by 20%. The reason why it's meaningless to close the gap, is the same as the reason why it's meaningless to compute a 5-year return for a fund that has existed for only 3 years: because there was NOTHING for which we could possibly compute a return!!I hope the following issues will be in the same spirit as the preceding ones: well-reasoned and insightful. Meanwhile, I'm curious about the reactions of the author to my points."

Whew! Talk about being upset with us. I quickly penned the following and shot it out to him:

"Thanks for your note - glad you find our newsletter of value.

4 Please excuse the hyperbole.

I was, of course, aware that there could be a return in the fund, which could impact any amount and thus result in something other than a 0% return. I should have mentioned this (and will do so in the next issue). My point was to leave something there, even a penny, that would end up being a penny at the end of the period, thus resulting in a 0% return.

I presented this idea at the Spring meeting of the Performance Measurement Forum in Las Vegas this week and was pleased by its reception, There someone also mentioned the point about a return, and again acknowledged this. I was also pleased to hear that at least two vendors (Wilshire and BaseTwo) do assume a 0% return when there's a break.

Another justification for this is that the manager who makes the decision to get out of a sector wants some credit for this; if there is no (a null) return (as opposed to a 0% return which could be linked), then no credit would be given, if in fact the sector dropped during this period (or, no penalty if the bet was wrong).

Intuitively I think there's justification for this approach and appreciate your thoughts."

He was kind enough to respond:

"Thank you for these clarifications, I guess I have been too hasty in my judgment. As a matter of fact, I now remember having 'closed the gap' myself several times in the way you suggest; namely in a performance attribution context where for some sub-period, a segment of the portfolio was empty. To my credit, however, I think there is an important difference between the justification in your reply below and the original example in the newsletter. That is, in the newsletter it was the client who decided to move out of a market. I still believe that in such a context, maintaining the original benchmark would be a violation of basic performance measurement tenets, and therefore, there would be no point in comparing the return of a non-existing asset class with the return of the benchmark for that asset class. In your example below, and in my performance attribution case, it's the manager who decides to take an active bet, and this of course is a decision that should be evaluated. And since there was no gain nor loss in the period, a zero-percent return would be the only logical possibility, I fully agree. However, I can't help feeling that the argument in the newsletter is too far-fetched, convoluted or confusing (I'm at a loss for an exact word to express my feeling about it). If you allow me to offer an alternative: we could simply extend the usual definition of a return to a definition that arbitrarily takes the value of 0% when the denominator happens to be equal to zero. The motivation for doing that would then be along the lines of for instance, defining 0! (0 factorial) as 1 in mathematics. We don't think of a very small number for which the factorial converges to 1. No, we simply define it as equal to one to obtain a formula that remains consistent when for instance we use factorials in binomial expansions. In performance measurement, the zero return would permit us to link sub-periods in a both perfectly intuitive and mathematically rigorous way. I would be happy to know your opinion about this alternative proposal, and again, my apologies for my overreaction."

Here's another response, again opposing the idea:

I wouldn't favor an "industry standard" on this, as there are valid arguments from both sides.

"I found your article regarding bridging performance gaps very interesting. This is an ongoing issue with our portfolio managers who wonder why we don't show a return for a particular segment just because there was a gap for a month or two. I am often in the position of defending this practice, on the basis of pure mathematics and performance principles.

I am so used to making this argument that I find your revised position almost sacrilegious! How can we turn our backs on the laws of mathematics and include a 0% return for a period that did not actually have a return at all? As I have said to our managers so many times, 'Zero is a number, not a void.'

I disagree with the notion that bridging the performance gap will show whether the decision to divest from the segment was beneficial or not. How can we assign a value to NOT being invested in any particular segment? What about all the other things we were NOT invested in? Can we take credit or blame for those?

As you can gather, I feel very strongly that performance numbers should only be calculated when assets are actually held. If we deviate from math and logic for the sake of convenience, we will be opening the door to all sorts of manipulation.

I enjoyed reading your article and thinking about this topic."

Fortunately, they no longer burn the infidel at the stake, so I guess I'm in luck. I must confess that on this issue, I suffered from a disorder which is often credited to politicians: coming down on both sides of an issue (I'd use the term "flip flop," but am concerned with how this might be interpreted). When first confronted by this issue, my position was identical to Mark Osterkamp's. However, as I thought more about it, I came to the same conclusion that our last writer has: that zero is a number. However, after further thought, I am now firmly[5] situated in the "it's okay to cross the gap" camp.

Not all the e-mails were in opposition to what we offered. In fact, most favored the idea. Here's an example:

"I think it would be fine to bridge the gap that was cited in the article. First, it would allow the manager to compare the zero return for that time period versus the index to determine if selling out of equities was a good decision or not. Second, it keeps the return history intact which makes sense because the manager is still responsible for managing the equity fund. There just isn't any money to manage for that time frame. It would be different if the fund terminated and then re-opened, but that is not what happened. The fund is still under management, there just isn't any money in there so it should be equal to a zero return for the period and allow a continuous reporting history for the fund."

5 "Firmly" is a relative term, of course.

KEEP THOSE CARDS & LETTERS COMING

We appreciate the occasional e-mail we get regarding our newsletter. Occasionally, we hear positive feedback while at other times, we hear opposition to what we suggest. That's fine. We can take it. And more important, we encourage the dialogue. We see this newsletter as one way to communicate ideas and want to hear your thoughts.

This is probably an area worth of written policies and procedures within the firm. I wouldn't favor an "industry standard" on this, as there are valid arguments from both sides. If you do cross the gap, then this should be documented. If there are times you do, and times you don't, then the criteria should be spelled out. When reporting to clients, you may want to make this *bridging* known, too.

Well, this was fun. Hope you found it of interest.[6]

6 I presented these ideas at our Performance Measurement, Attribution and Risk (PMAR) conference in New York this month. My friend, Iain McAra, of JP Morgan was quite taken by the idea – had there been fruit at the tables, it's possible that some would have been launched in my direction. Clearly, this is a controversial topic, worthy of further discussion and thought. Hopefully, no one will ever say "thou shall not cross gaps," while "minding the gap" is perfectly fine.

THE SPAULDING GROUP'S 2005 INVESTMENT PERFORMANCE MEASUREMENT CALENDAR OF EVENTS

DATE	EVENT	LOCATION	DEADLINE
	Performance Presentation Standards Survey and receive a copy of the results (upon completion) along with a $25 gift certificate.	Participate via our website	June 30, 2005
May 9-10	Introduction to Performance Measurement Training	San Francisco, CA (USA)	May 6, 2005
May 11-12	Performance Measurement Attribution Training	San Francisco, CA (USA)	May 6, 2005
May 16-17	Performance Measurement, Attribution & Risk (PMAR™ III)	New York, NY (USA)	May 13, 2005
June 15-16	Performance Measurement Forum	Copenhagen, Denmark	June 10, 2005
July 19-20	Introduction to Performance Measurement Training	Chicago, IL (USA)	July 15, 2005
July 21-22	Performance Measurement Attribution Training	Chicago, IL (USA)	July 15, 2005
August 8-9	Introduction to Performance Measurement Training	Bermuda	August 5, 2005
August 10-11	Performance Measurement Attribution Training	Bermuda	August 5, 2005
September 12-13	Introduction to Performance Measurement Training	New York, NY (USA)	September 9, 2005
September 14-15	Performance Measurement Attribution Training	New York, NY (USA)	September 9, 2005
October 4-5	Introduction to Performance Measurement Training	Toronto, Canada	September 30, 2005
October 6-7	Performance Measurement Attribution Training	Toronto, Canada	September 30, 2005
October 17-18	Introduction to Performance Measurement Training	Boston, MA (USA)	October 14, 2005
October 19-20	Performance Measurement Attribution Training	Boston, MA (USA)	October 14, 2005
October/ November	Fixed Income Attribution (FIA™) Symposium	New York, NY (USA)	TBA
November 9-10	Performance Measurement Forum	Brussels, Belgium	November 4, 2005
November 14-15	Introduction to Performance Measurement Training	Los Angeles, CA (USA)	November 11, 2005
November 16-17	Performance Measurement Attribution Training	Los Angeles, CA (USA)	November 11, 2005
December 1-2	Performance Measurement Forum	Orlando, FL (USA)	November 25, 2005
December 6-7	Introduction to Performance Measurement Training	Washington, DC (USA)	December 2, 2005
December 8-9	Performance Measurement Attribution Training	Washington, DC (USA)	December 2, 2005

For Additional information on any of our 2005 events, please contact Christopher Spaulding at 732-873-5700

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July 19-20, 2005 Chicago, IL
August 8-9, 2005 Bermuda
September 12-13, 2005 New York, NY
October 17-18, 2005 Boston, MA
November 14-15, 2005 Los Angeles, CA
December 6-7, 2005 Washington, DC

15 CPE Credits upon course completion

PERFORMANCE MEASUREMENT ATTRIBUTION

A day and a half devoted to this increasingly important topic. The Spaulding Group, Inc. invites you to attend Performance Measurement Attribution on these dates:

July 21-22, 2005 Chicago, IL
August 10-11, 2005 Bermuda
September 14-15, 2005 New York, NY
October 19-20, 2005 Boston, MA
November 16-17, 2005 Los Angeles, CA
December 8-9, 2005 Washington, DC

11 CPE Credits upon course completion

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