Performance Perspectives with David Spaulding

Attribution Survey

We're very pleased to announce the recent publication of our 2004 Attribution Survey results. This was the second time we surveyed the industry on attribution. While many of the results were what we might have suspected, we also got a few surprises. I'll touch on a few key points here.

As we might expect, there are more folks doing attribution today than they did in 2002:

	2002	2004
Contribution	87%	90%
Equity Attribution	86%	96%
Fixed Income Attribution	65%	71%

The number of firms using the Brinson-Fachler model has increased, while the number using the Brinson-Hood-Beebower has decreased:

	2002	2004
Brinson-Fachler	6%	36%
Brinson-Hood-Beebower	21%	17%

Why? We don't know. Perhaps the respondents better understand what model they're using? Or, they have consciously made a change? As you may know, the essential difference between these models is how they calculate the allocation effect:

$$Allocation\ Effect_{BHB} = \sum \overline{r}_i \times \left(w_i - \overline{w}_i \right)$$

$$Allocation\ Effect_{BF} = \left(\overline{r}_i - \overline{R} \right) \times \left(w_i - \overline{w}_i \right)$$

where

$\overline{r}_i$ = return for benchmark sector or security
w = portfolio weight
$\overline{w}$ = benchmark weight
$\overline{R}$ = benchmark rate of return
i = sector or security.

The results can be significantly different, reinforcing the notion that model selection is important.

In 2002, we were disappointed to learn that 25% of the firms use their equity model for fixed income attribution. We were surprised to see this number jump to 34%. Perhaps the increase reflects the situation where firms are just starting to get into attribution and want to begin with a very basic approach, before moving into a multi-factor fixed income approach. At this time, it's unclear.
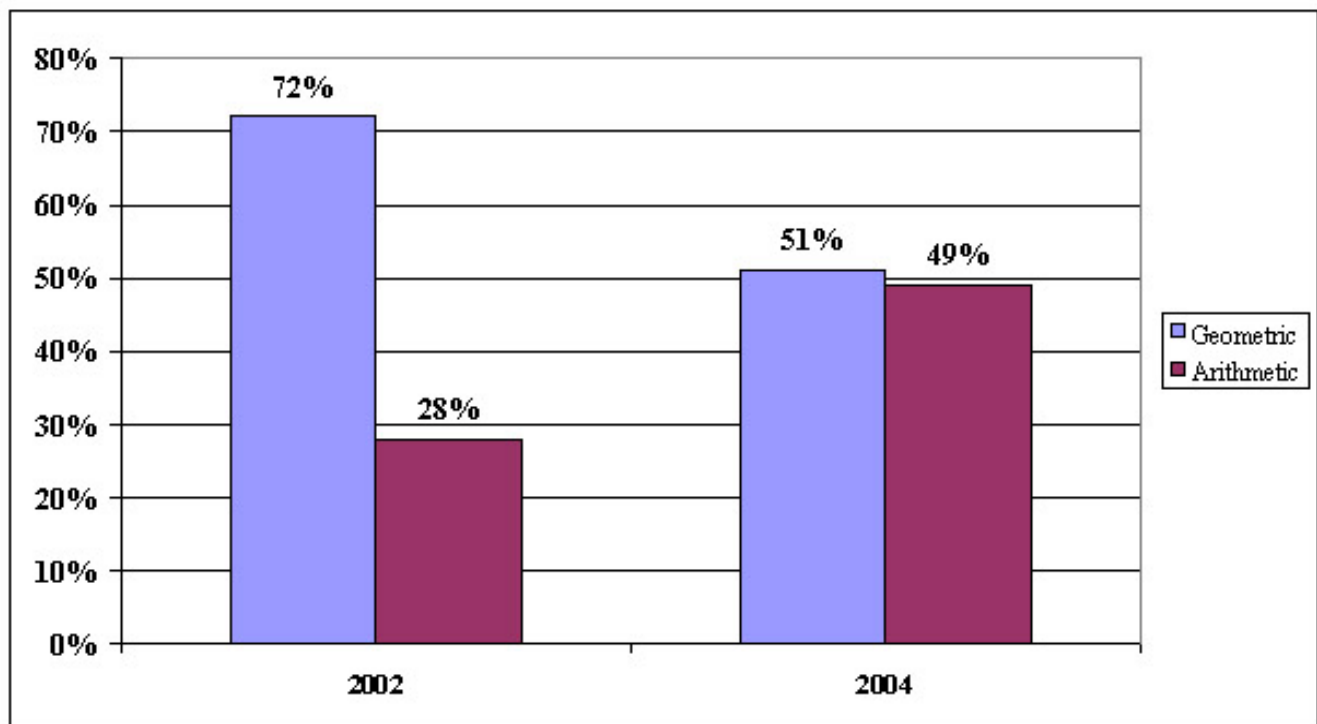
In 2002, we were surprised to see that significantly more money managers preferred geometric over arithmetic. We suspected that there might be some confusion as to the differences, so this time we explained in advance that arithmetic reconciles to an arithmetic excess return:

$$ER_A = R - \overline{R}$$

while geometric reconciles to a geometric view of excess return:

$$ER_G = \frac{1+R}{1+\overline{\overline{R}}} - 1$$

With this brief explanation, the results are more in line with what we might expect, with the numbers almost equal:
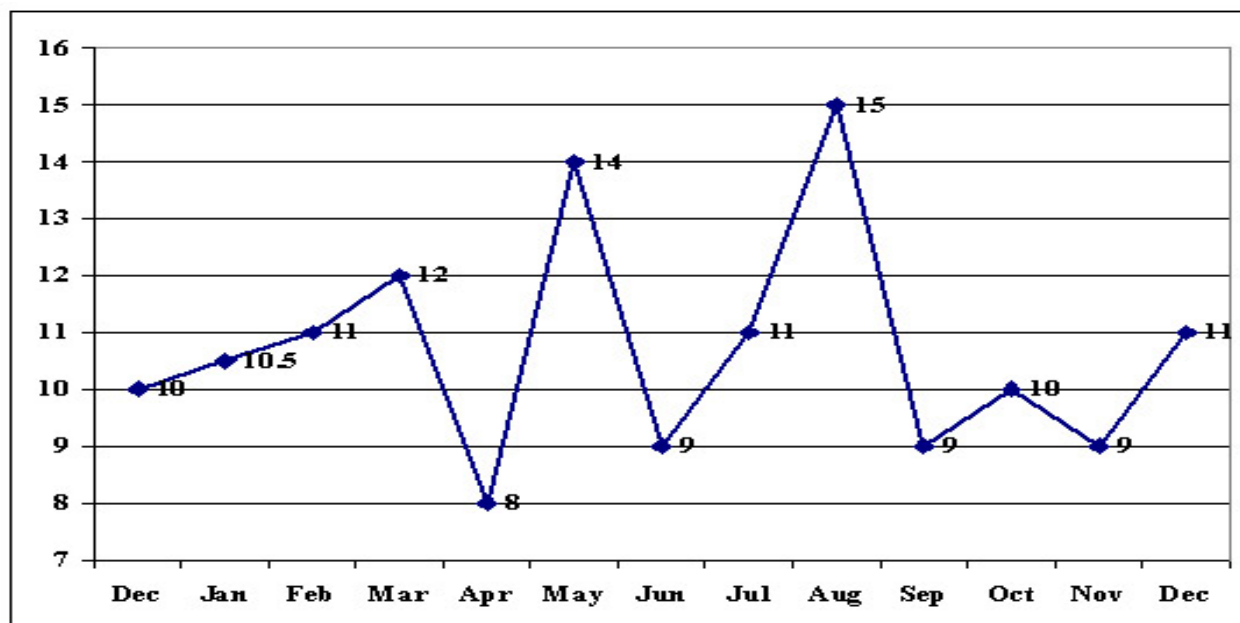

We were pleased to see an increase in the number of money managers supporting the notion of having standards for attribution. In 2002, 51% voted for standards; this time, it was 65%! As you may know, draft standards which the Performance Measurement Forum developed are at our website (www.SpauldingGrp.com).

As you would imagine, there's much more information in the actual report. And, if you're interested in purchasing a copy of the results, please contact Sue Kneller (SKneller@SpauldingGrp.com).

A Vote for Money-weighting

In the past few weeks, we've received calls from a couple people explaining that their clients don't understand how they lost money but the manager is claiming a positive return. This is an age-old problem with understanding the difference between time- and money-weighted returns. And, it again suggests a need to (a) educate our clients and (b) provide both!

Let's take an example that might help show why these problems can occur. We've got two investors who purchase shares in a mutual fund, whose monthly net-asset-values (NAVs) are as shown in this chart:

Both investors begin by buying 100 shares at the end of the year's NAV ($10). Investor #1 makes two subsequent purchases of 100 shares each, one at the end of May (with an NAV of $14) and the other at the end of August (NAV of $15). The second investor also makes two additional purchases of 100 shares each, at the end of April (NAV of $8) and September (NAV of $9). We can see that the fund's NAV closes the year at $11.

This table summarizes the contributions and profits/losses of each investor:

	Investor #1	Investor #2
Initial Investment	$1,000	$1,000
April Purchase	-0-	$800
May Purchase	$1,400	-0-
August Purchase	$1,500	-0-
September Purchase	-0-	$900
Total Contributions	$3,900	$2,700
End of Year Market Value	$3,300	$3,300
Profit/Loss	-$600	$600
Time-weighted ROR	10%	10%

While our second investor seems to adhere to the adage, *buy low, sell high,* we can't say this for our first, who made purchases at the peaks of the NAV during the year. Consequently, the first investor shows an unrealized loss of $600 while the second shows a gain.

The challenge is the time-weighted return, which is identical. But how can this be? Well, it's quite simple – the time-weighted ROR eliminates the impact of the cash flows. Consequently, the investors get the same return as the fund itself!

$$ROR_{Fund} = \frac{EMV}{BMV} - 1 = \frac{11}{10} - 1 = 10\%$$

$$ROR_{\#1} = \prod_{i=1}^{n} \frac{EMV_i}{BMV_i} - 1 = \frac{1,400}{1,000} \times \frac{3,000}{2,800} \times \frac{3,300}{4,500} - 1 = 10\%$$

$$ROR_{\#2} = \prod_{i=1}^{n} \frac{EMV_i}{BMV_i} - 1 = \frac{800}{1,000} \times \frac{1,800}{1,600} \times \frac{3,300}{2,700} - 1 = 10\%$$

While our second investor might accept being told that the fund is up 10%, the first might question this, since he suffered a loss. But, can we fault the manager for this investor's choice of timing on making subsequent purchases? Here's an opportunity to introduce the dollar-weighted or money-weighted return: the Internal Rate of Return or IRR. If we calculate the IRR for our first investor, we find that his portfolio lost 24.86%, while our second investor's IRR is 35.16%! Quite a difference, yes?[1]

Some refer to the IRR in this situation as the "personal rate of return." It provides the investor with the return on *his* or *her* portfolio, as opposed to the *manager's return* (i.e., the time-weighted return).

I hope this helps!

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[1] In next month's newsletter, I'll show you how I calculated the IRR.

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