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CFA Institute
Global Investment Performance Standards
Re: Guidance Statement on Overlay Strategies
915 East High Street
Charlottesville, VA 22902, USA

Re: Comments to Guidance Statement on Overlay Strategies

Robust Technologies Inc. is a software vendor who specializes in performance measurement, performance attribution, benchmark customization, risk analytics and GIPS Composites. Our company provides software to investment management financial institutions including firms who manage overlay strategies. We have reviewed the exposure draft of GIPS® GUIDANCE STATEMENT ON OVERLAY STRATEGIES and we appreciate the opportunity to provide feedback.

We believe questions 8 and 9 deserve some clarification pertaining to:

> 1) the single-period calculation of an overlay return (especially how the denominator is determined);
>
> 2) the multi-period linking methodology (i.e. geometric vs arithmetic),;
>
> 3) whether or not the linking methodology should be different when the exposure remains constant or changes over time.

For the purpose of discussion, let's decompose this topic into the following segments:

1. Should the multi-period linking methodology differ when there are changes in the exposure, yes or no?
2. What should the multi-period linking methodology be, geometric or arithmetic?
3. Should the denominator (i.e. exposure) be adjusted by the gain of the overlay manager, yes or no?

Should the multi-period linking methodology differ when there are changes in the exposure: yes or no?

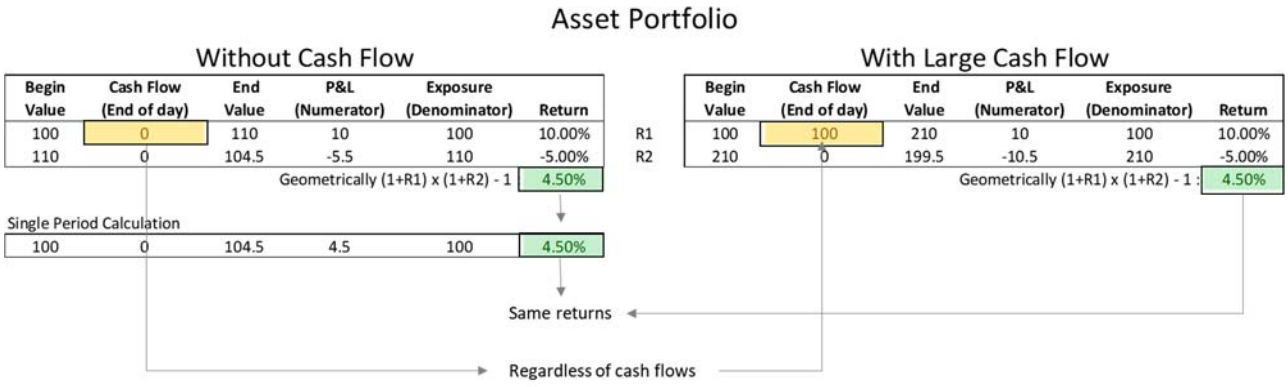
The exposure draft suggests using different multi-period linking methodologies depending upon whether there are changes in the exposure or not.

- *Question 8: Do you agree that the returns for overlay portfolios **must be geometrically** linked when the **overlay exposure changes** over the time period?*
- *Question 9: Do you agree that overlay returns **must not be geometrically** linked when the **exposure remains constant**?*

We believe the methodology should be the same regardless of whether or not there are changes in the underlying exposures. The justification follows:

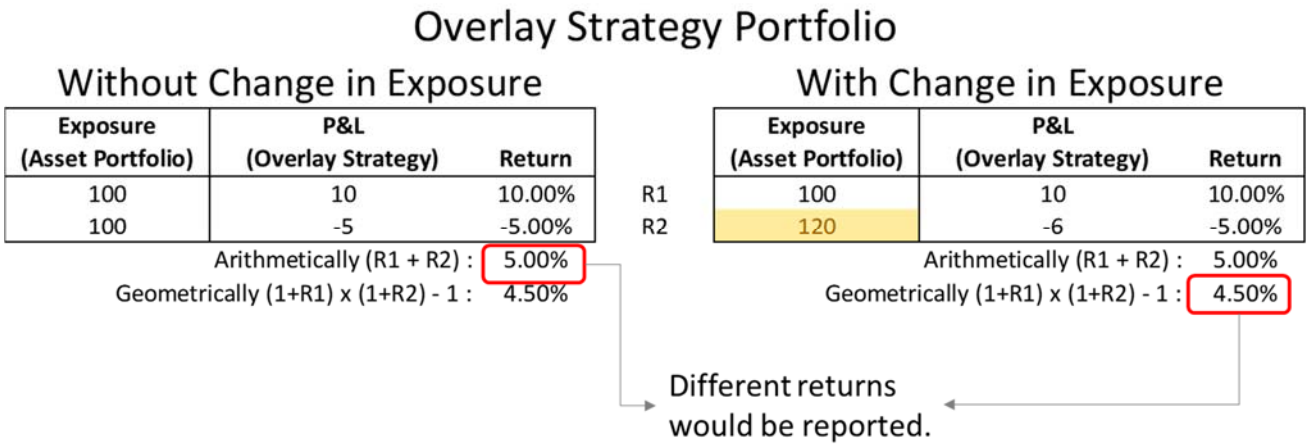
A significant change in the underlying exposure should be treated by the overlay manager as an external cash flow that is not under her control. The current GIPS standards require firms to value portfolios on the date of all external cash flows (1.B.1). The principle behind this is to remove the impact of external cash flows from the manager's return. The manager should not be penalized or credited from the impact of cash flows that she does not control.

According to this principle, two portfolios that are **identically managed** should report the same Time-Weighted returns even if one portfolio has a major external flow and the other does not. For example:



Here, the returns are the same regardless of cash flows. This fundamental principle of the GIPS standards must be preserved when measuring overlay returns. As suggested in the exposure draft, if different linking methodologies are used for portfolios without cash flows and for those with, then this principle is not preserved. Two portfolios that are **identically managed** will report **different returns.**

In the overlay example below, the same strategy is used by both portfolios. The strategy generates a 10$ gain per 100$ exposure in the first period, and a 5$ loss per 100$ exposure in the second period.



We should expect the same returns to be reported, but this is not the case if different linking methodologies are used. For that reason we believe the **same linking methodology** should be used in both cases regardless of whether there is a change in exposure or not.

Once it is established that the same linking methodology should be used, the next question to answer is: which methodology should be used to link multiple periods, geometric or arithmetic?

What should the multi-period linking methodology be, geometric or arithmetic?

When there are no cash flows, the exposure draft suggests the returns should be linked arithmetically (see table on page 14, question 8). This may seem counter intuitive to some because there has been a long-term consensus in the industry for linking returns geometrically.

At a recent performance measurement forum, this issue was discussed at length and quite a few people questioned the idea of linking returns arithmetically. This suggests that the concept of linking returns arithmetically will require a good explanation in order to gain market acceptance.

We believe that it makes sense to **link returns arithmetically** when the **overlay strategy** is carried out **separately** from the **underlying portfolio**. Here is a simple example that demonstrates the point.

An overlay return differs from a typical portfolio return in that the denominator does not represent the assets being managed by the overlay manager. Instead, it represents the assets of another portfolio which is being hedged. Let's assume that the market value of an underlying portfolio (the exposure) remains constant at 100$ and that the overlay manager earned a total of 25$ over 3 consecutive periods, 10$, 10$ and 5$ respectively.

Approach#1 – Denominator unadjusted by P&L

	Underlying Portfolio	Overlay Strategy					Linked Returns	
Period	Value	Begin Value	Ending Value	Numerator (P&L)	Denominator (Exposure)	Periodic Return	Arithmetic	Geometric
	A	B	C	D=C-B	E=A	R=D/E	R1 + R2 + …	(1+R1) * (1+R2) … - 1
1	100	0	10	10	100	10.00%	10.00%	10.00%
2	100	10	20	10	100	10.00%	20.00%	21.00%
3	100	20	25	5	100	5.00%	25.00%	27.05%
Single Period Calculation								
1…3	100	0	25	25	100	25.00%		

Where there are no cash flows, a single period calculation should produce the same return as the linked returns of the sub periods. It would be difficult to argue, in this case, that the return of the overlay manager for the combined periods could be anything other than 25%. If the denominator (exposure) remains constant at 100$, the periodic returns must be linked arithmetically:

$$25\% = 10\% + 10\% + 5\%.$$

Some, however, would suggest that the overlay return for period #2 should not be 10% but 9.09% because the P&L from the 1st period (10$) should be accounted for in the denominator (if we assume that the overlay manager can reinvest her profits). This opens the discussion for a look at a second approach.

Approach#2 – Denominator adjusted by P&L

With this approach, the previous period P&L is included in the denominator of the subsequent period. The return for period 2 then becomes 9.09% (10 / 110) and period 3 becomes 4.17% (5 / 120). In this case, to achieve the correct combined return, the periodic returns need to be linked geometrically:

$$25\% = (1+10.00\%) \times (1+9.09\%) \times (1+1.17\%) - 1.$$

	Underlying Portfolio	Overlay Strategy (denominator adjusted)					Linked Returns	
Period	Value	Begin Value	Ending Value	Numerator (P&L)	Denominator (Exposure adj.)	Periodic Return	Arithmetic	Geometric
	A	B	C	D=C-B	E=A+C-Prev	R=D/E	R1 + R2 + …	(1+R1) * (1+R2) … - 1
1	100	0	10	10	100	10.00%	10.00%	10.00%
2	100	10	20	10	110	9.09%	19.09%	20.00%
3	100	20	25	5	120	4.17%	23.26%	25.00%
Single Period Calculation								
1…3	100	0	25	25	100	25.00%		

It's interesting to note that the arithmetically linked returns in approach #1 produce the same number as the geometrically linked returns in approach #2. The only difference between the two lies in the presentation of periodic returns.

To get consistent cumulative returns, the periodic returns must be **linked arithmetically** when the **denominator is not adjusted** by the previous period P&L, (approach #1) but **linked geometrically** when the **denominator is adjusted** by the previous period P&L (approach #2).

Asking the question "S*hould the overlay returns be geometrically or arithmetically linked?*" then becomes: "*Should the previous period P&L of the overlay strategy be included in the denominator for a subsequent period?*"

Should the denominator (i.e. exposure) be adjusted by the P&L of the overlay manager, yes or no?

The answer to this question depends on whether the overlay strategy is managed separately from the underlying portfolio or not.

I suspect that people who favor approach #2 see overlay strategies as being managed within the underlying portfolio rather than being externally managed.

For comparison purposes, if we assume that the overlay strategy and assets are managed within the same portfolio, we can see that the periodic returns of the combined portfolio are identical to the ones in approach #2. In the table below, we show the market value being increased by the P&L and the periodic returns being linked geometrically.

	Underlying portfolio + Overlay Strategy					
Period	Begin Value	Ending Value	Numerator (P&L)	Denominator	Return	Geometric
	B	C	D=C-B	E=B	R=D/E	(1+R1) * (1+R2) ... - 1
1	100	110	10	100	10.00%	10.00%
2	110	120	10	110	9.09%	20.00%
3	120	125	5	120	4.17%	25.00%

Single Period Calculation

1...3	100	125	25	100	25.00%

The periodic returns match approach #2.

Conclusion

The question then comes down to which approach, #1 or #2, makes the most sense? We believe that:

- When the overlay **strategy is managed separately** from the underlying portfolio:
  - The **denominator should not be adjusted** by the overlay P&L.
  - Multi period returns should be **linked arithmetically.**
  - Approach #1.

- When the overlay **strategy is managed within** the same portfolio:
  - The **denominator should be adjusted** by the overlay P&L of the previous period.
  - Multi-period returns should be **linked geometrically**.
  - Approach #2

From a software provider's perspective we are indifferent to the approach (both are supported), however the GIPS must provide a clear guidance on this issue. In light of the comments submitted so far, I would recommend revising and clarifying the Guidance Statement, then consider extending the public comment period in order to provide opportunities for further discussion.

I would like to thank the GIPS Executive Committee for providing the guidance statement and for giving us the opportunity to comment on it.

Do not hesitate to contact me if you require additional information or have any questions or comments.

Best Regards,

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