

PERFORMANCE PERSPECTIVES

with David Spaulding



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Since 1990, The Spaulding Group has had an increasing presence in the money management industry. Unlike most consulting firms that support a variety of industries, our focus is on the money management industry.

Our involvement with the industry isn't limited to consulting. We're actively involved as members of the CFA Institute (formerly AIMR), the New York Society of Security Analysts (NYSSA), and other industry groups. Our president and founder regularly speaks at and/or chairs industry conferences and is a frequent author and source of information to various industry publications.

Our clients appreciate our industry focus. We understand their business, their needs, and the opportunities to make them more efficient and competitive.

For additional information about The Spaulding Group and our services, please visit our web site or contact Chris Spaulding at CSpaulding@SpauldingGrp.com

MAPPING AND THE ART OF ATTRIBUTION

As an undergraduate math major at Temple University, one of my most challenging classes was Topology. It is a highly esoteric subject that truly (at least for me) challenges the intellect. "Topology is the mathematical study of the properties that are preserved through deformations, twistings, and stretchings of objects."¹

First, it deals with figures of varying dimensions. For example, two of the most commonly recognized figures are the Möbius Strip and the Klein Bottle.

The Möbius strip is a one-sided surface that can be obtained by cutting a piece of paper into a single strip, giving one of the ends a half twist, and then reattaching the two ends. An interesting characteristic of this figure is that it has only a single side. At first glance this may not be obvious. But, if you place an "x" at one point, and then a "y" on its reverse, and then traverse with a pencil starting with "x," you will reach "y."



Figure 1: Möbius Strip
(Source: Wikipedia)

The Klein bottle is a figure that exists in only two dimensions: second (as it appears here) and fourth (with the aid of time as the fourth dimension).

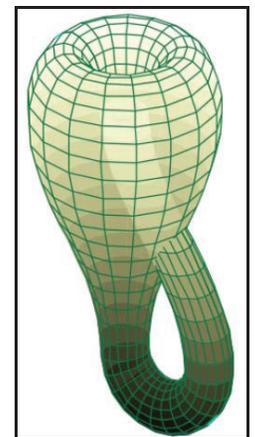


Figure 2: Klein Bottle
(Source: Wikipedia)

The second key point about topology is that it deals with mapping. This may be more obvious when you realize it has the same root ("topo") as topography (map making) and similar words. The mapping topology engages in is mapping points from one surface to another.

One joke about topology is the following:

Q: What is a topologist?

A: Someone who cannot distinguish between a doughnut and a coffee cup.²

Thus, all of the points on a coffee cup can be successfully mapped to unique points on a donut, and vice versa.³

1 Source: <http://mathworld.wolfram.com/Topology.html>

2 Ibid.

3 See <http://en.wikipedia.org/wiki/Topology> for a visual representation of such mapping.

The Journal of Performance Measurement®

UPCOMING ARTICLES

Fixed Income Attribution: The Constant Quest to Explain Residuals

– Bai Gu

Effective Return of Portfolio Positions

– Peter Todd

Mathematics Behind Multi- Level Attribution Keeping Apples and Oranges Separate

– Dmitry Cherkasov

A Modification of the Modified Dietz Approach

– PA Cucurachi, V. Pomante

The Journal Interview

– Joseph McDonagh, CFA

A simple example of mapping can be seen in Figure 3, where we demonstrate how we can map all of the points on a short line to unique points on a longer line, and vice versa. At first one might suspect that this wouldn't be possible; however, since both lines have an infinite number of points, provided we create a point between the two lines to map through, we can successfully accomplish this mapping.

For some time, I've suggested that attribution deals with mapping, too. In order to determine our attribution effects, we must *map* details from the portfolio to its corresponding details in the benchmark. Other than the way I'm phrasing this, there shouldn't be anything new or surprising. After all, our attribution models segment the portfolio and benchmark into identical pairings, so that attribution effects can be derived.

I've demonstrated how we might do this using an equity model in Figure 4. As you can see, the ten sectors from the portfolio map to the same sectors on the benchmark side. By taking the weight and return differences into consideration, we can derive our attribution effects.

You'll notice that the portfolio holds cash while the benchmark does not; and so, there is no corresponding sector to map to, meaning its contribution should all be placed into the attribution effect, since the manager decided to allocate some of the funds to somewhere the benchmark isn't found.

This same principle can be used when the portfolio engages in anything that isn't in the benchmark. Such a step will provide heightened visibility into the tactical actions of the manager.

As with topology, there should be some rules one must follow; for example:

- map like-to-like; that is, the pairings from the portfolio and benchmark must be of the same sector; you wouldn't map Information Technology to Health Care, for example.
- map from the portfolio to the benchmark only once. That is, you wouldn't map a set of weights and returns from the portfolio side to more than one place on the benchmark.
- account for all points. That is, we map 100% of the portfolio to 100% of the benchmark. Anything we have on the portfolio side that isn't on the benchmark will still map across, but, as noted above, go into allocation.

I'm hoping that representing attribution this way may help folks understand what's occurring. As always, I welcome your thoughts and insights.

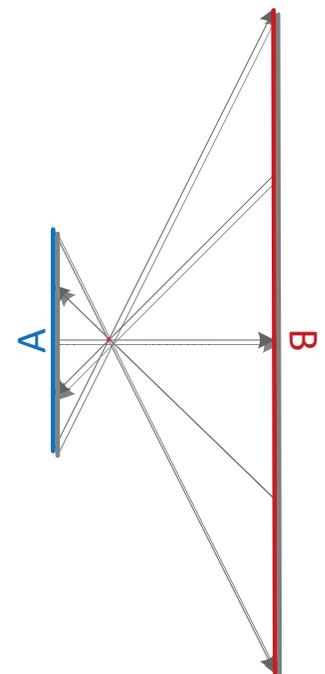


Figure 3: Mapping points from a shorter to a longer line

A FREE NEWSLETTER YOU SHOULD BE AWARE OF.

We wanted to share with you a free newsletter that we were recently introduced to from Alpha Partners. Please visit the link below to get on their distribution list for their *Excess Returns* newsletter.

Alpha Partners is an investment marketing firm specializing in research and presentation strategy. Alpha Partners helps investment firms build assets through the power of a strong story well told. With experience across asset classes and target markets, the firm has worked with hundreds of investment companies since its founding in 1995. Liz Hecht, Director of Research, publishes a monthly newsletter, *Excess Returns*, with insights for investment marketing and sales professionals.

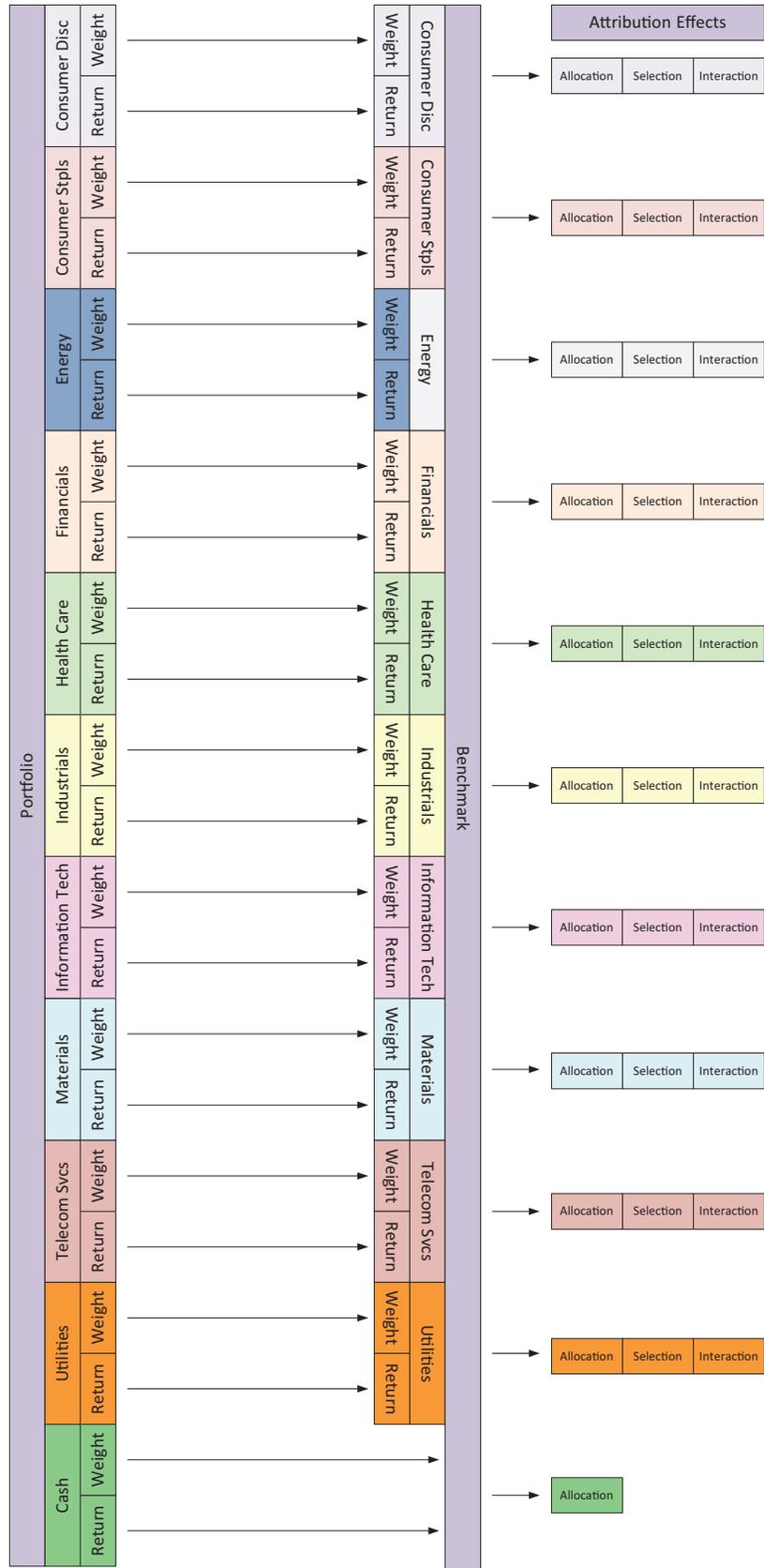


Figure 4: Performance attribution mapping

KEEP THOSE CARDS & LETTERS COMING

We appreciate the e-mails 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.

PUZZLE TIME

October Puzzle

I will confess that this month's puzzle looked trickier than it actually is. At first glance I thought we'd be faced with solving two equations simultaneously, but in reality, it wasn't.

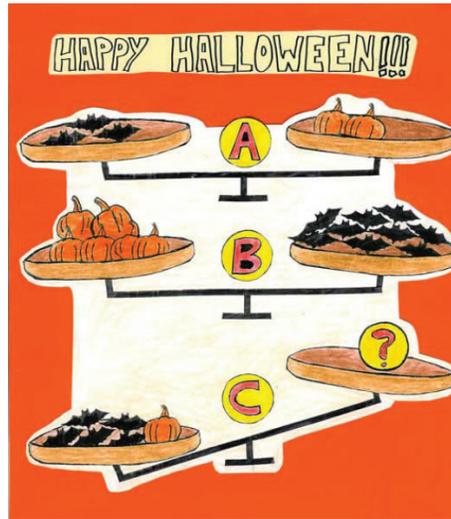
From the graphic we can quickly see the relationship between the two types of cookies:

- $3 \text{ Bat} = 2 \text{ Pumpkin}$
- $6 \text{ Pumpkin} = 9 \text{ Bat}$.

The "B" scale merely reinforces what we see in the "A," since they're equivalent formulas. And so, we can determine using some simple algebra that one Pumpkin equals $1\frac{1}{2}$ Bat.

We next see the "C" scale which has five Bat and one Pumpkin cookie, and are asked how many Bat we need to balance it out. Well, knowing that one Pumpkin is $1\frac{1}{2}$ Bat, that means the left holds the equivalent of $6\frac{1}{2}$ Bat, so that's the answer.

Several folks participated, which is always nice.



Andrew Quinn	UK
Jeremy Welch	USA
Brett Bloemendaal	USA
Billy Douvikas	USA
Debi Deyo Rossi	USA
Neil Riddles	USA
Joe Dabney	USA
Jed Schneider	USA
Matthew Lyberg	USA
Stephen Campisi	USA
Tom Stapleton	UK
Carlos Leute	Puerto Rico
Anthony Howland	UK
Gerard van Breukelen	The Netherlands
Mark Morgan	UK
Alec Meeker	USA
Ashirwad Kulkarni	USA
Tanpreet Singh	USA
Chetan Thakar	USA
Bakshish B Viridi	USA
Chaitanya Panchamukhi	USA
Sanjeev Saha	USA

The Journal of Performance Measurement has begun a series on performance measurement professionals, and we need your help to identify the folks we should include. We focus on one or two people in each issue, with the list driven by input from other PMPs.

And so, please contact our editor, **Doug Spaulding (732-873-5700)** with your suggestions.

November puzzle

I came across this puzzle and find that I can relate, at least to some degree to it, as I am a grandfather (to two little boys and soon to a little girl): a position I hold with great pride and happiness. And so:

“My grandson is about as many days as my son is weeks, and my grandson is as many months as I am in years. My grandson, my son and I together are 100 years. Can you tell me my age in years?”

Have fun!

FROM OUR READERS

Jean Dziejdzinski of BNY Mellon wrote the following:

Very interesting article on the materiality of errors! Definitely a couple of different views to consider that I hadn't even thought of. Thanks!

And Neil Riddles of Hansberger Global Investors, Inc. wrote:

In the your newsletter you question how we can have a PL/1 when there is no PL/2. According to Wikipedia, there is/was a PL/0 which is a subset of PL/1 so there was more than one version. It is not clear to me but it looks like PL/0 came after PL/1. Maybe that is where GIPS got the “0” numbering. (Okay, probably not)

Also, PL/1 was not the original name. It was NPL for New Programming Language but IBM had conflicts with another organization over “NPL.”

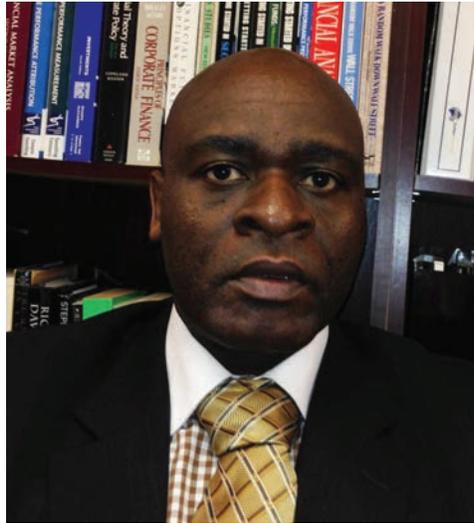
ERROR CORRECTION

And finally, an error correction of our own: COBOL is COmmon Business Oriented Language. DUH! I used to teach it, too. Oh, well ... I rushed through it, I guess. And yes, this WAS a material error.

Cephas Masikini

Bio:

Cephas is Head of North America & Europe, Performance & Analysis, at Manulife Asset Management; responsible for providing performance and risk measurement, attribution and portfolio analytics for multi-strategy asset types. Prior to joining Manulife Asset Management, Cephas was Head of Portfolio Analytics at TD Wealth Management. He has also served as Portfolio Manager and was Head of Research & Market Oversight at the Securities Commission. Cephas has undergraduate training in Mathematical Economics and in Empirical Finance at the graduate and postgraduate level. He has a keen academic research interest in stock market volatility and efficiency, nonlinear dynamics in financial markets and the validity of asset pricing models.



CLIENT'S CORNER

1. How long have you been involved in performance?

I have been involved in performance for 15 years.

2. What do you enjoy most about it?

I enjoy the dexterity that comes with performance; from the mountains of performance and attribution calculations to the valleys of complexities of portfolio theory and empirical analysis of asset pricing models and their concomitant risks.

In addition, I am motivated by the challenge to simplify and present results in everyday language that is meaningful to clients.

3. What role does The Spaulding Group play at your firm?

As a firm, we have taken advantage of the 'bespoke' training sessions in performance, risk and attribution that The Spaulding Group provides; to train and inform our Analysts.

THE SPAULDING GROUP'S 2013-2014 INVESTMENT PERFORMANCE MEASUREMENT CALENDAR OF EVENTS

DATE	EVENT	LOCATION
December 5-6, 2013	Performance Measurement Forum	Orlando, FL (USA)
December 10-11, 2013	Fundamentals of Performance Measurement Training	New Brunswick, NJ (USA)
December 12-13, 2013	Performance Measurement Attribution Training	New Brunswick, NJ (USA)
January 21-22, 2014	Fundamentals of Performance Measurement	Los Angeles, CA (USA)
January 23-24, 2014	Performance Measurement Attribution	Los Angeles, CA (USA)
February 10-11, 2014	Fundamentals of Performance Measurement	Toronto, Ontario, Canada
February 12-13, 2014	Performance Measurement Attribution	Toronto, Ontario, Canada
March 24-25, 2014	CIPM Principles Prep Class	New Brunswick, NJ (USA)
March 26-28, 2014	CIPM Expert Prep Class	New Brunswick, NJ (USA)
April 15, 2014	Performance Measurement for the Non-Performance Professionals	New York, NY (USA)
April 16, 2014	Portfolio Risk Class	New York, NY (USA)
April 17, 2014	Performance Measurement for Asset Owners	New York, NY (USA)
April 24-25, 2014	Performance Measurement Forum – North American Forum	
May 19-20, 2014	Fundamentals of Performance Measurement	New Brunswick, NJ (USA)
May 20, 2014	Fundamentals of GIPS Workshop	Philadelphia, PA (USA)
May 21-22, 2014	PMAR XII North America Westin Philadelphia	Philadelphia, PA (USA)
June 10-11, 2014	PMAR V Europe America Square Conference Centre	London, England
June 17-18, 2014	Fundamentals of Performance Measurement	Chicago, IL (USA)
June 19-20, 2014	Performance Measurement Attribution,	Chicago, IL (USA)
June 19-20, 2014	Performance Measurement Forum – EMEA Forum	

For additional information on any of our 2013 or 2014 events, please contact Christopher Spaulding at 732-873-5700

HAPPY THANKSGIVING!



TRAINING...

Gain the Critical Knowledge Needed for Performance Measurement and Performance Attribution

TO REGISTER:

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Fax: 1-732-873-3997

E-mail: info@SpauldingGrp.com



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FUNDAMENTALS OF PERFORMANCE MEASUREMENT

A unique introduction to Performance Measurement specially designed for those individuals who require a solid grounding in all aspects of performance measurement. The Spaulding Group, Inc. invites you to attend Fundamentals of Performance Measurement on these dates:

December 10-11, 2013 – New Brunswick, NJ May 19-20, 2014 – New Brunswick, NJ
 January 21-22, 2014 – Los Angeles, CA June 17-18, 2014 – Chicago, IL
 February 10-11, 2014 – Toronto, Canada

15 CPE & 12 PD Credits upon course completion

CFA Institute has approved this program, offered by The Spaulding Group, for 12 CE credit hours. If you are a CFA Institute member, CE credit for your participation in this program will be automatically recorded in your CE tracking tool.



PERFORMANCE MEASUREMENT ATTRIBUTION

Two full days devoted to this increasingly important topic. The Spaulding Group, Inc. invites you to attend Performance Measurement Attribution on these dates:

December 12-13, 2013 – New Brunswick, NJ February 12-13, 2014 – Toronto, Canada
 January 23-24, 2014 – Los Angeles, CA June 19-20, 2014 – Chicago, IL

15 CPE & 12 PD Credits upon course completion

CFA Institute has approved this program, offered by The Spaulding Group, for 12 CE credit hours. If you are a CFA Institute member, CE credit for your participation in this program will be automatically recorded in your CE tracking tool.



IN-HOUSE TRAINING

The Spaulding Group has offered in-house training to our clients since 1995. Beginning in 1998, we formalized our training, first with our Introduction to Performance Measurement class and later with our Performance Measurement Attribution class. We now also offer training for the CIPM program. To date, close to 3,000 individuals have participated in our training programs, with numbers increasing monthly.

CIPM PREP TRAINING: March 24-25, 2014 – Principles Level–New Brunswick, NJ
 March 26-28, 2014 – Expert Level–New Brunswick, NJ

UPDATED CIPM Principles and Expert Flash cards are now available on our web store. Please visit www.SpgShop.com today to order your set.

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These cards are a *must have* for anyone preparing to take the CIPM Exams.

