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The changing world of notation

If you have ever written an article or taught a class on performance measurement, then perhaps you have faced the issue of notation; how to you annotate your formulas? As one who has done both countless times, I have wrestled with this matter, so let's consider this a *venting* as well as (hopefully) an *educational* topic.

When I first dealt with this issue I thought that using subscripts to distinguish between a portfolio and benchmark's returns and weights would suffice; for example, if we were deriving the selection effect for the Brinson Fachler model:

$$Selection = w_b (r_p - r_b)$$

and so we see that I used a "b" for benchmark and a "p" for portfolio. Works well, until we deal with multi-currency situations, where "b" or "B" is often used for "base currency."



I then stumbled upon Jose Menchero's introduction of an overbar ($\bar{}$) for benchmark values, and thought this was an excellent way to move forward, and so we then had:

$$Selection = \bar{w} (r - \bar{r})$$

which works quite well. However, when we then encounter situations where we want to represent averages, which are often done using an overbar, we have a conflict. If we want an average, for example, of a benchmark return would we use double overbars?

Of late, I've seen that Jose (who I often look to for innovative notational ideas) uses both sub and super scripts simultaneously! Thus, we could have something like:

$$CurrencyEffect = w_p (r_B^p - r_L^p) - w_b (r_B^b - r_L^b)$$

where I'm using the subscripted "B" to represent base currency and "L" for local, and the superscripted p and b to represent portfolio and benchmark, respectively. While I haven't yet adopted this approach, I find it intriguing.

The world of notation is about to undergo another challenge!

We often refer to "market values" in our formulas. For example, the Modified Dietz formula:

$$R_{MD} = \frac{EMV - BMV - C}{BMV + WC}$$

A formula we've all come to know and love, where EMV means "ending market value," and BMV means "beginning market value." Granted, some prefer MVE and MVB or other variations, such as simply V_0 and V_1 .

BUT, is it now legit to refer to a "market value" when the GIPS® standards (Global Investment Performance Standards) have, in *one fell swoop*, replaced "market values" with "fair values"! Must we replace our beloved "EMV" with "EFMV"? Or, simply "EFV"? This may cause the V_0 and V_1 notation to grow in popularity, since we are simply stating "value," which can be used to mean anything we darn well want it to!

First, I hope that we don't get too carried away when we see someone use "BMV" and "EMV." And again, going forward, perhaps the single V will suffice, with the appropriate subscript, of course, to distinguish between the start and end. Ah, the challenges continue with notation.

Giving is good, but too much can be a problem...

We get to see lots of systems and lots of reporting structures, and of late are seeing that many firms and individuals are thinking about what types of reports and information they're giving to their clients.

Consider this: are you giving your clients more information than they can properly digest? Is some of the information unnecessary?

For example, just because you can give your client a dozen risk measures, should you? Can just a few suffice? Must returns be sliced-and-diced in so many ways that after reviewing the reports the reader's head hurts and they're getting dizzy?



I recently saw a retail firm's list of risk measures that they were giving to non-discretionary accounts, including tracking error and information ratio. These measures have absolutely no value to these investors and it's highly doubtful that they would have any comprehension of what they mean.

Another client explained how they gave their clients fairly sophisticated fixed income return attribution reports, but it was evident that the clients didn't appreciate what they were receiving; perhaps because they didn't understand the information.

Information only has value if it's understood. And giving individuals reports, that may look impressive but are difficult to discern, serves no value. Perhaps you may want to take a look at what you're developing and distributing? Perhaps some pruning is in order.

Being comfortable admitting one's ignorance

I was at a meeting recently conducting a systems design walk through, and happened to mention that the process would *bifurcate*. After a few minutes one of the fellows asked "what does bifurcate mean?" I was so impressed with this question. To feel comfortable enough, in a room of one's peers,

to ask a question like this, admitting that this was a word that was new to him, was, in my opinion, an act of courage. While this may seem a bit hyperbolic, I would respectfully disagree.

How often would you do such a thing? I know that it would be difficult for me to admit that I don't know something, when it appears that everyone else does. In school we're taught to ask questions, but as we become adults we do this less as we are concerned that it may reflect some level of ignorance.

Years ago, on a consulting assignment, a client was using a particular term repeatedly (sorry, I don't recall what it was, and it's not that important for this discussion). While I was somewhat familiar with the expression, I wanted to ensure that my meaning matched his, and so I asked him in which context was he was using the word, and he said he didn't know. Apparently he had heard the term used and simply repeated it, without taking the time to understand its meaning.



Picking up from the earlier discussion on the appropriateness of our reporting, no doubt many firms give their clients reports that the clients won't understand; however, the client will often be embarrassed to admit their ignorance and so they simply smile and nod their head. Something else to consider as you do some pruning!

From our readers

Neil Riddles chimed in regarding last month's discussion on the negative Sharpe ratios:

Dave,

I found your newsletter discussion of negative Sharpe ratios interesting. I have always found negative risk adjusted performance to be counter intuitive. To me, whether negative risk adjusted returns make sense depends on how you view the risk component. By risk I am referring to standard deviation although I do not really agree with that definition.

If the purpose of dividing return by risk is to adjust the return for the uncertainty of achieving that return (luck versus skill) then the negative ratios make sense. A positive return will look worse on a risk adjusted basis as the risk gets higher. This is intuitive because as the risk increases, the likelihood that the return was luck and not skill also increases. So, increasing risk raises the likelihood that the return experienced was luck. Extending that to negative returns, one could argue that if the manager lost money it is better that it is due to (bad) luck rather than skill. The lower the risk the more certain we are that the manager will return a similarly disappointing result the next time.



If the purpose of dividing by risk is simply to include risk in the equation and if the view of risk is that it is always something bad, then negative risk adjusted returns do not make sense. In such a

case not only were the returns a disappointment but the portfolio experienced more risk as well.

While I think the former argument makes some sense from a purely academic point of view, I think the latter is the way most investors view risk and return. That is, the higher the return the better and the lower the risk the better. Another common way to show the risk and return tradeoff is the scatter diagram. Scatter diagrams will show the risk return relationship in a way that is consistent with most investors' thinking.

Regards,

Neil