

# Benchmark Linking: What Plan Sponsors Should Know

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*March, 2012*

Believe it or not, many plan sponsors of institutional investment plans do not have a reliable benchmark to judge their total performance over time. How can this be? What could be more fundamental than the ability to accurately evaluate investment results?

Although institutional investment reports routinely provide a "Policy Index" or "Plan Benchmark" to judge total performance, these benchmarks are often not as helpful as they appear. Understanding their limitations is therefore essential for plan sponsors that want to improve future investment results. Knowing the purpose of a benchmark, how it is created and what it describes will improve compliance monitoring, decision making and long-term results.

This essay explores the concept of the benchmark, the role it plays, and how plan sponsors can gain more relevant information from their benchmarks.

Everyone has heard the expression "a steady hand at the rudder and a star to guide you home." The importance of a consistent point of reference is crucial when it comes to many technical endeavors. Imagine trying to navigate across land, sea or air if your compass did not consistently point North? What if the sun did not consistently rise in the East and set in the West? Or what if your watch did not keep accurate time? The importance of consistency for the sake of comparison cannot be overstated. In the highly technical world of investing, that consistent point of reference is called a benchmark.

Benchmarks are used to judge results and are valuable tools for understanding investment returns and risk for both investment managers and portfolios. For example, what if Mutual Fund XYZ returned 7% in 2011? Is 7% a good return? Of course to answer that question one needs to be able to compare it to something else, namely its benchmark. If the acknowledged and appropriate benchmark returned 6% over the same time period, one can then evaluate the performance of Mutual Fund XYZ. Without the benchmark how could the 7% return be correctly judged? Further, over time, measures of risk such as tracking error can also be calculated by comparing Mutual Fund XYZ to its relevant benchmark.

This is obvious when it comes to evaluating the performance of an investment manager or mutual fund. But what if the investment manager was constantly asking the plan sponsor to change the benchmark? Most likely there would soon be skepticism about both the benchmark and the manager. But, when it comes to measuring total portfolio performance, many institutional investment consultants actually do just that. They continually change the benchmark!

"Benchmark linking" is the practice of linking different asset allocations together to serve as the plan benchmark or policy index over time. And these different asset allocations are not arbitrary; they are the plan's actual strategic asset allocations.

This policy of having the plan benchmark duplicate a plan's strategic asset allocation is a troubling proposition. Doing so means there is now a moving point of reference that makes it extremely difficult

to evaluate overall portfolio performance. Having multiple benchmarks essentially means having no benchmark. And having no benchmark means there is a plethora of critical information missing.

The missing critical information due to benchmark linking concerns asset allocation. Studies routinely confirm the importance of asset allocation as it explains about 90% of the difference in portfolio returns. Yet, despite the importance of this statistic, how an investment plan adds value through the asset allocation function is difficult to ascertain due to benchmark linking.

Let us look at an example of how benchmark linking hides this critical information. For the five years ending 2006 the Northern United Metal Workers Pension Plan, a fictitious plan, had the following asset allocation, benchmarks, and manager alpha:

Allocation	Asset Class	Benchmark	Quarterly Alpha
40%	Domestic Large Cap Blend	Standard & Poor's 500	15 bps
10%	International Large Cap	MSCI-EAFE	25 bps
45%	Domestic Core Fixed	Barclays Aggregate	12.5 bps
5%	Domestic Core Real Estate	NCREIF-NPI	0 bps
0%	High Yield Fixed Income	iBoxx \$ Liquid HY	20 bps

Due to manager out-performance (positive alpha,) the Total Portfolio beat its Policy Index (benchmark) on an average annual basis over those five years. If the Policy Index and Total Portfolio are re-balanced quarterly and returns are quoted gross of fees, the December 31, 2006 report would look like this:

<u>Northern United Metal Workers Pension Plan</u>					
Performance Summary, December 31, 2006					
	<u>MRQ</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	
<b>Total Portfolio</b>	+4.65	+12.23	+9.28	+7.87	
<i>Policy Index (1)</i>	+4.50	+11.62	+8.68	+7.28	
<hr/>					
<b>ABC Large Cap Equity</b>	+6.85	+16.48	+11.09	+6.82	
<i>S&amp;P 500</i>	+6.70	+15.80	+10.44	+6.19	
<b>DEF International Equity</b>	+10.60	+27.54	+21.08	+16.10	
<i>MSCI-EAFE</i>	+10.35	+26.35	+19.93	+14.98	
<b>GHI Core Fixed Income</b>	+1.37	+4.85	+4.21	+5.58	
<i>Barclays Aggregate</i>	+1.24	+4.33	+3.70	+5.06	
<b>JKL Core Real Estate</b>	+4.51	+16.59	+17.02	+13.27	
<i>NCREIF-NPI</i>	+4.51	+16.59	+17.02	+13.27	

(1) 40% S&P 500, 10% MSCI-EAFE, 45% Barclays Aggregate, 5% NCREIF-NPI

It is important at this point to note that the difference in returns between the Total Portfolio and Policy Index in this example is due *entirely to the investment managers' positive alpha*. This is because there is no difference between the asset allocation of the Total Portfolio and the Policy Index. They are identical throughout the reporting period and re-balanced in an identical fashion. Of course, in the real world, fees and timing of re-balancing can also create differences in these numbers.

Now assume over the next five years the investment consultant to the Northern United Metal Workers Pension Plan recommends, and the plan sponsor approves, the following asset allocation changes:

1. **October, 2007: Add 10% to new High Yield allocation from Domestic Core Fixed.**
2. **July, 2008: Add 10% to current Domestic Core Real Estate from Domestic Core Fixed**
3. **April, 2010: Add 10% to current International Large Cap from Domestic Large Cap Blend**

Following the practice of benchmark linking, the Policy Index would reflect the above asset allocation changes and look like this:

## Benchmarks Linked Into A Policy Index



Assuming the portfolio and the four benchmarks were re-balanced quarterly, and the quarterly manager alpha continued, the 2011 year-end report gross of fees would look like this:

## Northern United Metal Workers Pension Plan

Performance Summary, December 31, 2011

	<u>MRQ</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>10-Years</u>
Total Portfolio	+5.71	+3.78	+11.07	+2.78	+5.30
<i>Policy Index (1)</i>	+5.56	+3.17	+10.46	+2.20	+4.71
ABC Large Cap Equity	+11.97	+2.73	+14.78	+0.36	+3.54
<i>S&amp;P 500</i>	+11.82	+2.11	+14.11	-.25	+2.92
DEF Int'l Equity	+3.58	-11.24	+8.72	-3.74	+5.71
<i>MSCI-EAFE</i>	+3.33	-12.15	+7.65	-4.72	+4.67
GHI Core Fixed Inc.	+1.25	+8.37	+7.30	+7.03	+6.30
<i>Barclays Aggregate</i>	+1.12	+7.84	+6.77	+6.50	+5.78
JKL Core Real Estate	+2.96	+14.26	+2.43	+3.09	+8.06
<i>NCREIF-NPI</i>	+2.96	+14.26	+2.43	+3.09	+8.06
MNO High Yield <sup>(10/2007)</sup>	+8.18	+6.79	+20.81	<i>n/a</i>	<i>n/a</i>
<i>iBoxx \$ Liquid HY</i>	+7.98	+5.95	+19.89	<i>n/a</i>	<i>n/a</i>

(1) April, 2010 to Present: 30% S&P 500, 20% MSCI-EAFE, 25% Barclays Aggregate, 15% NCREIF-NPI, 10% iBoxx \$ LHY. July, 2008 – March, 2010: : 40% S&P 500, 10% MSCI-EAFE, 25% Barclays Aggregate, 15% NCREIF-NPI, 10% iBoxx \$ LHY. Oct, 2007 – June, 2008: 40% S&P 500, 10% MSCI-EAFE, 35% Barclays Aggregate, 5% NCREIF-NPI, 10% iBoxx \$ LHY. 2002 to 2006 = 40% S&P 500, 10% MSCI-EAFE, 45% Barclays Aggregate, 5% NCREIF-NPI.

A casual review of the above report would lead one to believe that everything is going quite well. After all, not one of the investment managers is behind their benchmark and the Total Portfolio performance is ahead of the Policy Index over all time periods. Everyone should be satisfied.

But what was the impact of those three asset allocation changes?

*What the above report shows is that the Total Portfolio beat its linked benchmark over all time periods due to positive manager alpha.* However, it does not show if or by how much the three asset allocation changes helped or hurt.

What is missing from the report is a “Real Benchmark”- one that does not change to reflect changes in the strategic asset allocation. A Real Benchmark is unchanging and can be used to judge whether or not the three asset allocation changes helped or hurt.

It turns out that all three of the asset allocation changes hurt total performance since implementation. Inclusion of the Real Benchmark (2001-2006 Policy Index,) in the above report along with the current Policy Index (linked benchmark) would look like this:

## Northern United Metal Workers Pension Plan

Performance Summary, December 31, 2011

	<u>MRQ</u>	<u>1-Year</u>	<u>3-Years</u>	<u>5-Years</u>	<u>10-Years</u>
<b>Total Portfolio</b>	+5.88	+3.78	+11.07	+2.78	+5.30
<i>Policy Index (1)</i>	+5.73	+3.17	+10.46	+2.20	+4.71
<i>Real Benchmark (2)</i>	+5.85	+4.35	+10.25	+3.15	+5.20
<b>ABC Large Cap Equity</b>	+11.97	+2.73	+14.78	+0.36	+3.54
<i>S&amp;P 500</i>	+11.82	+2.11	+14.11	-.25	+2.92
<b>DEF Int'l Equity</b>	+3.58	-11.24	+8.72	-3.74	+5.71
<i>MSCI-EAFE</i>	+3.33	-12.15	+7.65	-4.72	+4.67
<b>GHI Core Fixed Inc.</b>	+1.25	+8.37	+7.30	+7.03	+6.30
<i>Barclays Aggregate</i>	+1.12	+7.84	+6.77	+6.50	+5.78
<b>JKL Core Real Estate</b>	+2.96	+14.26	+2.43	+3.09	+8.06
<i>NCREIF-NPI</i>	+2.96	+14.26	+2.43	+3.09	+8.06
<b>MNO High Yield (10/2007)</b>	+8.18	+6.79	+20.81	n/a	n/a
<i>iBoxx \$ Liquid HY</i>	+7.98	+5.95	+19.89	n/a	n/a

(1) April, 2010 to Present: 30% S&P 500, 20% MSCI-EAFE, 25% Barclays Aggregate, 15% NCREIF-NPI, 10% iBoxx \$ LHY. July, 2008 – March, 2010: : 40% S&P 500, 10% MSCI-EAFE, 25% Barclays Aggregate, 15% NCREIF-NPI, 10% iBoxx \$ LHY. Oct, 2007 – June, 2008: 40% S&P 500, 10% MSCI-EAFE, 35% Barclays Aggregate, 5% NCREIF-NPI, 10% iBoxx \$ LHY. 2002 to 2006 = 40% S&P 500, 10% MSCI-EAFE, 45% Barclays Aggregate, 5% NCREIF-NPI.

(2) 40% S&P 500, 10% MSCI-EAFE, 45% Barclays Aggregate, 5% NCREIF-NPI

By comparing the two portfolio benchmarks we can see that the Policy Index did worse than the Real Benchmark over the longer periods. Most telling is the five-year number as it fully incorporates the three asset allocation changes. A plan sponsor can now deduce that the asset allocation changes actually cost the plan 95 basis points per year. *A plan sponsor, now aware of the asset allocation success rate, can now take steps to improve future asset allocation decisions and thus improve results.*

The old saying goes, “Experience is the best teacher. But you get the test first and the lesson second.” Without the Real Benchmark, the lesson of this past experience would never be learned thus increasing the potential for the same type of mistake to be repeated ad infinitum thus lowering returns.

Plan sponsors should also keep in mind the performance drag of investment management fees. All of the asset allocation changes are reported gross of fees. Yet each of these changes generally went from lower-cost asset classes to higher-cost ones. Therefore, the actual costs of the asset allocation changes are understated and therefore more costly to total plan performance than reported.

Although this information is quite relevant and telling concerning the investment consultant’s ability to add value through asset allocation, more detail can be uncovered by tracking each asset allocation change. This can be done by comparing the benchmarks for each implemented change.

To track asset allocation changes, an additional page in the investment report might look like this:

## Northern United Metal Workers Pension Plan

December 31, 2011

### Asset Allocation Tracking

	<u>MRQ</u>	<u>1-Year Avg.</u>	<u>3-Year Avg.</u>	<u>Cumulative Since Incep</u>
<b>+10% to High Yield from Core Fixed</b> (Oct, 2007)	<b>+6.86</b>	<b>-1.89</b>	<b>+12.12</b>	<b>-2.15</b>
<i>iBoxx \$ Liquid HY</i>	+7.98	+5.95	+19.89	+29.80
<i>Barclays Aggregate</i>	+1.12	+7.84	+6.77	+31.95
<b>+10% to Core Real Estate from Core Fixed</b> (July, 2008)	<b>+1.84</b>	<b>+6.42</b>	<b>-4.44</b>	<b>-25.05</b>
<i>NCREIF-NPI</i>	+2.96	+14.26	+2.43	-1.62
<i>Barclays Aggregate</i>	+1.12	+7.84	+6.77	+26.67
<b>+10% to International Large Cap from Domestic Large Cap Blend</b> (April, 2010)	<b>-8.49</b>	<b>-14.26</b>		<b>-17.63</b>
<i>MSCI-EAFE</i>	+3.33	-12.15	n/a	-6.15
<i>S&amp;P 500</i>	+11.82	+2.11	n/a	+11.48

The real tragedy of benchmark linking has to do with creating a false sense of security for plan sponsors. Benchmark linking creates an incomplete feedback loop for asset allocation changes and thus greatly limits the ability of a plan sponsor to know if corrective actions are needed. This is similar to a traveler without a compass or map: how does one know if they are lost?

Below are three prudent steps plan sponsors should take to ensure they are following best practices.

First, plan sponsors should discuss with their investment consultants the plan benchmark in use and identify it as either a Linked Benchmark or a Real Benchmark. If it is a Linked Benchmark, the plan sponsor should go back in time to an older benchmark that was in use for a long period, or in use before substantial asset allocation changes occurred. Once that is done, ask your investment consultant to include this Real Benchmark in future reports. This will immediately help the plan sponsor identify if the past asset allocations were beneficial.

Second, plan sponsors should discuss with their investment consultants the adoption of a Real Benchmark. It may turn out that the benchmark discovered in the above step may become the Real Benchmark. Regardless, the outcome of the discussion should codify when, how and why a change to the Real Benchmark would occur and incorporate those decisions into the Investment Policy Statement.

When constructing a Real Benchmark, plan sponsors should keep the bigger picture in mind with regards to the plan's long-term risk and return objectives. Further, the indices used to construct the Real Benchmark should be widely recognized and representative of typical asset classes.

Finally, given how changes in asset allocation are difficult to evaluate from standard investment reports, asset allocation changes should be tracked similar to the last table above. It would also make sense to include the effect of fees into this particular report. This report can also include the actual allocation amounts in dollars to determine the magnitude of each asset allocation change.

Successful investing is difficult. Accurate, reliable and meaningful investment reports are vital for plan sponsors serious about improving results. Identifying whether or not a Real Benchmark or Linked Benchmark is in use to judge total performance is an easy first step towards improving the investment process, compliance monitoring, and long-term success.