Monetizing Excess Returns

David D. Spaulding, DPS, CIPM

June 2024

Forum Spring 2024 (Las Vegas)

Spaulding & Honner Approach

"Monetizing Excess Returns"
David Spaulding, TSG
& Terry Honner, IMCO
JPM Winter 2023/2024

Begin by monetizing the portfolio and benchmark returns

If no external flows

- For portfolio, simply take the difference between the starting and ending values
  - Example: start with/$1,000,000 and end with $1,100,000
  - The portfolio's monetized return = 100,000
- In percentage terms (we're familiar with):

$$R_P = \frac{V_E}{V_B} - 1 = \frac{1{,}100{,}000}{1{,}000{,}000} - 1 = 10\%$$

For the benchmark (no external flows)

- *Apply the benchmark's return to the portfolio's starting value, to get what would have been the value had the benchmark had that money*
  - R_B =9.00%, *therefore:*
    1.09 x 1,000,000 = 1,090,000
  - *Monetized return =*
    1,090,000 - 1,000,000 = 90,000

If no external flows:

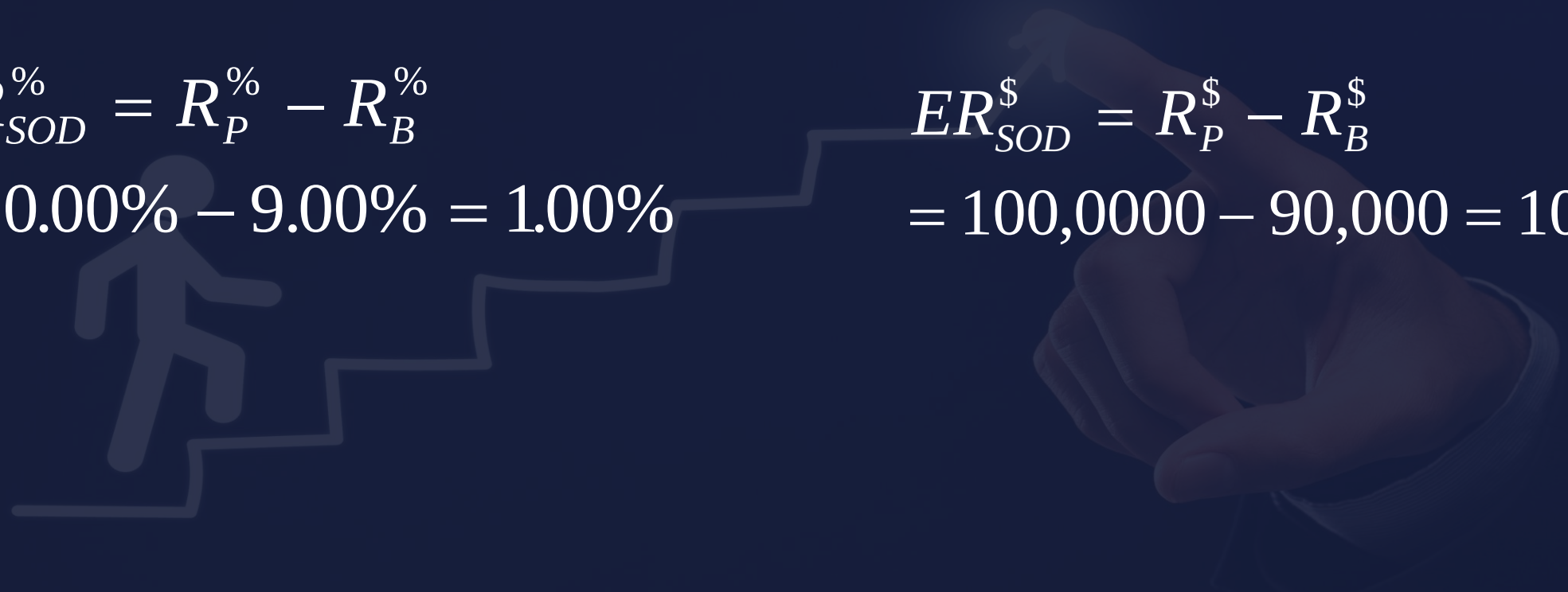
Excess returns, just take the differences

$$ER^{\%}_{SOD} = R^{\%}_{P} - R^{\%}_{B}$$

$$= 10.00\% - 9.00\% = 1.00\%$$

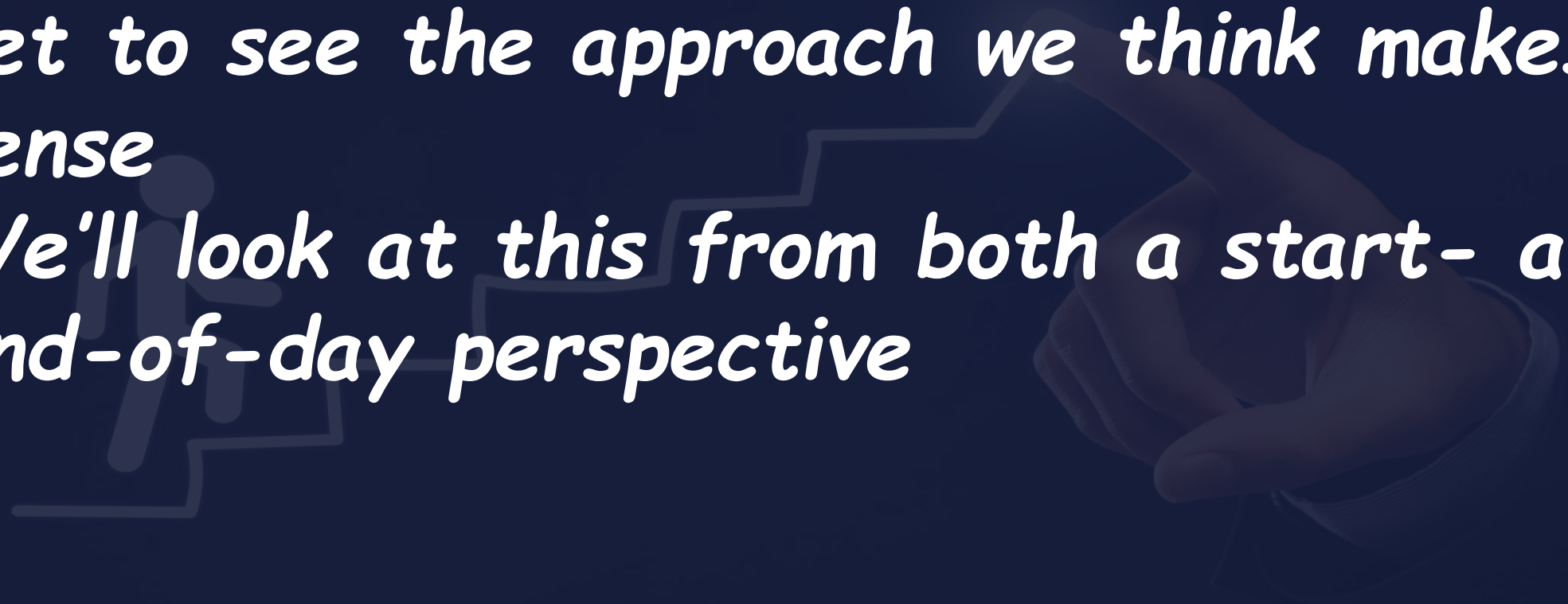
$$ER^{\$}_{SOD} = R^{\$}_{P} - R^{\$}_{B}$$

$$= 100{,}0000 - 90{,}000 = 10{,}000$$



When we have external flows

- *A bit more challenging, but this is where we get to see the approach we think makes sense*
- *We'll look at this from both a start- and end-of-day perspective*



Start-of-Day (SOD)

- Measure the portfolio's return from the start of the period to the day before the flow
- Use the period-to-date return through the prior day to calculate the monetized return
- Add the cash flow to the prior day's ending value, and use it as the starting value for the next period of time
- Our example will have a single flow though the principle works with > 1 flow

Start-of-Day Example
Return before the flow

- *Begin the month of June with $1 million*
- *An external flow on the 15th of $75,000*
- *Portfolio value a/o COB June 14 = $1,046,078*
- *Calculate return up to prior day:*

$$R_{1-14} = \frac{V_E}{V_0} - 1 = \frac{1{,}046{,}078}{1{,}000{,}000} - 1 = 4.61\%$$

Start-of-Day Example Return after the flow

- *Add the cash flow to the prior day's ending value: 75,000 + 1,046,078 = 1,121,078*
- *The end-of-month value is 1,140,980*
- *Calculate the return for the second part of the month:*

$$R_{15-30} = \frac{V_E}{V_0} - 1 = \frac{1{,}140{,}980}{1{,}121{,}078} - 1 = 1.78\%$$

Returns for the full month

- *We geometrically link these two returns to get the percentage return for the month*

$$R_{Monrh} = \prod (1 + R_i) - 1$$

$$= (1 + 0.0461)(1 + 0.0178) - 1$$

$$= 6.46\%$$

Nothing new, so far
You already know this, I'm sure

- *Calculating the percentage returns is nothing new, and knowing how to calculate them by doing daily valuations is pretty standard stuff*
- *Now, we want to derive the Monetized Returns*

Monetized Returns

- Monetized return (gain/loss) for first part of month is the value before the flow, minus V_0

  1,046,078 – 1,000,000 = 46,078

- Monetized return for second part is ending value minus the period's starting value

  1,140,980 - 1,021,078 = 19,902

- Just add them together to get the portfolio's Monetized Return for the month

  46,078 + 19,902 = 65,980

Summary Table: SOD for Portfolio

	Start-of-day cash flow treatment				
	Portfolio				
Date	V_0	CF	V_E	Gain/Loss	Return
6/1/2023	1,000,000				
6/14/2023	-		1,046,078	46,078	4.61%
6/15/2023	1,121,078	75,000			
6/30/2023	-		1,140,980	19,902	1.78%
June				65,980	6.46%
Excess Return				19,579	1.92%

End-of-Day (EOD)

- *Ignore flow until end-of-day the flow occurred*
- *Calculate the return through end-of-day, w/o the flow*
- *Add external flow to the day's ending value*
- *This value represents the starting value for the second part of the month*

End-of-Day Example in % Terms

- Same as Start-of-Day: i.e., started with $1MM
- End-of-15th value (w/o flow) = $1,058,841
- Return through 15th (before the flow):

$$R_{1-15} = \frac{V_E}{V_0} - 1 = \frac{1{,}058{,}841}{1{,}000{,}000} - 1 = 5.88\%$$

End-of-Day Example

- Add the flow to the ending day's value:
  1,058,841 + 75,000 = 1,133,841
- This is the starting value for 2nd part of month
- Measure second part of month's return

$$R_{16-30} = \frac{V_E}{V_0} - 1 = \frac{1{,}140{,}980}{1{,}133{,}841} - 1 = 0.55\%$$

End-of-Day Example Portfolio's Return for the Month

- *Again, we geometrically link these two returns to get the return for the month*

$$R_{Month} = \prod (1 + R_i) - 1$$
$$= (1 + 0.0588)(1 + 0.0055) - 1$$
$$= 6.46\%$$

Monetized Portfolio Returns

- Monetized return (gain/loss) for first part of month is the value before the flow, minus V_0

  1,058,841 – 1,000,000 = 58,841

- Monetized return for second part is ending value minus the period's starting value

  1,140,060 – 1,133,841 = 6,220

- Just add them together to get the month's Monetized Return

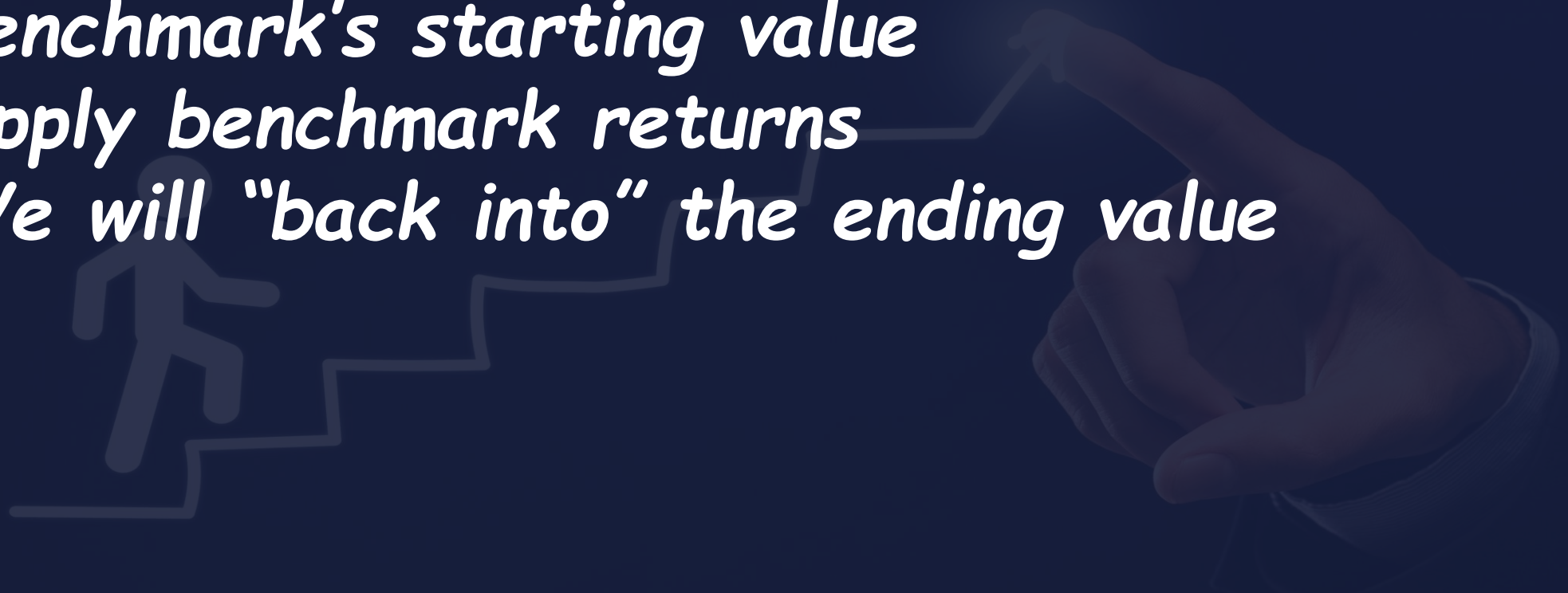
  58,841 + 6,220 = 65,060

Summary Table: EOD

	End-of-day cash flow treatment				
	Portfolio				
Date	V_0	CF	V_E	Gain/Loss	Return
6/1/2023	1,000,000				
6/15/2023		75,000	1,058,841	58,841	5.88%
6/16/2023	1,133,841				
6/30/2023			1,140,060	6,220	0.55%
June				65,060	6.46%

Monetized Benchmark Returns

- *Use the portfolio's starting value ($1mm) as the benchmark's starting value*
- *Apply benchmark returns*
- *We will "back into" the ending value*



Monetized Benchmark Returns

- R_B = 9%
- With no flows, it's simple:
- Ending value = (1+9%) x 1,000,000 = 1,090,000

- With flows, use the benchmark returns as we did with the portfolio's, except that we "back into" the values, since the returns exist and can be found (independent of the portfolio's activity)

Benchmark Start-of-Day Return

- $75,000 flow occurred on the 15th;
- Benchmark's return through the 14th = 3.26%
- Apply this to the starting value:

  1,000,000 x (1+3.26%) = 1,032,605
- Add the flow to start the 2nd half of the month:

  1,032,605 + 75,000 = 1,107,605
- Benchmark return for 2nd half of month = 1.25%
- Ending value backed into:

  1,107,605 x (1+1.25%) = 1,121,401

Calculating the benchmark's return for the month

We geometrically link these two returns to get the return for the month

$$R_{Monrh} = \prod (1 + R_i) - 1$$

$$= (1 + 0.0326)(1 + 0.0125) - 1$$

$$= 4.55\%$$

Monetized SOD Benchmark Returns

- Same as what we did for portfolio
- First part of month:

  1,032,605 – 1,000,000 = 32,605
- Second part of month:

  1,121,401 – 1,107,605 = 13,795
- For month:

  32,605 + 13,795 = 46,401

Monetize SOD Benchmark Returns

	Start-of-day cash flow treatment				
	Benchmark				
Date	V_0	CF	V_E	Gain/Loss	Return
6/1/2023	1,000,000				
6/14/2023	-		1,032,605	32,605	3.26%
6/15/2023	1,107,605	75,000			
6/30/2023			1,121,401	13,795	1.25%
June				46,401	4.55%

If end-of-day treatment, similar to what we did w/portfolio

Except we, again, back into the values

	End-of-day cash flow treatment				
	Benchmark				
Date	V_0	CF	V_E	Gain/Loss	Return
6/1/2023	1,000,000				
6/15/2023	-	75,000	1,045,616	45,616	4.56%
6/16/2023	1,120,616				
6/30/2023			1,120,456	(160)	-0.01%
June				45,456	4.55%

Deriving SOD Excess Returns

We do this in both a % and $ basis

	Start-of-Day			
	Portfolio		Benchmark	
	Gain/Loss	Return	Gain/Loss	Return
June	65,980	6.46%	46,401	4.55%

$$ER^{\%}_{SOD} = R^{\%}_{P} - R^{\%}_{B}$$

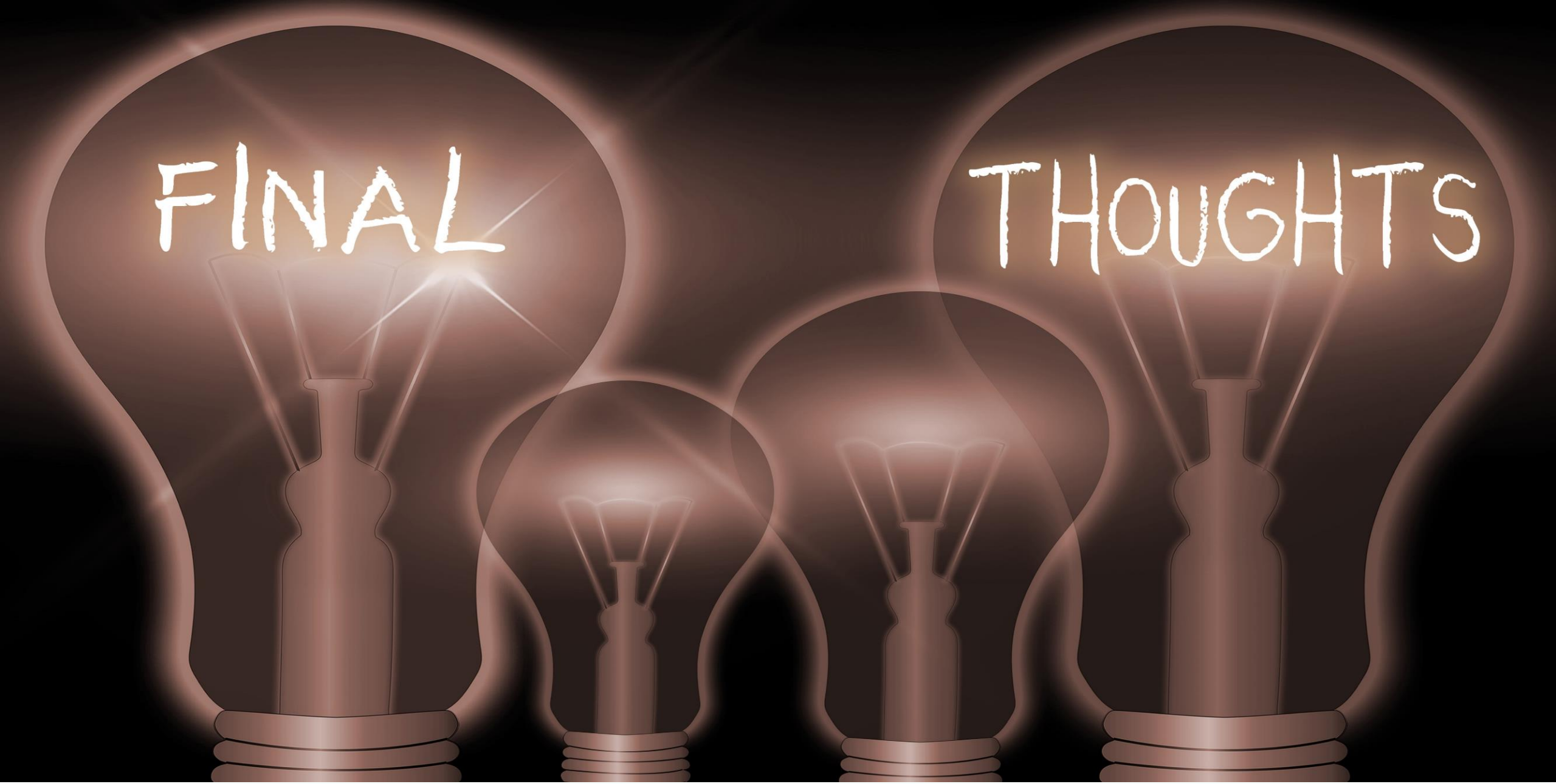
$$= 6.46\% - 4.55\% = 1.92\%$$

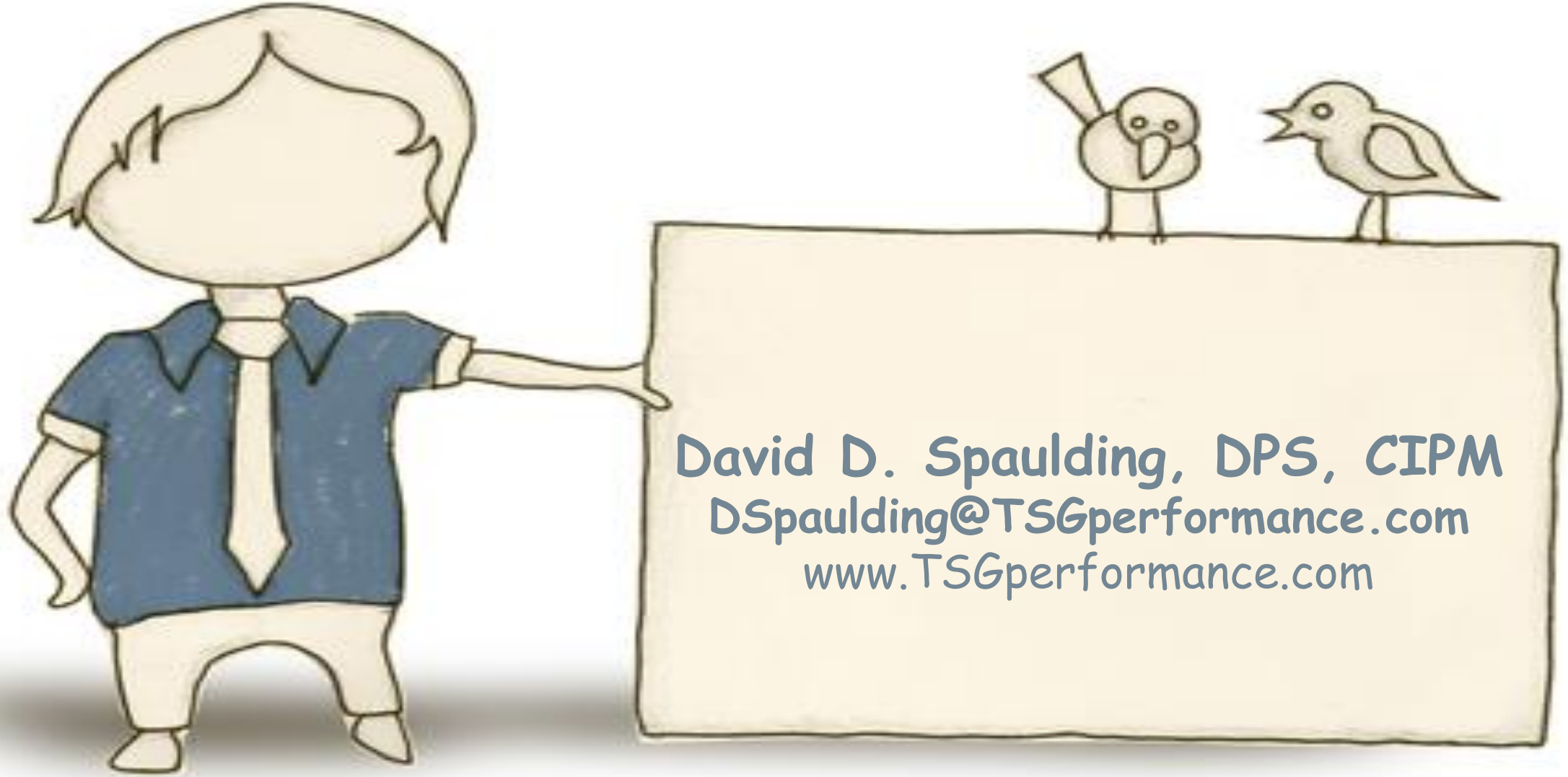
$$ER^{\$}_{SOD} = R^{\$}_{P} - R^{\$}_{B}$$

$$= 65{,}980 - 46{,}401 = 19{,}579$$

Resetting Frequency

- The article also touches on this topic, from two perspectives
  - Resetting gain/loss values
  - Resetting the benchmark values
- Because we want to discuss the basic concept we present to monetize returns and get your thoughts, we will not touch on resetting





We Are Performance™

The institutionally recognized boutique performance measurement consulting and GIPS® standards specialist firm serving the investment industry

www.TSGperformance.com