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.

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CSpaulding@SpauldingGrp.com

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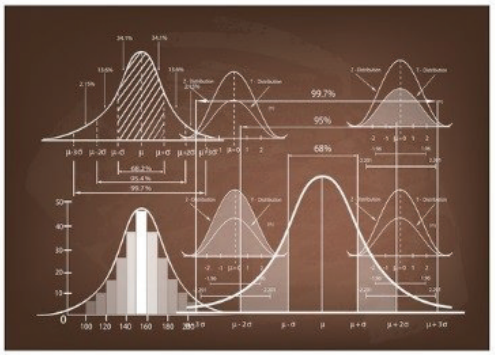
MAKING SENSE OUT OF THE 36-MONTH, *ex post*, ANNUALIZED STANDARD DEVIATION



We recently held our February Performance Measurement Think Tank[1] session, and one member asked the following regarding the GIPS® required 36-month, *ex post*, annualized standard deviation:

> "Would love to get Dave's or John's 'philosophical' take on the issue of annualizing standard deviations.
>
> "If standard deviation is being used as measure of how widely the actual returns are dispersed around the mean return, intuitively the unannualized number makes a lot more sense when looking at monthly returns that the annualized number does. It is hard to see the utility of using at the annualized number when looking at the monthly returns. Why is it standard practice to annualize this number? And what are we achieving by multiplying the un-annualized by the square root of 12? What alternative universe does this make sense in?"

In my response I mentioned that I had written an article on this very topic.[2] I, too, found that this statistic is not easy to comprehend, at least when we think of standard deviation is a measure of dispersion.

Recall that standard deviation is a handy statistic, that can provide multiple ways to analyze statistics. Please refer to the accompanying graphic.

Risk

Month	1	2	3	...	33	34	35	36
Composite Return	1.00%	-1.07%	2.14%		-0.80%	-0.70%	1.25%	1.77%

Account	Annual Return
A	12.70%
B	12.65%
C	13.01%
D	12.99%
E	13.07%
...	
X	12.73%
Y	13.08%
Z	13.25%
Composite	13.04%

Dispersion

Since its beginning, the GIPS standards has mandated the reporting of a *measure of dispersion*, and we have found that standard deviation is the preferred way to do this. Sadly, too many firms still use the asset-weighted form, which I also address in my article. It seemed like a good year 20 years ago when it was first proposed, but we've found that it has no real value, mainly since we are unable to interpret it. But enough about that.

1 The Performance Measurement Think Tank is a highly affordable way to get your questions answered and gain additional insights into performance and risk measurement. To learn more, visit http://www.spauldinggrp.com/performance-measurement-think-tank/

2 Spaulding, David. 2014. "Why do we abuse, misuse, and confuse standard deviation?" *The Journal of Performance Measurement*. Fall.

The Journal of Performance Measurement®

UPCOMING ARTICLES

With dispersion, we are looking at a series of portfolio returns for a single period, to determine how disperse they are; that is, how spread out. Has the manager invested in a fairly consistent fashion, or are the returns quite different?

The statistic complements the composite's annual return, providing some valuable insights about the strategy.

The 36-month statistic is a proxy for risk: here, we're looking *across* time, to see how *volatile* the composite has been. As I explained during Think Tank, knowing this statistic for the composite has no real value. If I tell you it was 14.78%, what does that mean to you? How would you respond? What would you think? The value is when we compare it to the benchmark's value: if the composite's is higher, then we interpret it had more value and therefore took on more risk; if it's less than the benchmark, then it had less volatility or risk.

Is there any value in annualizing it? I don't think so, as we should be able to garner the same information by looking at the monthly values. But, annualizing it is fine.

The key is that we should not be thinking of it in the same way that we think of dispersion. With standard deviation, the average return, +/− standard deviation captures roughly two-thirds of the distribution. With the monthly, non-annualized value, this is true: but when we annualize it, it no longer is. Thus, some of the confusion.

BOOK REVIEW: THE REPORTER WHO KNEW TOO MUCH, BY MARK SHAW

I will confess a fondness for conspiracy theories, especially centering around the murder of John F. Kennedy. This book, though technically not about his death, deals with the death of Dorothy Kilgallen at just 52 years old in 1965. Described by Mark Shaw as "collateral damage" from JFK's assassination, I became aware of her mysterious death a few years back.

Many of my contemporaries will recall Ms. Kilgallen as a panelist on *What's My Line?*, a popular TV show from the late 1950s and early 1960s. I recall watching the show, but didn't recall her death. Nor, did I know that she was a famous reporter.

The book discusses how she became hugely successful, breaking a "glass ceiling," a term not yet in vogue at the time. Her style was quite aggressive.

Because she had become a big fan of JFK's, his assassination interested her a great deal. And, FBI Director J. Edgar Hoover's very quick conclusion that there was no conspiracy, but rather that Lee Harvey Oswald acted alone, shocked and dismayed her. She became a regular at the trial of Oswald's killer, Jack Ruby, and apparently succeeded in having two interviews with Ruby.

She gained enough insight into the links between Oswald, Ruby, and the Mafia, that she was convinced she was close to learning what really had occurred. Shaw's

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.

contention is that there were certain individuals who couldn't allow this to happen, so Dorothy had to go.

The book is fascinating, filled with intrigue and many interesting details. I have just ordered a book the author wrote on boxer Mike Tyson, someone I believe was mistreated by the courts; I believe Shaw felt that way, too, so I'm anxious to begin. I recommend this book: you'll learn a great deal, not only about Dorothy Kilgallen, but also about a plausible theory on JFK's demise.

GIPS XXX?

Members of the GIPS® Executive Committee ("EC"), as well as folks from the CFA Institute, recently rang the closing bell at NASDAQ.[3] They were there to celebrate the 30th anniversary of the Global Investment Performance Standards. Sadly, something got *lost in the translation*, as GIPS is only 18 years old. What's 30 years old is the concept of performance presentation standards, which began with the Financial Analysts Federation (FAF).

Their draft was published in the *Financial Analysts Journal* 30 years ago. In 1990 the FAF merged with the Institute of Chartered Financial Analysts (ICFA) to form the Association for Investment Management & Research (AIMR), and the FAF standards became the AIMR Performance Presentation Standards (AIMR-PPS®), which were first published in 1993.[4] In the mid 2000s, AIMR became the CFA Institute. I think you probably need a scorecard to keep up with this.

Congratulations is definitely due to the CFA Institute. It does seem a bit odd, though, that the 25th anniversary, or "silver anniversary," seemed to got overlooked: if it was acknowledged, then *I was asleep at the wheel*, and missed it.

But, a 30th anniversary is definitely worth noting, too.

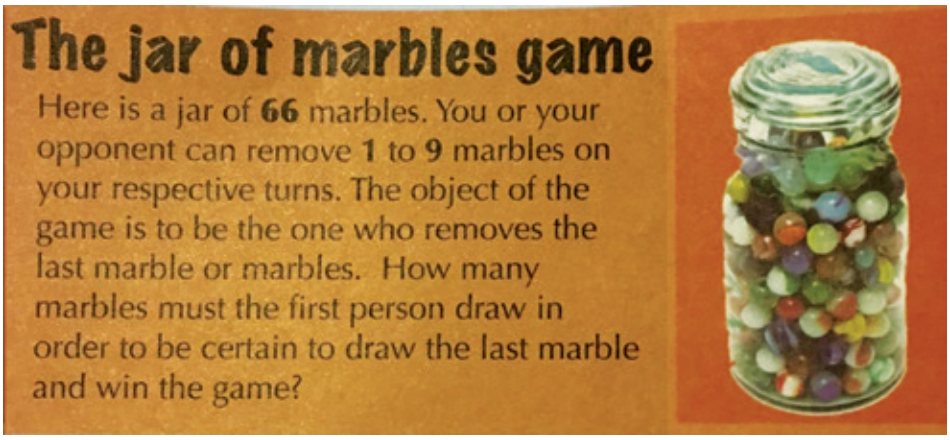
I tend to be very much "anniversary conscious." As I recently pointed out on my Facebook page, next year will mark the 50th anniversary of my high school graduation (yes, I was a prodigy, graduating at 6 years old).

Given the massive amount of *stuff* that has come out in our industry, chances are that every year is a worthy anniversary to note. But this year let's pay homage to the CFA Institute for coming up with the idea of standards as to how firms should present performance to prospects: *you've come a long way, baby!*

3 http://business.nasdaq.com/discover/market-bell-ceremonies/detail.html#!/!?ceremonyId=7464

4 If you're keeping track of anniversaries, it's the 20th for the second edition of the AIMR-PPS.

PUZZLE TIME



January puzzle[5]

On the surface this seems like quite a challenge, does it not? It helps to work from the back, forward.

You want to pull the 66th marble. How can you do that? Well, if you can guarantee that you position your opponent so that they must take the 57 marble. Why, because as long as they take the 57th either by taking it as their first or 9th marble, that will leave one to nine marbles for you. If your opponent takes 57, they can't at the same time 66, right? And so, you want to make sure your opponent takes the 57th, 47th, 37th, 27th, 17th, and 7th marbles: you can then adjust your next move as a result of that occurring. And so, you want to take the 6th, 16th, 26th, 36th, 46th, and 56th marble.

Starting is then easy: take six marbles. After that, it's just a matter of adjusting your next move based on what your opponent does: if he/she takes 2 marbles, you take 8; if they take 5, you take 5, if they take 9, you take 1. I.e., the number you take will be ten minus whatever amount they took.

The accompanying table provides some evidence that this actually works:

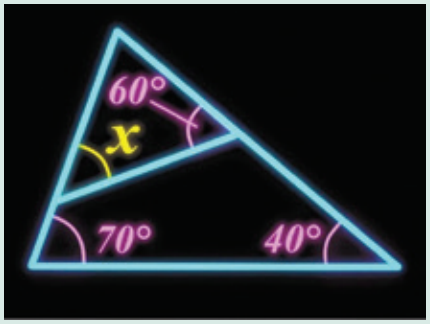
		Scenario #1		Scenario #2		Scenario #3		Scenario #4	
		Me	Opponent	Me	Opponent	Me	Opponent	Me	Opponent
Marble		Take 6		Take 6		Take 6		Take 6	
1		x		x		x		x	
2		x		x		x		x	
3		x		x		x		x	
4		x		x		x		x	
5		x		x		x		x	
6		x	Take 9	x	Take 1	x	Take 4	x	Take 2
7	Opponent		x	Take 9	x		x		x
8			x	x			x	Take 5	x
9			x	x			x	x	
10			x	x		Take 6	x	x	
11			x	x		x		x	
12			x	x		x		x	
13			x	x		x		x	
14			x	x		x		x	
15		Take 1	x	x		x		x	
16		x	Take 9	x	Take 1	x	Take 4	x	Take 3
17	Opponent		x	Take 9	x		x		x
18			x	x			x		x
19			x	x			x	Take 7	x
20			x	x		Take 6	x	x	
21			x	x		x		x	
22			x	x		x		x	
23			x	x		x		x	
24			x	x		x		x	
25		Take 1	x	x		x		x	
26		x	Take 9	x	Take 1	x	Take 4	x	Take 3
27	Opponent		x	Take 9	x		x		x
28			x	x			x		x
29			x	x			x		x
30			x	x		Take 6	x		x
31			x	x		x		Take 5	x
32			x	x		x		x	
33			x	x		x		x	

		Scenario #1		Scenario #2		Scenario #3		Scenario #4	
		Me	Opponent	Me	Opponent	Me	Opponent	Me	Opponent
Marble									
34			x	x		x		x	
35		Take 1	x	x		x		x	
36		x	Take 9	x	Take 1	x	Take 4	x	Take 6
37	Opponent		x	Take 9	x		x		x
38			x	x			x		x
39			x	x			x		x
40			x	x		Take 6	x		x
41			x	x		x			x
42			x	x		x		Take 4	x
43			x	x		x		x	
44			x	x		x		x	
45		Take 1	x	x		x		x	
46		x	Take 9	x	Take 1	x	Take 4	x	Take 7
47	Opponent		x	Take 9	x		x		x
48			x	x			x		x
49			x	x			x		x
50			x	x		Take 6	x		x
51			x	x		x			x
52			x	x		x			x
53			x	x		x		Take 5	x
54			x	x		x		x	
55		Take 1	x	x		x		x	
56		x	Take 9	x	Take 1	x	Take 4	x	Take 6
57	Opponent		x	Take 9	x		x		x
58			x	x			x		x
59			x	x			x		x
60			x	x		Take 6	x		x
61			x	x		x			x
62			x	x		x			x
63			x	x		x			x
64			x	x		x		Take 2	x
65		Take 1	x	x		x		x	
66	Last	x		1		x		1	

5 Source: Math: An Integral Part of Happiness

February Puzzle

The accompanying graphic provides this month's puzzle, which came from "I Love Mathematics" on Facebook. It has been over 50 years since I've been asked to do such a puzzle, and was pleased that I solved it, not just once, but twice (meaning there are at least two solutions!). Hope you can solve it, too! Oh, in case it isn't clear, what's "x"?



Three readers solved the puzzle, Dorian Young, Anthony Howland, and Joel Buursma.

Dorian Young provided the following as his response:

A: 6 marbles.

Commentary: Because either person can take 1 to 9 marbles, this means that if you leave your opponent 10 marbles at some point, then whatever number he takes, you can take the remainder and win. Moreover, any time you leave him with a multiple of 10, then you can get down to the next multiple of 10, and eventually get to just 10 marbles and win. Hence, by taking 6 marbles and leaving your opponent with 60 marbles, you can subsequently leave him with 50, then 40, then 30, then 20, then 10, then 0 and you've won.

Anthony Howland wrote:

Answer must be 6 to leave a multiple of 10 left in the jar. With a multiple of 10 left, each time the opponent takes out x marbles, you take out 10-x.

Joel Buursma provided quite an interesting response:

The marble puzzle is a classic type. The answer is: 6 marbles.

The way you solve the puzzle is to work backwards. If the most you can choose is 9 marbles, if you can manage to get it down to 10 marbles, then you are assured victory. If your opponent chooses 9 marbles, then you get the last 1 and win. If your opponent chooses 1 marble, then you get the last 9 and win. And, similarly, the way to get it down to 10 marbles is to first get it down to 20 marbles. Again, if it's at 20 marbles, no matter what your opponent chooses, you can choose 10 minus that to get down to 10. Continuing back this way, you want to get it to 30, 40, 50, and 60. So, if you start off with 66 and take away 6, you control the rest of the game.

A sample game:

Marbles	You Take	Opponent Takes
66	6	
60		9
51	1	
50		3
47	7	
40		1
39	9	
30		4
26	6	
20		1
19	9	
10		5
5	5	
0		

Excel "Show All Formulas" version of sample game:

	A	B	C
1	Marbles	You Take	Opponent Takes
2	66	6	
3	=A2-SUM(B2:C2)		=RANDBETWEEN(1,9)
4	=A3-SUM(B3:C3)	=10-C3	
5	=A4-SUM(B4:C4)		=RANDBETWEEN(1,9)
6	=A5-SUM(B5:C5)	=10-C5	
7	=A6-SUM(B6:C6)		=RANDBETWEEN(1,9)
8	=A7-SUM(B7:C7)	=10-C7	
9	=A8-SUM(B8:C8)		=RANDBETWEEN(1,9)
10	=A9-SUM(B9:C9)	=10-C9	
11	=A10-SUM(B10:C10)		=RANDBETWEEN(1,9)
12	=A11-SUM(B11:C11)	=10-C11	
13	=A12-SUM(B12:C12)		=RANDBETWEEN(1,9)
14	=A13-SUM(B13:C13)	=A14	
15	=A14-SUM(B14:C14)		

THE SPAULDING GROUP'S 2017 INVESTMENT PERFORMANCE MEASUREMENT CALENDAR OF EVENTS

DATE	EVENT	LOCATION
February 14-15, 2017	Fundamentals of Performance Measurement	Chicago, IL (USA)
February 16-17, 2017	Performance Measurement Attribution	Chicago, IL (USA)
March 7-8, 2017	Fundamentals of Performance Measurement	San Francisco, CA (USA)
March 9-10, 2017	Performance Measurement Attribution	San Francisco, CA (USA)
April 2017	Fixed Income Attribution Webcast	
April 25, 2017	Asset Owner Roundtable	Seattle, WA
April 26-27, 2017	Performance Measurement Forum	Seattle, WA
May 9-10, 2017	PMAR North America	Jersey City, NJ
May 11-12, 2017	Fundamentals of Performance Measurement	Jersey City, NJ
June 14-15, 2017	PMAR Europe	London, England
June 22-23, 2017	Performance Measurement Forum	Vienna, Austria
July 17-21, 2017	Performance Measurement Boot Camp	New Brunswick, NJ
August 15-16, 2017	Fundamentals of Performance Measurement	Toronto, Ontario
August 17-18, 2017	Performance Measurement Attribution	Toronto, Ontario
September 2017	Basic Risk Measures Webcast	
October 16-17, 2017	Fundamentals of Performance Measurement	Los Angeles, CA
October 18, 2017	PMAR West Coast	Los Angeles, CA
October 19-20, 2017	Performance Measurement Attribution	Los Angeles, CA
November 2-3, 2017	Performance Measurement Forum	Rome, Italy
November 14, 2017	Asset Owner Roundtable	Orlando, FL
November 15-16, 2017	Performance Measurement Forum	Orlando, FL
December 2017	Performance Measurement for Non-Performance Professionals Webcast	
December 11-12, 2017	Fundamentals of Performance Measurement	New Brunswick, NJ
December 13-14, 2017	erformance Measurement Attribution	New Brunswick, NJ

For additional information on any of our 2017 events, please contact Christopher Spaulding at 732-873-5700

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February 14-15, 2017 – Chicago, IL
March 7-8, 2017 – San Francisco, CA
May 11-12, 2017 – Jersey City, NJ
August 15-16, 2017 – Toronto, Ontario
October 16-17, 2017 – Los Angeles, CA
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Two full days devoted to this increasingly important topic. The Spaulding Group, Inc. invites you to attend Performance Measurement Attribution on these dates:

February 16-17, 2017 – Chicago, IL
March 9-10, 2017 – San Francisco, CA
August 17-18, 2017 – Toronto, Ontario
October 19-20, 2017 – Los Angeles, CA
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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.