



WHITE PAPER

PERFORMANCE OPTIMIZATION FOR CREDIT UNIONS

How to build useful, effective benchmarks

AUTHOR

Kevin Chiappetta, CFA
President, QuantyPhi™ Balance Sheet Optimization Services
SVP Investment Services, Corporate Central Credit Union

(414) 433-0176
6262 South Lowell Place
Muskego, WI 53150
quantyphi.com

March 2017

THE ISSUES

All too often, credit union investment managers view the investment portfolio as an entity that operates independently of other balance sheet components. In addition, the standard practice is to manage portfolios to net the lowest possible risk. But, those practices often close doors to opportunity. If the portfolio is adding to total balance sheet risk and there is no method to extract just how much risk that is, decisions based on entire balance sheet performance may be compromised. If risk is the only basis for investment decisions, sound investments with the potential to yield greater rewards may be overlooked. Success potential can be further hindered by measuring a portfolio manager's effectiveness using comparison of yield to a peer group, another competitor, or a local group of managers as a performance gauge without regard to the amount of risk taken to obtain that yield, or without consideration of other factors that are relevant to the portfolio's return.

THE SOLUTION: A WELL-CONSTRUCTED PERFORMANCE BENCHMARK

In order to avoid the above pitfalls, it is advised that investment managers take the time to build an appropriate investment portfolio benchmark.¹ But, before deciding on a benchmark, both managers and supervisors need to understand exactly what an appropriate benchmark is, and what it is not.

WHAT A BENCHMARK IS NOT

A benchmark is not an index. An index is defined as a specific security market. When you compare the performance of your personal 401(k) account to the S&P 500, you compare your skill as an investment manager to the performance of a market. This may be valid for a portfolio manager allowed to invest in the market. However, for credit union investment managers, this kind of comparison can lead to false assumptions and flawed decision-making. In addition, most published fixed-income indexes include securities that, either by credit union policy or regulation, are prohibited from being included in credit union portfolios. Using these indexes for performance comparisons can be as faulty as comparing apples to bowling balls.

WHAT A USEFUL, EFFECTIVE BENCHMARK IS

Effective benchmarks are standards used to define investment portfolio objectives based on goals as well as constraints. When constructing a useful, effective performance benchmark for your credit union, both sides of that coin need to be given ample consideration. If a portfolio is restricted from investment in low-rated corporate bonds, for example, the benchmark should not reflect low-rated corporate bonds. It is only when a portfolio and its performance benchmark are built with the same goals and constraints in mind, that the benchmark becomes appropriate and useful. By using a benchmark as a *comparative* tool, rather than an index, assessment of a manager's skill level as it relates to performance also becomes measurable.

To determine the appropriate benchmark for your credit union's portfolio, first look at the makeup of a sound benchmark. According to C. Mitchell Conover, a benchmark should contain the following characteristics:

1. Unambiguous
2. Investable
3. Measurable
4. Appropriate
5. Reflective of current opinions
6. Specified in advance
7. Accountable²

Understanding the individual building blocks of a valid benchmark is key to understanding how an appropriate benchmark not only benefits the credit union, but also how it benefits the portfolio manager and his/her supervisors. A measurable benchmark makes performance evaluation rather easy. When a sound and fitting benchmark is specified in advance, the portfolio manager and supervisor have clear performance expectations under a variety of market conditions before an assessment period begins. This unambiguous definition of what success will look like, in terms of

¹ This reading substantially draws upon "Market Indexes and Benchmarks" by C. Mitchell Conover, PhD, CFA, CIPM from the CFA Refresher Reading, 2016

² "Market Indexes and Benchmarks" by C. Mitchell Conover, PhD, CFA, CIPM from the CFA Refresher Reading, 2016

expected return and acceptable risk agreed upon by both parties, makes accurate and fair quantification of results possible.

THE LIABILITY BENCHMARK

A benchmark with the above characteristics makes measuring a portfolio's success quick and easy, but constructing an appropriate benchmark can be a challenge. The task—for credit unions especially—must take into account other balance sheet assets and the composition of liabilities that fund the assets. The balance sheet liabilities define the risks that can be taken with the assets. This is also known as a *liability benchmark*. We can use this benchmark to accurately reflect the return required to meet future obligations. If risk constraints are well-defined and considered when projecting expected return, those expectations will be in line with achievement possibilities. In addition, building a benchmark that allows a manager to assess each security's impact on balance sheet performance will also allow a supervisor to review the investment manager's contributions to that performance.

CONSIDERING ALL RISK

All risk must be taken into consideration when building an appropriate investment portfolio benchmark. Fortunately, we have a tool that measures the risk characteristics of all three balance sheet components: loans, investments, and the liabilities that fund them. That tool is a proven asset/liability management (ALM) model.

As financial institutions, we measure the current market value of our balance sheet, along with the projected earnings from that balance sheet, through the ALM process. We also measure the projected financial results under various rate environments in order to assess our vulnerability to changes in interest rate levels, or unexpected re-shaping of the yield curve. This is standard risk management for a credit union. However, we rarely use this tool to develop performance targets for balance sheet components. But, if we do just that—if we use the ALM model to perform “what-if” analyses, we can build an investment portfolio benchmark that is customized to unique financial situations. With the high-tech hardware and software credit unions now have at their disposal through partnerships with balance sheet optimization services, analyses of various balance sheet risk levels on overall financial performance is possible. Assessing financial performance under various scenarios allows management to see exactly how a balance sheet will perform under different rate conditions and shocks.

MEASURING SUCCESS

In addition to abiding by the seven previously mentioned characteristics, a benchmark should also be built to serve as a portfolio manager skill-evaluation tool, as an aide in the determination of acceptable interest rate risk, and as a guidepost in the projection of expected return. Building a benchmark with these capabilities allows for accurate measurement of success.

Let's address the first requirement: measuring a manager's skills. In order to determine if a manager is adding return within the risk constraint, it is preferable to measure against a portfolio benchmark that reflects a passive style. A passive investment style is one that requires no manager discretion. The style works under a set of rules, investment risk limits, and predictable decisions. The most obvious example of the passive investment style for credit unions is the investment portfolio ladder. Under a ladder style, a manager places investment dollars in a variety of securities with a targeted average maturity. As investments mature, the proceeds are merely placed at the end of the ladder, or in areas of the ladder without current investments. The average maturity of the ladder is meant to be constant, so each decision is a simple balancing routine to return the ladder to its proper maturity. For a credit union, a ladder of simple, option-free securities works best. Comparison of a credit union's actual portfolio to a passive style, like the ladder style, will make obvious the investment areas/strategies that need addressing. Additional returns gathered by adjusting weightings of the portfolio along the maturity spectrum, using different asset classes or other management discretion, can then be attributed to just that—discretion.

BUILDING THE BENCHMARK

Our final task is to determine how to build an appropriate benchmark. For that, we turn back to the asset/liability model. Remember, the process of building a benchmark is to determine the risk limits and return expectations a credit union should set for its investment portfolio. In order to arrive at these two determinations, experimentation with

various benchmark levels of optimal risk/return is a must. The tool used for this experimentation is again, the ALM model, using income projection and price volatility (or risk) of the current balance sheet under several possible interest rate scenarios. These income projections and price volatility calculations are completed for several balance sheets. Forecasts are developed using distinct benchmarks. Each forecast, with its separate benchmark, contains a different level of risk. Each forecast then produces a unique return and a unique price volatility result.

MAINTAINING THE BENCHMARK

Once a benchmark is constructed and selected, it is important to remember that the passage of time affects the benchmark. Each month that passes brings a benchmark one month closer to maturity. It is imperative to update the benchmark every month to maintain the appropriate level of risk. Pricing must also be continually updated in order to capture the correct levels of expected returns available in the marketplace. By maintaining a consistent level of interest rate risk and the updated return available in the market, the measurement process remains relevant and accurate.

Finally, the benchmark selection process must be regularly updated. Keep in mind that the benchmark was chosen to optimize performance within the constraints of the liability structure and assets (mostly loans) already on the balance sheet. As liabilities and other assets change, the optimal benchmark may also change. Changes in the marketplace may also require the portfolio benchmark to change, so updating the analysis of portfolio benchmark selection should become a routine. Using updated portfolio benchmarks helps investment managers outline investment portfolio expectations, helps define supervisors' expectations, and helps measure managers' effectiveness. Credit unions will enjoy greater success by setting effective portfolio benchmarks, a crucial element in optimizing the *entire* balance sheet for peak performance.