WILSHIRE COMPASS

Setting New Standards in Fund Sponsor Information and Investment Technology

Topics Inside:

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DEMYSTIFYING RISK

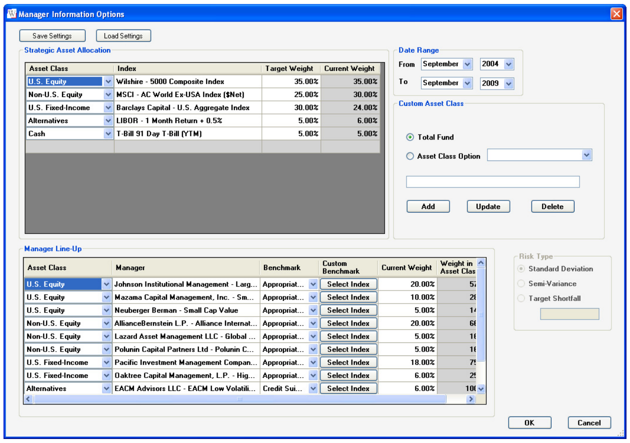
Building a successful investment program involves the coordination of multiple moving pieces. One piece that has been brought to the forefront given the recent economic environment and above average market volatility is a program's risk management process. Risk is multi-layered and impacted by multiple decisions within an investment portfolio. Some sources of risk come from very deliberate decisions and are expected and understood, while other sources are less obvious, perhaps even unintentional, but can have substantial impacts to the overall portfolio.

The new *Risk Management Summary* report available in Wilshire Compass 8.0 is available to help identify and quantify the sources of these risks and assist investors with understanding their impact within a portfolio. The report is flexible enough to be applied not only at the total fund level, but also within individual asset classes to disaggregate and better understand imbedded risks.

Why is this important? Investors willingly take on certain risks with an expectation that there will be compensation for that risk in the form of return. Unintended risks may not offer return premiums and should therefore be identified and minimized or eliminated all together. Understanding the various types and sources of risk within a portfolio can lead to more informed and effective decision making along with a more efficient use of available risk budgets.

Running the new Risk Management Summary report simply requires users to provide information for the fund's asset allocation policy and manager line-up, (including indexes/benchmarks for both) as illustrated in **Exhibit 1** on the following page:

Exhibit 1



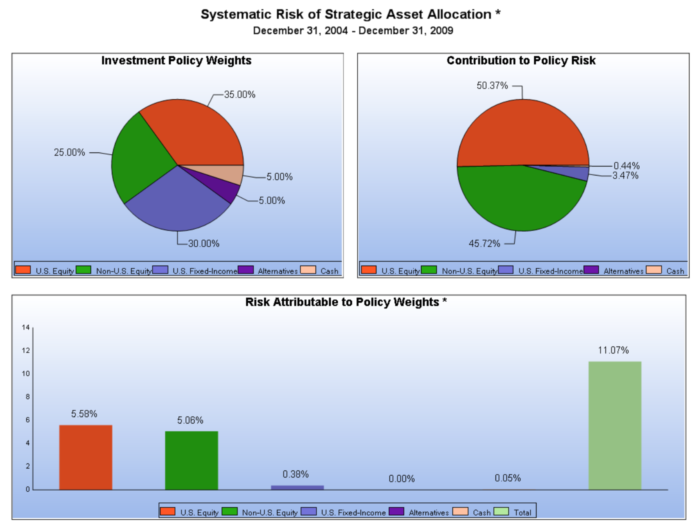
The analytic uses historical returns to calculate risk and correlations (used to build ex-post covariance matrices) for a user selected time period. Combining the matrices with asset allocation policy "targets" and "actual" weights, along with current manager weights and benchmarks, the analytic decomposes risk into four categories:

1. **Strategic Risk** – Risk due to the Strategic Asset Allocation. While comprising the largest absolute risk, no tracking error stems from Strategic Risk.
2. **Allocation Weight Risk** – Risk due to current asset class weight differences from the strategic asset allocation. Simply put, overweight positions in higher risk asset classes will increase Allocation Weight Risk.
3. **Benchmark Mismatch Risk** – Risk introduced by the misalignment between the weighted aggregation of manager benchmarks with the corresponding asset class benchmark.
4. **Manager Risk** – Risk resulting from managers' active decisions relative to their individual benchmarks.

The reports illustrate systematic, structural, and active management sources of risk in the portfolio and how each contributes to total risk as well as tracking error.

Exhibit 2 provides a small example of some of the analysis available from this new analytic.

Exhibit 2



For more information on this new capability, please contact a Wilshire Compass team member.

RELAX YOUR ASSET ALLOCATION

Recently published reports from Wilshire Consulting on State and Corporate Retirement Systems show average actuarial rates or long-term expected returns of around 8.00%. Using Wilshire's 2010 Asset Class Assumptions, a well-diversified portfolio may be expected to earn an annualized rate of return of ≈ 6.25%, well below the required hurdle rate. Without a portfolio consisting entirely of equity or aggressive, illiquid asset classes to meet return objectives, how can investors be expected to realize such goals?

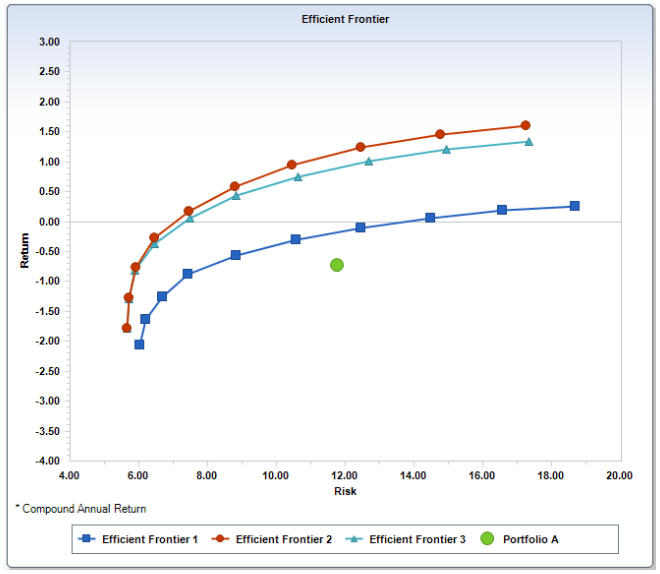
First a little background: In standard mean-variance optimization methodologies, investors employ asset class constraints to derive optimal mixes along an efficient frontier and then select portfolios to meet specific objectives. The practice has come under considerable scrutiny over recent years with one primary point of contention being that investors can ultimately use these constraints to create mixes to their liking. In part to deal with this issue, Wilshire Compass allows investors to run an optimization unconstrained to understand the reasonableness of the asset class assumptions. Applying constraints to subsequent efficient frontiers based on an investor's unique needs allows for a better understanding of the portfolios that will maximize return for various levels of risk while also providing insight into the impact of user defined constraints. Still, in this framework reaching for high returns incurs high expected levels of volatility, primarily concentrated in equity-like assets. As previously illustrated in **Exhibit 2**, these allocations contribute much of the overall risk within a portfolio and diminish the ability to build a well diversified portfolio. How can this be better addressed?

What is the definition of "unconstrained"? We tend to think that this means allowing individual asset allocations to range from 0-100. But aren't those ranges a constraint? What restricts us from moving beyond these artificial boundaries? Of course, that would imply that since we are dealing with physical capital, we will need to "short" another asset class to affect these allocations. If relaxing these artificial (or traditional) constraints provides for greater diversification of portfolio risk, it may be an option worth exploring.

Exhibit 3 illustrates the impact of relaxing the "traditional" asset class constraints within a "surplus" optimization context (i.e. in excess of the liability) for a slightly underfunded pension plan.

- ✓ **Efficient Frontier 1** represents optimal portfolios with assets each "constrained" from 0-100%, i.e. traditional constraints.
- ✓ **Efficient Frontier 2** represents the use of leverage of up to 50% of total assets.
- ✓ **Efficient Frontier 3** includes leverage, but also adds specific liquidity requirements based on the amount of leverage employed.
- ✓ **Portfolio A** represents a current strategic allocation of 50% Global Equity, 40% Long Gov/Credit, 5% US REITS, and 5% Private Equity.

Exhibit 3



On Efficient Frontier 1, Portfolio #8 is the first portfolio with a positive return net of the liability. Portfolio 8 has an excess risk (tracking error relative to the liability) of 14.5%. To generate the same expected excess return, Portfolio #5 on Efficient Frontier 3 only introduces 7.5% of tracking error. Consequently, in this example, the use of leverage appears to permit greater diversification, thus reducing risk relative to the liability, without sacrificing return.

The concept of employing leverage in a fashion as described here has recently been coined "risk parity" by at least one widely read financial periodical. The utilization of leverage in this fashion has however been employed in various different individual investment products with fairly good acceptance and success over quite a few years. The methods discussed here simply incorporate the strategy in a more holistic way at the strategic asset allocation level, thus allowing the optimization tools in Wilshire Compass to determine the appropriate amount of leverage to be utilized, subject to user constraints of course.

For more information, please read Wilshire Consulting's recent research paper on *Risk Focused Diversification* available in the Resource Library on wilshire.com or contact a member of the Client Service Team.

2010 WILSHIRE COMPASS TECHNOLOGY SEMINAR

The Wilshire Compass Team would like to extend our sincere appreciation to all who were able to join us for the 2010 Technology Seminar in Hilton Head Island, South Carolina from April 12-14th. Special thanks go out to Andrew Junkin from Wilshire Consulting who presented a pertinent and useful overview on the state of the economy - past, present and future. The Client Service Team also demonstrated exciting new functionality within Wilshire Compass 8.0, ranging from the new risk management tools discussed above, to additional report customization that should make your use of Wilshire Compass even more powerful. We hope that the topics were of interest and that the multiple hands-on training sessions furthered your understanding of the system. The Wilshire Compass Client Service Team always welcomes suggestions on how to make future seminars even more beneficial.

For those who were not able to attend, we will be mailing a CD containing PDF copies of all of the presentations and of the new Risk Summary Report Case Study. As always, let us know if you have any suggestions on future Wilshire Compass 8.0 enhancements or how we can make it work better for you.

WILSHIRE COMPASS 8.0 UPDATE

As was demonstrated at our annual seminar last month, many new features and improvements are incorporated in the latest of Wilshire Compass 8.0. We have received overwhelming positive feedback from clients who have begun to use the new system. It should be noted that version 8.0. can be used in parallel with Compass 7.0. Our development staff continues to focus on new features, which we plan to release in 3-6 month intervals. Some of the items slated for release in the coming months include:

- ✓ Enhanced Risk Management functionality to incorporate forward looking expectations
- ✓ Advanced Tactical Asset Allocation analytics
- ✓ Correlation matrix verification and adjustment analytics
- ✓ Additional Reporting features, including Data Charts, Wilshire Templates, and complete customization of index and peer groups

An enhancement currently available in Wilshire Compass 8.0 are the new quantitative performance scores on separate account products, named the WHIP (Wilshire Historical Investment Performance) Score. The WHIP Score is designed to quantitatively evaluate a manager's performance in three key component tests and a beta adjustment factor, weighted to create a single performance measure:

1. *Skill Score Test (50%)* – Has the manager's bets vs. its benchmark paid off?
2. *Information Ratio Universe Test (20%)* – Compares managers on a risk-adjusted basis against their peers.
3. *Batting Average/Consistency Test (30%)* – Evaluates how often the manager outperforms its benchmark and looks for trends.
4. *Systematic Risk Adjustment* - The absolute difference between a manager's beta (vs. its benchmark) and 1.0 is subtracted from the overall score to penalize managers who are adding value attributable to the manager's beta exposure, not from alpha.

Another upgrade currently in the works is a rebuilding our web-based collection platform (Wilshire Odyssey) to enhance the spectrum of data collected and distributed via Wilshire Compass. We encourage you to contact any of the client service team members to discuss possible additions to the questionnaire. We will also take this opportunity to rename the platform to the Wilshire Compass Portal℠. Renaming the site will reduce some confusion that we have seen in the market place as a result of dissimilar names.

Wilshire Compass 8.0 is also now available on-line through a Citrix connection (similar to Remote Desktop) for a nominal fee. This alleviates many of the IT requirements and allows for seamless access to not only the daily data updates, but also immediate access to Wilshire Compass updates and enhancements.

We will be contacting clients to upgrade to Wilshire Compass 8.0 throughout the year, but please contact Wilshire Compass client service with any questions or to schedule an upgrade time.

TEAM ANNOUNCEMENTS

Many of you have probably observed some transitions in the client service area. Charley Stunkard who had been spending a portion of his time in additional areas of focus at Wilshire has returned to spending the majority of his time engaged in Wilshire Compass client service and product development. We're thrilled to have him back in the fold full time! Charley brings many years of experience both on the fund sponsor and consulting side to bring a unique perspective in solving client investment problems.

In addition, Marlin Pease has transitioned from Wilshire Compass into working with Wilshire Consulting's full-retainer clients on a full-time basis. While Marlin will no longer be involved with day-to-day activities within the Wilshire Compass, we are delighted that he will still be around as a resource to Wilshire Consulting as a whole.

In order to continue to provide a high level of ongoing IT technical support and service, we are excited that Joel Reyes will now be available as a dedicated resource to assist Wilshire Compass Clients with installation and technical related needs. Joel has been with the Wilshire Compass team for 3 years in a project manager role during the development of Wilshire Compass 8.0 and now will be able to provide IT and technical support to clients. Please contact Joel at (310) 899-5311 or jreyes@wilshire.com for any technical assistance.

We are sorry to announce that Todd Kniola who for the last year has coordinated our sales and marketing effort has recently left Wilshire to pursue another opportunity. While sad to see him leave, we wish him all of the best with his new endeavor.

Along those same lines, we are pleased to announce that David Kraemer has agreed to expand his business development efforts within Wilshire Consulting to spearhead the sales and marketing effort for Wilshire Compass. David has been with Wilshire 5 years and we are looking forward to working more closely with him going forward!