



The Difference between *Measuring* and *Managing* Investment Results

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There is an old saying that “*You cannot manage what you do not measure.*” A lot of effort in the investment consulting and financial advising industry involves measurement, specifically performance measurement. Track records of funds and money managers are measured and benchmarked versus indices or ranked among supposed “peers.” Many financial advisors represent to their clients that part of their ongoing value is regularly measuring account performance.



But, is *measuring* results the same as *managing* results?

I personally think the old saying should be appended with the statement, “*But, just because you measure something does not mean you are managing it.*”

Sophistication in investment performance measurement has advanced remarkably over the last several decades with custom benchmarking, dollar and time weighted return calculations, and even online daily reporting. The financial services industry is clearly measuring a lot of returns, but does doing so add any value? Is the *measurement* of returns leaving investors with a potentially false and misleading impression those returns are also being *managed*, merely because they are measured? Is it even possible to manage returns? If so, what would successful management mean to the end investor and how would one manage it?

What are we measuring?

Which returns are we attempting to manage? Are we measuring and managing, *time weighted returns* (those that ignore cash flows and wealth results) or dollar weighted returns (those tied to wealth results)? There is a massive difference and we will remind everyone of that difference in this article. Most of the financial services industry claims they manage and measure both time and dollar weighted results. Advertisements profess a tradition of a “disciplined approach”



with “vast resources of a global organization” to control risk, produce superior returns, or even do both **measured on a time weighted market relative basis**. Such results are often used to justify the cost of their “wealth management” services.

But are superior time weighted risk adjusted returns of any value to the investor? One would think it would be with the effort being spent measuring, reporting and selecting investment alternatives to produce superior time weighted returns. But, if obtaining successful results on a time weighted basis doesn't necessarily produce more wealth on a dollar weighted basis, what good is the ability to manage it? Is it all just an optical illusion, or a marketing sleight of hand?

The premise in attempting to produce superior time weighted returns often completely ignores the risk introduced of materially underperforming – risk one can have certainty of avoiding by indexing. Finally, how long a time frame is needed for the evidence supposedly provided by the measurement of returns to draw an objective valid conclusion of “success” (instead of randomness)? If successful management is evidenced in the results, is the period long enough to avoid being skewed by one data point, *or the random timing* thereof that might occur with dollar weighted returns? In essence, is ten years of “success” truly successful if the results were merely caused by timing of one or two years *when* the superior market relative returns occurred?

Testing premises

To test whether there is real wealth value in the ability to produce superior time weighted returns (risk adjusted) over the long term, we need to examine the ultimate effect on real investor scenarios so we can see the wealth impact on a dollar weighted basis. We also have to eliminate the extreme random noise that often occurs with improper benchmarking or extreme deviations from the allocation policy (extreme random noise could excessively skew the results and would be misleading, a legal and ethical violation). We would also need to observe the effect in both dollars and time weighted returns of fairly small changes to the *timing* of just one or two data points. This is necessary to test the validity of whether ten years of data is merely the effect of *when* one or two years of superior or inferior market relative results occur.

The investor scenarios used will contrast three investors to test these effects and the ultimate dollar benefit (or cost) of the supposed value of “successfully” managing “superior” results.

Our first investor is represented by the typical growth of \$100, as is often used in examining time weighted returns that will always precisely match the compound return. This of course is a result that assumes the investor is neither contributing



to, nor withdrawing money from, the portfolio over the entire time horizon. Judge for yourself how many investors neither save nor spend money.

The “Spender”

The second investor is a more realistic example of a “spender” and represents someone who is using his portfolio to support his lifestyle. For this “spender” example, presume you have an investor that sold his company stock for \$1 million after tax at age 60 and now wishes to retire. He would be very comfortable with a retirement income spending goal of \$100,000 a year adjusted for inflation. While a \$100,000 annual after tax spending need is obviously more than could be sustained from a \$1 million portfolio, he fortunately has a pension, a 401(k) and social security which will provide him with sufficient sources of income if he delayed electing receiving these benefits until age 70. Therefore, he can easily spend both investment returns and principal from his \$1 million portfolio for the next ten years until such time that he elects to take his pension and social security and forced to make withdrawals from his 401(k) at 72 1/2.

The “Saver”

The “saver” is our third sample investor who has only accumulated \$100,000 so far, but just recently received a major promotion that will enable her to save \$100,000 a year after tax for the next ten years, at which point she wishes to retire. Her goal is to maximize the amount accumulated over the next ten years to fund her retirement. She is willing to adjust her lifestyle at retirement as needed based on how much she accumulates over the next ten years. She is also eligible to receive social security benefits.

Measuring the wealth effect

In measuring the *wealth* benefit of producing long term superior time weighted results, we will contrast a fictitious “Manager A” and “Manager B” to a theoretical benchmark indexed allocation (numerous real examples could have been used that are far more extreme, but I did not want to be accused of slander by naming them). The returns used will all be net of all expenses (including the indexed alternative). Both managers never vary from the benchmark allocation return by more than 6% in any year and their correlation coefficient and r-squared are very high relative to the benchmark allocation. In bear markets, both managers control risk better than the benchmark, and their average return over the ten year period, net of expenses, exceeds the benchmark by 0.50% on average. Less risk and more return...the value so many advisors and managers sell.

In *Table 1*, we see an example of two such theoretical managers and a sample of how the theoretical benchmark allocation might behave in any random ten year



period, along with the **ending wealth results** for the growth of \$100, our “spender” and our “saver”.

Table 1- theoretical superior managers and benchmark results:

Theoretical Returns:

Year	Manager A	Manager B	Market Benchmark
1	26.0%	14.0%	20%
2	5.0%	3.0%	5%
3	-6.0%	-8.0%	-10%
4	-13.0%	-12.0%	-12%
5	14.0%	14.0%	15%
6	23.0%	18.0%	20%
7	8.0%	9.0%	8%
8	-3.0%	2.0%	-2%
9	6.0%	10.0%	5%
10	32.0%	42.0%	38%

Average	9.20%	9.20%	8.70%
Std. Dev.	14.6%	15.0%	15.2%
Rsquared	95.3%	95.0%	100.0%
Correlation	97.6%	97.5%	100.0%

The wealth impact for our example investors:

Growth of \$100	\$ 222.38	\$ 222.08	\$ 211.20
"Spender"	\$ 455,181	\$ 233,133	\$ 296,520
"Saver"	\$1,785,821	\$1,981,316	\$1,814,999

The higher return and lower risk of the managers for the “growth of \$100” investor matches the time weighted returns perfectly to the average return and risk (and thus in combination the geometric mean or compounded results). Manager “A” and “B” both grow to more than \$222 for this investor who is neither saving nor spending with the indexed benchmark coming in about \$11 shy of the managers on the initial \$100 investment.

Great Results with Less Money

Despite the time weighted “superior” results of the managers though, the *wealth* result obtained for our “Spender” with “Manager B” actually ended up *costing* him \$63,000 relative to the lower return and higher risk indexed benchmark. Relative to manager “A” (that was practically identical based on time weighted measurements) cost him nearly 50% of the ending portfolio value. Manager “A” beats Manager “B” but benchmark beats Manager “B” even with “inferior” risk adjusted results.



Pick A or B to Win or Lose

The reverse is true for the managers' superior time weighted returns for our "Saver" with manager "B" producing almost \$200,000 more wealth than manager "A" and falling short of the indexed benchmark by nearly \$30,000, again despite lower returns and higher risk of the benchmark. Manager "B" beats Manager "A" but benchmark beats Manager "A".

Shouldn't this raise some questions? In this small sample we are completely ignoring the risk introduced (which is substantial) of potentially underperforming the benchmark result – a risk that is avoidable with near certainty by indexing over the entire time frame. Both "A" and "B" produce better time weighted risk adjusted results. But, whether such "better" time weighted results really produce more wealth (as implied by many who claim to provide wealth management services) is completely uncertain and *unique to the individual's wealth management goals*.

What would it take to truly manage and deliver on this claim? For the *management of wealth*, advisors would not only need to be able to select superior management on the basis of time weighted returns (not the easiest task), but also, know *when* superior results would occur in the future based on the unique investor's wealth management plan. To add value (at least in dollars instead of meaningless time weighted returns) they would have to know that most of the superior performance of "B" will occur in the later years, making it a better choice for the saver who will have more wealth accumulated when the superior results occur. Or, that for our "spender," the superior results of "A" will be concentrated toward the beginning of the ten year period before withdrawals have depleted some of the capital. Some advisors claim they can time both since it would be best to have "A" for the first six years and then after six years of massively superior results, they would switch to the underperforming "B" to capture the turnaround. I've yet to see advisors deliver on this promise. Do they regularly recommend replacing massively winning managers in favor of poorer managers? More often than not, what I've observed is the reverse, replacing the inferior Manager B years after his results have faltered in favor of a better Manager A.

WHEN Matters to BOTH Time and Dollar Weighted Results

The other element to explore is how sensitive *both* time and dollar weighted results are to the market relative benchmark in just a couple of years of data. Is the ten year result really just based on lucky timing of when superior or inferior results occur? Is the advisor *managing when* their superior results occur?



To test this, I swapped the years in which the best and worst market relative results of the managers occurred to see the effect of the time and dollar weighted results as shown in *table 2*.

Table 2 – Swapping the years where best and worst market relative results of the managers occurred

Swapping 2 Years of Market Relative Performance:

Year	Manager A	Manager B	Market Benchmark
1	14.0%	26.0%	20%
2	5.0%	3.0%	5%
3	-6.0%	-8.0%	-10%
4	-13.0%	-12.0%	-12%
5	14.0%	14.0%	15%
6	23.0%	18.0%	20%
7	8.0%	9.0%	8%
8	-3.0%	2.0%	-2%
9	6.0%	-2.0%	5%
10	44.0%	42.0%	38%

Average	9.20%	9.20%	8.70%
Std. Dev.	16.16%	16.40%	15.18%
Rsquared	96.0%	94.9%	100.0%
Correlation	98.0%	97.4%	100.0%

Wealth impact of swapping most extreme market relative years:

"Growth of \$100"	\$ 219.49	\$ 218.68	\$ 211.20
"Spender"	\$ 277,380	\$ 382,108	\$ 296,520
"Saver"	\$1,915,974	\$1,812,399	\$1,814,999

Original Results from <i>Table 1</i>			
Results Before Swapping Best and Worst Market Relative Returns:			
Average	9.20%	9.20%	8.70%
Std. Dev.	14.60%	15.04%	15.18%
Rsquared	95.3%	95.0%	100.0%
Correlation	97.6%	97.5%	100.0%
Original wealth result before swapping best and worst years:			
"Growth of \$100"	\$ 222.38	\$ 222.08	\$ 211.20
"Spender"	\$ 455,181	\$ 233,133	\$ 296,520
"Saver"	\$1,785,821	\$ 1,981,316	\$ 1,814,999

This small change in only two years of market relative results, not affecting the ten year average return, has a big impact. First, the results for the growth of \$100 investor declined for both managers because their standard deviation increased to be above the market benchmark, whereas before swapping the returns the risk was below the benchmark. This was based on just swapping the years that the most extreme market relative performance occurred (years 1 & 10 for manager



“A” and years 1 and 9 for manager “B”). This means that even for time weighted returns, relative to the benchmark, the timing of one or two years can create a *false perception* of time weighted value, despite the full ten year observation period. We also notice that the best results for our “Spender” and “Saver” investors have swapped managers. The choice of the optimal manager similarly hinges on the timing of returns.

Lastly, the best result among the choices has declined for both the saver and spender.

Measuring Temperature with a Ruler

When “success” is being measured in these return-based measures that may not necessarily equate to anything other than random one or two year observations, we are merely attempting to measure the temperature of one’s wealth with a ruler. All of this return measurement produces nothing more than misleading information. Can we really control **both** *how much* and *when* superior results will occur, since doing so is necessary to truly manage any investor’s wealth?

Randomness is Random

Monte Carlo simulation has been adopted by many in the industry to deal with the timing effect of returns on wealth management plans, often at the expense of the investor’s lifestyle by attempting to get to the **highest odds of excess** (frequently misstated as odds of success). For example, when simulations are run for a set of life goals, many advisors tell clients that they have a 90% chance of “success,” but 95% would be better. This makes it sound as though it is a simple pass-fail grade. But what 90% confidence means (with well thought out capital market assumptions) is that there were 900 of 1,000 simulations that met all of the client’s goals and EXCEEDED the estate goal. Perhaps 800 of the 1,000 trials doubled or tripled the estate goal. Regardless of how Monte Carlo simulations are misused, the question still remains about measuring the uncertainty of the timing of returns... is measuring the timing of return uncertainty the same thing as managing it?

It is possible to manage wealth, but you won’t be able to do it if you are attempting to manage returns as the examples in this article have demonstrated.

Managing wealth is much different than managing returns. The process used to manage defined benefit pension plans is a good example of true wealth management. Managing a defined benefit plan is mathematically similar to wealth management for an investor. Both have contributions (savings), liabilities (spending or estate goals), current portfolio values, asset allocation policies, etc. But pensions also measure their funded status and consider the choices of all of



these variables together...AND THEY MANAGE THE CHOICES across all these variables. When pensions are over-funded, choices are considered to reduce investment risk, increase benefits, reduce future contributions, or even terminate the plan to recapture the excess funding. **Why shouldn't individual investors be offered the same *management* choices?** When pensions are under-funded, the investment policy risk exposure may be increased, benefits reduced or contributions increased. **Shouldn't individual's wealth management plans be handled the same?**

Doing so takes a complete rethinking of traditional investment consulting and financial advising. The dramatic effects in the ten year examples outlined in this article (or even the impact of just one year on those results) apply over the long term (80 years) as well. Managing the wrong thing is not really providing value.

You cannot manage everything you can measure. But, you can manage wealth instead of returns. To learn about what real wealth (instead of return) management, read my whitepaper, "[*Measuring Temperature with a Ruler.*](#)"

*A popular industry speaker and writer, **DAVID B. LOEPER** is the CEO and founder of Financeware, Inc. in Richmond, VA. He is author of the top selling book [*Stop the 401\(k\) Rip-off!*](#), three other books being released in 2009 by John Wiley & Sons ([*Stop the Retirement Rip-off*](#), [*Stop the Investing Rip-off*](#) and [*The Four Pillars of Retirement Plans*](#)) and numerous [*whitepapers*](#). He has appeared on CNBC and Bloomberg TV, served on the Investment Advisory Committee of the \$30 billion Virginia Retirement System, and was chairman of the Advisory Council for the Investment Management Consultants Association (IMCA). Before founding Financeware in 1999 he was Managing Director of Strategic Planning for Wheat First Union. He earned the CIMA® designation (Certified Investment Management Analyst) from Wharton Business School in 1990 in conjunction with IMCA.*

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