

# PERFORMANCE PERSPECTIVES

with David Spaulding



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## ESTIMATED TRANSACTION COSTS: WHY AND HOW TO

The 2020 GIPS® Standards Exposure Draft proposed allowing firms to use “estimated transaction costs.” While we have no way of knowing whether this proposed change will “make the cut,”<sup>1</sup> it's still worth touching upon. Plus, I promised to give it some thought.

### Why the proposed change?

While I cannot say for sure, I believe the idea of allowing firms compliant with the Standards stems from the use of bundled fee or wrap fee<sup>2</sup> products. These products typically involve the client paying a single fee, that includes all fees and expenses (e.g., transaction costs, management fees, commission, custodial fees).



Because transaction costs are not broken away separately, we cannot easily determine what that expense actually is. And since the Standards require firms to calculate both gross- and net-of-fee returns *net of transaction costs*, it's virtually impossible to do this without knowing what this amount is. As for gross-of-fee, since the transaction costs cannot be broken away, firms have the option of reporting “pure gross” returns as “supplemental information.” And for net-of-fee, it is common for the entire bundled fee to be used, resulting in lower returns than otherwise would be reported.

By allowing firms to estimate transaction costs, there are two huge benefits:

- For net-of-fee returns, firms will be able to net only their management fee, rather than the entire wrap fee, along with the estimated transaction costs.
- For gross-of-fee returns, firms will be able to net just the estimated transaction costs and arrive at a true gross-of-fee return.

### Estimating transaction costs comes in two parts

When planning to estimate transaction costs there are two things that must be addressed:

- What will the actual estimated transaction costs be?
- How do we implement it?

1 i.e., whether it will be part of the final 2020 GIPS Standards document, to be released on/about 30 June 2019.

2 “Wrap fee” are sometimes referred to as “separately managed accounts,” or simply “SMA.” This is unfortunate, given that this term has been prevalent for quite some time, and is not limited to bundled fee arrangements.

# The Journal of Performance Measurement®

## UPCOMING ARTICLES

### Portfolio Performance Evaluation: What Difference do Logarithmic Returns Make?

– Ralf Hudert, CIPM; Prof Dr.  
Michael G. Schmitt, CFA; and  
Prof. Dr. Michael von Thaden

### Seeing the RMD in a New Light: The Required Minimum Distribution in its Implications for Retirement Portfolio Design

– Craig L. Israelsen, Ph.D.

### Expected Rate of Return of Investments with Uncertain Timing

– Boris Klebanov, Ph.D.

### Performance Attribution of Reserve Managers with Frozen Positions Using Extensions of the Singer & Karnosky and van Breukelen Models

– Ted K. Heemskerk and  
Gerard van Breukelen

It would seem that the first issue might be difficult, but I don't think so. Let's take two different scenarios:

#### *The manager has non-wrap fee accounts investing in same securities*

In many cases, the manager who has wrap fee portfolios also has non-wrap, meaning portfolios that pay a single advisory fee and for whom transaction costs are part of each trade. In this case, the manager needs to review what these costs are and use them for the wrap fee.

The complexity comes in if the costs can vary widely across different types of securities (e.g., small cap vs. large cap, domestic vs. non-domestic vs. emerging markets). As a result, a table may be necessary to derive the appropriate costs for each security traded.

#### *The manager only has wrap fee accounts investing in certain securities*

If the manager doesn't have non-wrap fee portfolios investing in some or all the securities that the wrap fee accounts are invested in, then they don't have an internal benchmark to draw upon. Therefore, they will need to reach out to the brokers they're dealing with and ask them what the transaction costs would have been had these trades been done for non-wrap accounts.

Again, these costs may vary by market, capitalization, etc., so a table may be needed.

#### Now that we have the transaction costs, how do we incorporate them into performance?

As noted above, I had promised to address this topic. I'll confess that in my comment letter<sup>3</sup> I fully supported this change. However, when I began to ponder it I wondered how it would be accomplished.

Transaction costs come into play with trades; and the Standards don't explicitly deal with trades; rather, as you know we deal with starting and ending values and cash flows.

Let's take a really simple example where we are not able to isolate the transaction costs:

- January 1: Account holds \$100,000 in cash only.
- January 15: Account spends \$50,000 to purchase a security.
- January 31: The cash earns approximately 0.10% interest for the month while the security's value has increased by approximately 0.18 percent.

Table 1 summarizes the data.

|        | Cash       | Transaction |            | Security  | Total      |
|--------|------------|-------------|------------|-----------|------------|
|        |            | Principal   | Commission |           |            |
| Jan 1  | 100,000.00 |             |            |           | 100,000.00 |
| Jan 15 | 50,000.00  | 50,000.00   | 0.00       | 50,000.00 | 100,000.00 |
| Jan 31 | 50,074.59  |             |            | 50,090.00 | 100,164.59 |
| Return | 0.16%      |             |            |           |            |

Table 1: Holding and transaction details with no trading costs

<sup>3</sup> See [https://www.gipsstandards.org/standards/Documents/Guidance/gips\\_2020\\_exposure\\_draft\\_spaulding.pdf](https://www.gipsstandards.org/standards/Documents/Guidance/gips_2020_exposure_draft_spaulding.pdf)



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We calculate the return as:

$$R = \frac{V_E}{V_B} - 1 = \frac{\$100,164.59}{\$100,000.00} - 1 = 0.16\%$$

We now want to incorporate estimated transaction costs; in this case, the commission on the trade. We will assume that it's 0.10% of the principal amount. The principal amount won't change. However, we will need to reduce the cash amount by the commission. The result is shown in Table 2.

|        | Cash       | Transaction |            | Security  | Total      |
|--------|------------|-------------|------------|-----------|------------|
|        |            | Principal   | Commission |           |            |
| Jan 1  | 100,000.00 |             |            |           | 100,000.00 |
| Jan 15 | 49,950.00  | 50,000.00   | 50.00      | 50,000.00 | 99,950.00  |
| Jan 31 | 50,024.57  |             |            | 50,090.00 | 100,114.57 |
| Return | 0.11%      |             |            |           |            |

Table 2: Holding and transaction details with estimated trading costs

The security's value increased the same as in Table 1, and the interest income percent for cash is the same, except that there was less cash in the account for the second part of the month. As a result, the ending portfolio value is lower and we see a corresponding drop of 0.05% in the monthly return.

#### The challenges

On the surface estimating transaction costs may sound like a pretty simple undertaking, once you know the amount. However, in reality it seems to be far from that.

I think there's a temptation to come up with a fee, similar to the firm's management fee. Some percent that would be used to adjust the return each month. However, while the advisory fees are typically based on amount of assets, transaction costs are based on the individual transactions that occur; and these can vary from number and size from one month to the next.

We are essentially wanting to adjust the cash amount to reflect the additional transaction costs. Any interest that is realized in the month is based on the amount of cash, and the party who is paying this interest doesn't know or care whether there were commissions paid on the trades that were done. But we will want to adjust the cash somehow, so that the overall portfolio value will change.

#### A "simple" solution for monthly return methods

##### *No large cash flows*

I suggest that the process be a 4-step one. For each account, if a monthly return method is used:

Step 1: Inventory all trades done during the month and determine the estimated transaction costs for each one.

Step 2: Sum these costs to know the total estimated transaction costs for the month.

## KEEP THOSE CARDS & LETTERS COMING

*We appreciate the emails we receive regarding our newsletter. Mostly, 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.*

Step 3: Reduce the end-of-month cash amount by the estimated transaction costs.

Step 4: Use the adjusted cash value in the total value for the portfolio to derive the monthly return.

Table 3 provides an example.

| Date   | Original Values |              |              | Original Returns | Transaction Costs | Adjusted Values |              |              | Adjusted Returns |
|--------|-----------------|--------------|--------------|------------------|-------------------|-----------------|--------------|--------------|------------------|
|        | Cash            | Securities   | Total        |                  |                   | Cash            | Securities   | Total        |                  |
| Jan 1  | \$100,000.00    | \$250,000.00 | \$350,000.00 |                  |                   | \$100,000.00    | \$250,000.00 | \$350,000.00 |                  |
| Jan 31 | \$ 30,200.00    | \$324,500.00 | \$354,700.00 |                  | \$ 70.00          | \$ 30,130.00    | \$324,500.00 | \$354,630.00 |                  |
|        |                 |              |              | 1.34%            |                   |                 |              |              | 1.32%            |

Table 3: Example where we adjust the ending cash value and overall total for the estimated transaction costs.

We start the month with \$350,000 and found that the total estimated transaction costs are \$70. The “Original Values” reflect the case where no transaction costs were taken out; the “Adjusted Values” sees that we’ve reduced the cash amount, which results in a lower overall total portfolio value. The result is a 2 basis point drop in performance.

This approach is “simple,” because we are not worrying about the anticipated reduced interest on the now lower cash balance; this would likely be *de minimis*, and not worth worrying about.

It’s also “simple” because we are not taking into consideration the presence of “large cash flows,” which might make their way into the portfolio. It would arguably be incorrect to only adjust the end of the month values, if the presence of large flows resulted in intra-month returns.

*An external large cash flow occurs*

Consequently, if there are intra-month large flows resulting in more than one return for the month, then we need to adjust the ending cash value for each sub-period. This adjustment would result in an adjusted end-of-period cash amount. Consider the example in Table 4.

|                | Date   | Original Values |              |              | Original Returns | Transaction Costs | Adjusted Values |              |              | Adjusted Returns |
|----------------|--------|-----------------|--------------|--------------|------------------|-------------------|-----------------|--------------|--------------|------------------|
|                |        | Cash            | Securities   | Total        |                  |                   | Cash            | Securities   | Total        |                  |
| Start Period 1 | Jan 1  | \$50,000.00     | \$250,000.00 | \$300,000.00 |                  |                   | \$50,000.00     | \$250,000.00 | \$300,000.00 |                  |
| End Period 1   | Jan 10 | \$40,100.00     | \$262,000.00 | \$302,100.00 | 0.70%            | \$ 10.00          | \$40,090.00     | \$262,000.00 | \$302,090.00 | 0.70%            |
| Start Period 2 | Jan 10 | \$90,100.00     | \$262,000.00 | \$352,100.00 |                  |                   | \$90,100.00     | \$262,000.00 | \$352,100.00 |                  |
| End Period 2   | Jan 31 | \$30,200.00     | \$324,500.00 | \$354,700.00 | 0.74%            | \$ 60.00          | \$30,140.00     | \$324,500.00 | \$354,640.00 | 0.72%            |
| Full Month     |        |                 |              |              | 1.44%            |                   |                 |              |              | 1.42%            |

Table 4: Example where we deal with a large cash flow, reducing the cash position twice for the subperiod costs.

Here we see there was a single \$50,000 (i.e., large) external cash flow on January 10. And so, we break the month into two parts.

We have to determine the transaction costs for each part of the month (from the 1st to the 10th, and then for the balance of the month). The “Original Values” section reflects the case where there are no transaction costs reflected; the “Adjusted Values” has the ending period cash and total positions reduced by the transaction costs. We see that as a result there’s a 0.2% drop in performance.

You'll see that I did not adjust the starting period value for the second period. One might consider whether we should begin the second period with the adjusted ending values from the first period. Something perhaps to reflect upon.

#### A solution for daily return methods

If the firm is using daily performance, then each day they should derive the estimated transaction costs and adjust that day's ending cash and total values by these amounts.

#### In summary

Incorporating estimated transaction costs into performance is not a trivial undertaking, but is probably worth the effort. In what I propose there are two main aspects that need to be dealt with:

- Arriving at the actual transaction cost estimates
- Applying the estimates.

Transaction cost estimates can be based on the actual costs that occurred for non-wrap fee portfolios. In the absence of such trades, they should be able to be obtained from the brokers who do the trades. It is likely that there will be multiple sets of estimates, depending on the markets the firm is investing in.

As for applying the estimates, the firm needs to determine these estimates through the month. In the simplest case, where a monthly method is used and there are no large external cash flows, these estimates can be reduced from the ending cash and total portfolio amounts. When a monthly return method is used and large flows occur, then the period has to be broken up, where the estimates are applied to the end of each of these periods. Finally, when a daily method is used, then these estimates are applied on a daily basis.

Is there a simpler approach? One can only hope so. But for now, this is what I'm seeing as one way to tackle it.

The benefits of incorporating such an approach, should the ability to estimate transaction costs make its way through to the actual 2020 GIPS Standards, are that firms can avoid reporting "pure gross" returns and their net-of-fee returns can be adjusted for their fee and these costs.

Note: if you would like a copy of my spreadsheet, let us know.

## **PUZZLE TIME!**

### **January Puzzle**

This month's was submitted by our friend, Anthony Howland:

*A windowless room contains three identical light bulbs. Each light is connected to one of three switches outside of the room. Each bulb is switched off at present. You are*



### **February Puzzle**

This is quite a bit unusual: I found the idea of estimating transaction costs to be quite a puzzle. And in this edition, offered a solution.

What say you? How would you solve this puzzle? I'm hoping you can find a simpler solution.

An alternative: identify anything that is wrong with the approach I suggest.

*outside the room, and the door is closed. Before opening the door you may play around with the light switches as many times as you like. But once you've opened the door, you may no longer touch a switch. After this, you go into the room and examine the lights. How can you tell which switch goes to which light?*

Good luck!

I'll confess that my solution is probably quite weird. I'm thinking I'd put one switch on for perhaps five minutes, then turn it off. Put the second on. And then, go in and touch the bulbs. The hot bulb would be the first one I turned on. The light that's on is obvious. And, the third (or cold one) is the one I didn't touch.

I'm pleased to report that Mark Rothermel, Tom Stapleton, and Malcolm Smith all came up with the same approach, so I guess it's not so weird.

But, to make sure, I asked Anthony Howland, who provided this puzzle for us. His reply: "Quite weird' ... but correct. I think this is a great lateral thinking one - well done!!!"

## THE SPAULDING GROUP'S 2019 INVESTMENT PERFORMANCE MEASUREMENT CALENDAR OF EVENTS

| DATE                 | EVENT                                   | LOCATION          |
|----------------------|---|-------------------|
| May 21-22, 2019      | Fundamentals of Performance Measurement | Boston, MA        |
| May 23-24, 2019      | Performance Measurement Attribution     | Boston, MA        |
| July 23-24, 2019     | Fundamentals of Performance Measurement | Toronto, ON       |
| July 25-26, 2019     | Performance Measurement Attribution     | Toronto, ON       |
| August 6-7, 2019     | Fundamentals of Performance Measurement | Chicago, IL       |
| August 8-9, 2019     | Performance Measurement Attribution     | Chicago, IL       |
| November 20, 2019    | GIPS Workshop                           | San Diego, CA     |
| November 21-22, 2019 | Fundamentals of Performance Measurement | San Diego, CA     |
| December 9-10, 2019  | Fundamentals of Performance Measurement | New Brunswick, NJ |
| December 11-12, 2019 | Performance Measurement Attribution     | New Brunswick, NJ |

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