What's Missing From Your Equity Attribution Report?

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May 23, 2024
PMAR 2024

Seriously?
We don't have enough numbers already?

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Having more or less risk than the benchmark

- Can often increase or decrease the portfolio's return
- And yet, equity attribution typically ignores it
- Completely
- We only [typically] look at selection and allocation decisions
- Ignoring the manager's decision to take on more or less risk
- Why?

Risk-Adjusted Attribution

- Is not a new topic

  The Journal of Performance Measurement® has had <u>multiple</u> articles on this topic, including

  - ✓ "Risk-adjusted Performance Attribution: Why It Makes Sense and How to Do it" David Spaulding, Summer 2016

- Others who have written on it include:

  - Ernie Ankrim

  - Carl Bacon

  - Jose Menchero

There seems to be interest …

- But so far, there is scant evidence it is actually being employed

- By avoiding a "risk effect," your portfolio and benchmark returns, that are used in selection and interaction, are missing a key ingredient: their risk differences

- Please give thought to incorporating risk to provide a better, more complete, more accurate representation of where your managers' returns come from

What do we mean by the "pricing effect"?

- If there are differences between the portfolio and benchmark for security prices, there can be an impact on the selection effect
- Example:
  - The portfolio prices a stock at $101 while the benchmark has it at $100.50
  - The manager will be rewarded with a higher selection because their price is higher!

How to eliminate this effect?

- One way to eliminate the pricing effect is to either
  - Price the portfolio using the benchmark's price, or
  - Price the benchmark using the portfolio's price
- Neither is particularly good.
  - Change the portfolio's price means you're accepting a price you may disagree with
  - Changing the benchmark's means your results won't align with published results; plus, your license may not permit it.

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What to do?

- You can ignore it, but then you are reporting less than accurate selection effects
- Alternatively, you report it as a separate "effect" in your report.

Step 1: Calculate Selection Effect

- Use the same prices for the sector returns
- Which prices to use?
- The benchmark's since the portfolio's prices have been made different, and the benchmark should serve as the base level
- The Pricing Effect will reflect the difference

Step 2: Calculate Pricing Effect

- Calculate Selection Effect using different prices
- Subtract the earlier Selection Effect (from Step 1) minus this effect to arrive at the Trading Effect

An example

- Sector's ending prices:
  - Portfolio: $101
  - Benchmark: $100.50
- Sector's starting prices:
  - Portfolio: $100
  - Benchmark: $100

$$SelectionEffect = w_P(r_P - r_B)$$

$$= 10\% \times (0.5\% - 0.5\%)$$

$$= 0.0\%$$

$$Selection^{Different\,Prices} = 0.5\%$$

$$PricingEffect = Different - Same = 0.5\%$$

Key Requirement for the Method

- The sum of the Selection and Pricing Effects must equal what the Selection Effect would be, if we weren't trying to identify the impact of price differences
- Otherwise, we would not reconcile to the overall excess return, which is a key requirement of relative attribution

Trading Effect

- The concept comes from Transaction Cost Analysis (TCA)
- The idea being that trade execution can have a beneficial or deleterious effect on performance.
- If, for example, a large order is send to the market without any thought, it might cause prices to increase
- However, if handled smoothly, it might have no or minimal market impact
- Ultimately, the idea is to assess the trader's skill in executing the managers' trades

Trading Effect

- A portfolio manager might have a great investment idea, but if handled poorly by the trader, the resulting price(s) paid for the securities might detract from performance
- Consequently, should we consider the impact of the trading activity when assessing performance and attribution?

Would we …

- Only see poorly executed trades as a negative effect on performance and credit the manager with positive trading?
- Or, perhaps do we consider the market price at the time the trade arrives at the trader's desk, and then calculate the positive or negative effect, and attribute it separately to the trader?

Lots to consider

- And too much for today's talk.
- For more information,

  "The Role of Trading in Portfolio Performance Attribution"
  Henri Waelbroeck, PhD and Carla S. Gomes, PhD
  The Journal of Performance Measurement®
  Fall 2017

- We hope to have one or both at PMAR 2025

Currency Effect

- I suspect … that many U.S. managers do not isolate the currency effect
- The problem with this is that the impact of currency will be captured within the selection effect, and not get the focus it deserves

Currency Effect

- Consider the USD / Euro currency shifts that have occurred, where the USD is much stronger than it previously was.

- A manager who is tasked with investing in Euroland may have made a good selection, but because of the impact of currency, might not get the credit they deserve

Currency Attribution

- Currency attribution is definitely quite a bit more complicated
- Karnosky-Singer, for example, bifurcates the impact into
  - The contribution from forward contracts
  - The currency market impact
- Both of these should be evaluated

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Inflation effect

- A topic that perhaps we thought was behind us, has reappeared these past few years … with a vengeance!
- Should the impact of inflation have any bearing on our attribution analysis?
- Is the concept of an "inflation effect" worthy of even discussion?
- Would it be deducted from or added to the manager's return, or treated separately?

Inflation effect

- Inflation can have a major impact on the value of our future position
- If we fail to keep up with inflation, our spending power will diminish
- But how best to handle?
- Is it part of attribution, or should it be taken into consideration with our excess return analysis?

I've saved the best for last …

Interaction Effect

- Show of hands time …
  - How many of you calculate equity attribution and separately report interaction?
  - How many combine interaction with something else (most likely, selection)?

Interaction Effect

- Why is it avoided?
    - Hard to explain?
    - Has no meaning?
    - While we know there's an ALLOCATION decision, and a SELECTION decision, there is no INTERACTION decision
    - There might be someone responsible for ALLOCATION, and someone who handles SELECTION, but no one handles INTERACTION
    - Because Steve Campisi doesn't like it
    - Thus, it's silly to report … right?

Interaction Effect

- This is one of those controversial areas
- To exclude it and combine it elsewhere penalizes or rewards that other effect for something they don't control

For example

- If we underweight a sector that does very well
- And if the manager outperforms the index
- The decision to underweight will impact their result.

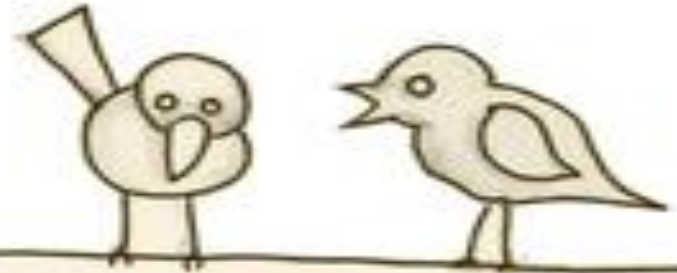| W_P	W_B	R_P	R_B
5%	10%	3%	1%
Show Interaction		**Combine Interaction**	
Allocation	-0.05%	Allocation	-0.05%
Selection	0.20%	Selection w/Interaction	0.10%
Interaction	-0.10%		
Total	0.05%	Total	0.05%

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Summary

- *Risk Effect*
- *Pricing Effect*
- *Trading Effect*
- *Currency Effect*
- *Inflation Effect*
- *Interaction Effect*

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