

# 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](mailto:CSpaulding@SpauldingGrp.com)

## ANNUALIZING FOR PERIODS BRACKETED BY DAYS, OTHER THAN MONTH OR YEARENDS

That's quite a subject title, isn't it?

Essentially I want to pick up on a topic I've addressed a few times in the past: that is, how does one annualize cumulative returns when the period doesn't consist of whole months or years, but involves a few extra days (e.g., from June 15, 2010 to November 7, 2013)?

For years, the math is simple: either take the  $n^{\text{th}}$  root of the cumulative return plus one, or raise the cumulative return plus one to the  $1/n^{\text{th}}$  power, where "n" equals the number of years, then subtract one. For months, we define n as the number of months in the period divided by 12.<sup>1</sup>

But what about periods that consist of a fractional number of years or months? That's the tricky part. You begin by counting the number of days. And so, let's say it's 1,034. What next? Well, that's the tricky part. As with months (where we divide by 12) we need to take this figure and divide by *something*, but what *something* is that?

The answer is unclear. Some firms always use 365, some always use 365.25, and some will adjust this number. Is there a "right" answer? I believe there is. We must consider things such as:

- Does the cumulative period cross a leap year? Actually, in my view that isn't the real challenge/question: does the period include February 29? If no, then to divide by 365 is the right answer.
- If the answer is yes, then it gets really tricky.

Furthermore, the "right" answer varies when you cross February 29, depending on the length of the period, and can vary from 365.25 to 366.

Perhaps a bigger question is "does it matter"? If we always use 365 or 365.25, the answer will sometimes be incorrect: but how incorrect? Will the error be "material"? If no, can we justify the expense of enhancing the process to provide more accurate results?

While I believe the answer is "no," I want to spend a bit of time doing some testing. When I'm done, John Simpson, Jed Schneider, and I will prepare an article for *The Journal of Performance Measurement*<sup>®</sup>, where we will share the results and perhaps include some logic to employ, too.<sup>2</sup>

1 It goes without saying, but I'm saying (writing) it anyway: you don't annualize for periods less than a year.

2 I actually developed fairly detailed logic for a client a few years ago, when I designed their performance system. This will most likely serve as the basis for what we outline in our article.

# 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*

## PERFORMANCE MEASUREMENT FORUM HOSTS 60TH MEETING

The Performance Measurement Forum is a “members only” group we formed in 1998. It meets twice a year in North America and twice a year in Europe, and consists of roughly 60 member firms, most of whom have been members for several years. Members come from asset management firms, plan sponsors, custodians, broker/dealers, verification firms, and software vendors. North America chapter membership is essentially closed at the present time, though we have a “waiting list” for those interested in joining.

Our EMEA (Europe, Middle East, Africa) chapter has a few membership slots available. Members can attend any meetings, and we often have folks based in North America attend EMEA meetings, and vice versa.

Each meeting lasts a day-and-a-half, and begins with members introducing themselves and identifying issue, questions, or concerns they want to address. This typically results in great dialogue, with various opinions being shared, counseling, and occasionally some debate. In addition, we will have a few prepared topics, often with outside speakers (i.e., non-members), during the session. The first night includes a dinner at a local restaurant.

We typically have 25-35 folks at each meeting, and many close friendships and relationships have developed as a result of gathering together each year, to share, learn, engage, and explore, as well as to spend some relaxed time with.

Our most recent Fall meeting in the US (held for the eighth time in Orlando) was our 60th, which we are quite proud of and excited about. Our 2014 meetings will be in Montreal, Canada; Berlin, Germany; Dubrovnik, Croatia; and San Diego, California. By the way, our members vote on the locations, as well as provide input on topics and speakers.

I want to take this opportunity to thank our members, who make these meetings so rewarding and fun; the various speakers who have joined us over the years; Jaime Puerschner, who handles the event planning; and especially Patrick Fowler, who organizes the events.

To learn more about this group, you can visit the “Forum” page of our firm’s website,<sup>3</sup> or contact Patrick Fowler or Chris Spaulding.

- (1) New York, NY (USA) - Dec 1998
- (2) Boston, MA (USA) - May 1999
- (3) Barcelona (Spain) - Oct 1999
- (4) San Francisco, CA (USA) - Nov 1999
- (5) Chicago, IL (USA) - May 2000
- (6) London (England) - May 2000
- (7) Dublin (Ireland) - Oct 2000
- (8) New York, NY (USA) - Nov 2000
- (9) Munich (Germany) - Mar 2001
- (10) Los Angeles, CA (USA) - May 2001
- (11) Rome (Italy) - Nov 2001
- (12) New York, NY (USA) - Dec 2001
- (13) Boston, MA (USA) - May 2002
- (14) Oslo (Norway) - June 2002
- (15) Vienna (Austria) - Nov 2002
- (16) Chicago, IL (USA) - Nov 2002
- (17) San Francisco, CA (USA) - Mar 2003
- (18) Warsaw (Poland) - June 2003
- (19) Lisbon (Portugal) - Nov 2003
- (20) New York, NY (USA) - Dec 2003
- (21) San Francisco, CA (USA) - May 2004
- (22) Edinburgh (Scotland) - June 2004
- (23) Madrid (Spain) - Nov 2004
- (24) Orlando, FL (USA) - Dec 2004
- (25) Las Vegas, NV (USA) - Apr 2005
- (26) Copenhagen (Denmark) - June 2005
- (27) Brussels (Belgium) - Nov 2005
- (28) Orlando, FL (USA) - Nov/Dec 2005
- (29) Scottsdale, AZ (USA) - Apr 2006
- (30) Dublin (Ireland) - Jun 2006
- (31) Milan (Italy) - Nov 2006
- (32) Orlando, FL (USA) - Nov/Dec 2006
- (33) New Orleans, LA (USA) - Apr 2007
- (34) Helsinki (Finland) - June 2007
- (35) Athens (Greece) - Nov 2007
- (36) Orlando, FL (USA) - Nov 2007
- (37) San Francisco, CA (USA) - Apr 2008
- (38) Paris (France) - June 2008
- (39) Amsterdam (Netherlands) - Nov 2008
- (40) Orlando, FL (USA) - Dec 2008
- (41) Boston, MA (USA) - Apr/May 2009
- (42) Stockholm (Sweden) - June 2009
- (43) Rome (Italy) - Nov 2009
- (44) Orlando, FL (USA) - Nov 2009
- (45) Boston, MA (USA) - Apr 2010
- (46) London (England) - Jun 2010
- (47) Prague (Czech Republic) - Nov 2010
- (48) Dallas, TX (USA) - Dec 2010
- (49) Boston, MA (USA) - Apr 2011
- (50) London (England) - June 2011
- (51) Budapest (Hungary) - Nov 2011
- (52) Orlando, FL (USA) - Dec 2011
- (53) Atlanta, GA (USA) - Apr 2012
- (54) Dublin (Ireland) - Jun 2012
- (55) Istanbul (Turkey) - Nov 2012
- (56) San Francisco, CA (USA) - Nov 2012
- (57) Boston, MA (USA) - Apr 2012
- (58) Brussels (Belgium) - June 2012
- (59) Lisbon (Portugal) - Nov 2012
- (60) Orlando, FL (USA) - Dec 2012

<sup>3</sup> <http://www.spauldinggrp.com/forum/performance-measurement-forum.html>

## 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.

### GIPS NEWS

The GIPS Executive Committee is considering a requirement for firms that claim compliance with the Standards to register with the CFA Institute. The following comes from the minutes of their last meeting:<sup>4</sup>

*“Executive Committee members discussed a proposed Exposure Draft of the Requirement for Firms that Claim Compliance with the GIPS Standards to Register with CFA Institute presented for their preliminary review. The proposed Exposure Draft document provided information regarding the type of data that would be collected on firms that claim GIPS compliance. This proposed Exposure Draft includes a potential new requirement for firms to register their claim of compliance with CFA Institute.*

*“During the plenary session at the CFA Institute Global Policy Summit yesterday, summit participants provided feedback on the proposed Exposure Draft of the Requirement for Firms that Claim Compliance with the GIPS Standards to Register with CFA Institute.*

*“There is a growing need to have a comprehensive, global list of the number of firms that claim compliance with the GIPS standards, the assets covered by the GIPS standards, and the geographic dispersion of the firms that comply with the GIPS standards, as that data currently does not exist. Some information has been available from databases and from surveys that have been conducted over the years, but not a comprehensive data collection. Regulators and the media consistently ask for this information.*

*“Once a final draft of the Exposure Draft of the Requirement for Firms that Claim Compliance with the GIPS Standards to Register with CFA Institute is approved by the Executive Committee, it will be released for a 90-day public comment period in the near”*

I am very pleased that this is being put out for public comment.<sup>5</sup> It’s something all compliant firms will want to be aware of, review, and perhaps comment on. We’ll provide additional details once their known.

<sup>4</sup> See <http://tinyurl.com/phlo5m2> for the full minutes of this session.

<sup>5</sup> It’s perhaps a bit early for this comment, but I’ll make it nonetheless. We don’t yet know what information will be required from compliant firms; however, if it includes the name of the verifier, many of us will object, if access to the information is limited to, for example, members of the EC. Why? Because at present there are two verifiers on this committee, and having access to such information would give them an additional competitive advantage (they already have such an advantage given their membership).

I can imagine that asset managers may also object to certain information being disclosed that may end up in the hands of their competitors. And so, all should take a close look at what is being suggested.

## KEEP THOSE CARDS & LETTERS COMING

*We appreciate the emails 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

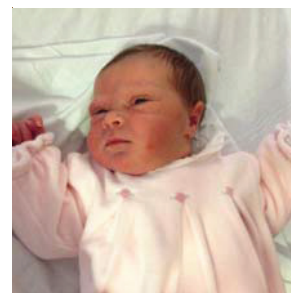
### November Puzzle

Last month's puzzle dealt with a grandfather. I mentioned that I'm one, and that a granddaughter was on her way. Well, she arrived on November 25, and is changing our lives a bit (as we're used to boys<sup>6</sup>). Sonia Renza-Elizabeth Spaulding, daughter of Chris and Monica, appears here with her brothers (who adore her, though we have to watch the little guy who moved from the youngest to middle child) as well as solo.



Here's the puzzle:

"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?"



I found this to be quite a challenging puzzle; I obviously can't speak for those who attempted it.

There are at least two ways to solve this problem: from approaching front-to-back (i.e., with the first clue) or back-to-front. I'll begin with my approach.

### *Solution #1*

We start with the second clue (and being a grandfather, I'll speak as if that's me!): my grandson is as many months as I am in years. And so, the following holds:

$$GrandSon's(GS)AgeInYears = \frac{GrandFather's(GF)AgeInYears}{12}$$

You'll notice I introduced some notation.

So we know how old my grandson is in years: my age in years divided by 12.

Now, we look at the first point about the relationship between my grandson and my son: my grandson is "about" as many days as my son is in weeks. Since we know my grandson's age in years, we can easily convert this to days by multiplying by 365.25:

$$GS(inDays) = \frac{GF}{12} \times 365.25$$

Note that we want to express everyone's age in my (the grandfather's) terms, to make the math simpler at the end.

And so, we now know how many days my grandson is (my age in years, divided by 12 (which is my grandson's age in years) times 365.25 (to convert years to days).



<sup>6</sup> There hadn't been a girl born in my family line in more than 120 years!

*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.

And so, this is my son's age in weeks. To convert this value to years we merely divide by 52:

$$\text{Son's}(S)\text{AgeInYears} = \left( \frac{GF}{12} \times 365.25 \right) / 52$$

And so, we now know:

- my age in years (GF)
- my grandson's age in years (GF/12)
- my son's age in years (GF/12)(365.25)/52.

We can now look at the last clue which says that the sum of our ages equals 100:

$$GF + GS + S = 100$$

Since we've established above everyone's age in terms of mine (the grandfather), we can convert this equation to:

$$GF + \frac{GF}{12} + \left( \frac{GF}{12} \times 365.25 \right) / 52 = 100$$

We can now "factor out" the GF from the left side, which gives us:

$$GF \left[ 1 + \frac{1}{12} + \left( \frac{1}{12} \times 365.25 \right) / 52 \right] = 100$$

Now, it's a matter of carrying out the arithmetic:

$$\begin{aligned} GF \left[ 1 + \frac{1}{12} + \left( \frac{365.25}{12} \right) / 52 \right] &= GF \left[ 1 + \frac{1}{12} + 30.4375 / 52 \right] \\ &= GF \left[ 1 + \frac{1}{12} + \frac{30.4375}{52} \right] = 1.66867 GF = 100 \end{aligned}$$

And finally, we divide both sides by 1.66867 to discover that I'm 59.928 years old (or roughly 60).<sup>7</sup>

We can check this by recalling what my son and grandson's ages are in years. Recall that my grandson is my age in years (60) but expressed in months, so he's five.<sup>8</sup> We know that his age in days ( $5 \times 365.25 = 1826.25$ ) is my son's age in weeks. And so, if we take this number and convert it to years ( $1826.25/52$ ) we discover that he's 35 years old. And so,  $60 + 5 + 35 = 100$ . Looks like a winner!

<sup>7</sup> Which is actually pretty close, as I turned 63 last month!

<sup>8</sup> Again, making this "personal," my grandson, Brady, will be five next year!

## ANOTHER TOPOLOGY JOKE

Recall that in the last issue I referenced the mathematical field of topology. Well, my friend Anthony Howland offered the following topology joke:

**Question:** Why did the chicken cross the Möbius strip?

**Answer:** To get to the same side!

(I can hear you laughing!)

### Solution #2

This approach was used by at least two folks (Jed Schneider and David Plantamura).

Here, we try to solve the grandson's age, starting with the first clue.

We know that the grandson's age in days is the son's in weeks. Since there are seven days in a week, we know that the son's age in years is seven times the grandson's age in days.

$$S = 7GS$$

We also know that the grandson is as many months as I am in years; and so, my age is merely 12 times his age:

$$GF = 12GS$$

We can now add our three ages up as follows:

$$GS + 7GS + 12GS = 20GS = 100$$

We're now at the last step where we simply divide 100 by 20 to determine that my grandson is five. From the earlier math we know that I'm 12 times his age (i.e.,  $12 \times 5 = 60$ ) and that my son is 7 times his age (i.e.,  $7 \times 5 = 35$ ).

Wow! That was a lot simpler, right?

### Solution #3

There's actually at least one more solution, as admitted by one of our problem solvers: trial and error. Well, he got it right, so his name appears!

### December Puzzle

Malcolm, Tom, Debi, Anthony, and Carlos gathered together at a restaurant to celebrate the holidays. The restaurant serves five course meals. Each have a choice of soup, a salad, a pasta course, a meat course and a desert. The menu is as follows:

Soup: Minestrone, Tomato Bisque, or French Onion

Salad: Italian, Ranch, or Caesar's Salad

Pasta: Spaghetti, Linguine, or Penne

Meat: Beef Steak, Chicken Breast, or Salmon

Dessert: Ice Cream, Apple Pie, or Chocolate Cake.

#### Some facts

- The only choice Malcolm and Tom have in common is linguine.
- The only choice Anthony and Carlos have in common is ice cream.
- Two people had beef steak.

Malcolm Smith	UK
Tom Stapleton	UK
Debi Rossi	USA
Yun Zhang	USA
Anthony Howland	UK
Brett Bloemendaal	USA
Jed Schneider	USA
Jeremy Welch	USA
Hans Braker	Netherlands
Carlos Leute	Puerto Rico
John T. Volpert	USA
Dennis J. Voda	USA
David Plantamura	USA
Neil Riddles	USA
Gerard van Breukelen	Netherlands

## Seasons' Greetings

It's a little late to wish our Jewish brethren a Happy Chanukah, due to its unusually early appearance this year, though we hope they enjoyed the holiday. We wish our Christian friends a Merry Christmas, and our friends of all faiths a happy and prosperous new year!

- The only choice Debi and Anthony have in common is tomato bisque soup.
- The person who chose ranch and salmon had apple pie
- Carlos had ranch salad.
- Two people had caesar's salad.
- Only one person choose penne.
- The person who chose minestrone also chose Italian salad.
- Tom and Carlos did not choose minestrone soup.
- The people who chose beef steak had ice cream.
- Anthony had chicken breast.
- The only choice Tom and Debi have in common is salmon.
- Debi and Anthony did not have spaghetti.

Answer the following: What did each person eat at the restaurant?

## Lisa Smith

### **Bio:**

Lisa Smith is the Director, Performance Measurement and Attribution within the Canada Pension Plan Investment Board. Since joining CPPIB in 2006 she has been responsible for in-sourcing the performance measurement function and building investment performance expertise within CPPIB.

Lisa has over 15 years of experience in the financial services sector. Prior to CPPIB, she was most recently Head of Research and Analytics with Morningstar Canada. Prior to that she held increasingly senior roles at Transamerica Life/ Aegon Capital Management.

Lisa is a Chartered Financial Analyst, a Certified Management Accountant and holds a BA in Accounting from Laurentian University.



## CLIENT'S CORNER

### ***1. How long have you been involved in performance?***

I've been involved in portfolio analysis and performance measurement for over 15 years.

### ***2. What do you enjoy most about it?***

I love the constant challenges of working in performance measurement. Our profession has continued to change, grow and evolve over the past 15 years. That change coupled with the complexities introduced by new and innovative asset classes and portfolio types and more demanding and sophisticated audiences make performance measurement an exciting and dynamic place to be. I enjoy the search for answers and helping others to interpret and understand performance so they can use it knowledgeably in making decisions.

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

The Spaulding Group is a valuable resource for us, providing research, insights and opinions on new and evolving measures and methodologies, trends and changing standards, as well as tools available to performance and risk professionals. We leverage TSG as a key source for continued education and industry related surveys. Additionally we are members of the Performance Measurement Forum.

**THE SPAULDING GROUP'S JANUARY – JUNE 2014  
INVESTMENT PERFORMANCE MEASUREMENT CALENDAR OF EVENTS**

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

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



## TRAINING...

### *Gain the Critical Knowledge Needed for Performance Measurement and Performance Attribution*

#### TO REGISTER:

Phone: 1-732-873-5700

Fax: 1-732-873-3997

E-mail: [info@SpauldingGrp.com](mailto: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:

January 21-22, 2014 – Los Angeles, CA  
February 10-11, 2014 – Toronto, Canada

May 19-20, 2014 – New Brunswick, NJ  
June 17-18, 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.



#### 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:

January 23-24, 2014 – Los Angeles, CA  
February 12-13, 2014 – Toronto, Canada

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](http://www.SpgShop.com) today to order your set.**

Our performance experts have created a study aid which can't be beat: **flash cards!** These handy cards will help you and your associates prepare for the upcoming CIPM Principles Exam. Unlike a computer-based study aid, you can take them anywhere to help you test your knowledge.

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- Work at your own pace
- Immediate feedback
- Strengthen and reinforce core CIPM principles

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

