Northfield News

June 2008

A Newsletter for the Friends and Clients of Northfield Information Services

Special Points of Interest:

- In Depth Article - Thirteen Questions Risk Models Can Answer
- Lake Tahoe Conference Wrap-up
- Northfield London Seminar Wrap-up

Inside This Issue:

Thirteen Questions Risk Models Can Answer for Asset Managers and Their Clients *By Dan diBartolomeo*

Over the years, it has become very clear to us at Northfield that many of our clients use the risk assessment systems in the bare minimum way of simply producing a routine risk decomposition report for a portfolio on some periodic basis. However, the risk models and related software that we provide can be used to enhance the effectiveness of the entire investment process from investment policy to trading, in ways that are not available without formal risk assessment.

Below is a list of issues for which asset managers should take advantage of their risk systems. The list is in no particular order. Each of the issues has been covered in more detail in previous Northfield newsletters, research papers or conference presentations, the majority of which is on our website. Clients are encouraged to speak with their Northfield sales representative or our technical support staff for more information on topics of specific interest to them.

1. Some long term investors argue that they don't need to worry about risk because they do not intend to make any withdrawals from their portfolio for a very long time. *This is clearly an irrational view.* It is mathematically demonstrable that volatility in portfolio returns reduces the contribution of the compounding of returns to long term wealth accumulation. Assuming returns are approximately normally distributed, the average geometric rate of return will be equal to the average arithmetic rate of return, minus the variance of the returns. Can you demonstrate that the loss of compounding due to volatility of returns for your portfolios is more than offset by the expected value of incremental returns above the risk free rate or benchmark?

2. When engaging active managers, investors measure active management returns relative to some benchmark index. They also use the benchmark index as a proxy for participation in an asset class or portfolio style in making asset allocation decisions. Can you demonstrate that your actively managed portfolio is not so different from the benchmark index that the validity of the investor's asset allocation decision has been compromised? Can you also demonstrate that your portfolio is not so similar to the benchmark index that active management has little chance of producing net returns to the investors after active management fees?

3. While managers are typically measured by benchmark relative returns, investors cannot pay their financial obligations with "benchmark relative money." Investors therefore have concerns both about absolute risk and benchmark relative risk. Institutional investors that expect to have nearly infinite lives tend to put a lot of emphasis on benchmark relative returns as a proxy for maintaining long-term purchasing power. Private clients tend to put a lot more emphasis on absolute risks and returns. What is the relative importance of these two concerns to a specific investor, and how is that preference observable

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Recent Events

2008 Northfield Annual Research Conference

Resort at Squaw Creek • Olympic Village, CA • March 25-28, 2008

Resort at Squaw Creek

Northfield's 21st Annual Research Conference took place at the Resort at Squaw Creek, in Olympic Village, California. Squaw Creek is often named as one of the top ski resorts in the world by leading ski and travel publications. It rests at the base of Squaw Valley USA, site of the 1960 winter Olympics, and is just minutes from California's North Lake Tahoe.

The conference presented recent research and technical advances to a sold out audience of Northfield clients and friends. The agenda consisted of eleven presentations. Topics included: "Active Management of Legacy Portfolios," "Measuring and Targeting Efficiency to Optimize the Use of Turnover," "Robust Optimization: What Works and What Does Not?," "Active Equity Portfolio Allocation Sensitivity and Modern Robust Risk Models," "From Decisions to Results: Connecting the Dots," "The Polyphemus Perspective, or a Few Words in Defense of Single Factor Models," "The Origins of Value," "How High are Hedge Fund Fees?," "Volatility Based Asset Allocations: Why Static Allocations are Incorrect," "Making Global Equity Indexes More Global." and "Classical Economics, The Non-Rival Good and Stock Returns."

The conference started on Tuesday evening with the "Unofficial" welcome cocktail party and dinner. The dinner featured a private performance by US Men's figure skater Scott Smith. Wednesday morning was reserved for recreational pursuits. Conference attendees had a choice of alpine skiing, cross country skiing, snowshoeing, dog sledding, snowmobiling, and snow tubing. Wednesday evening featured the traditional Northfield elegant "black tie" gala. This year's dinner featured an "olympic" themed evening. During dinner, highlights from the 1960 Winter Olympics played on a large screen in the background.

The final evening on Thursday featured the family themed "Olympic Night at High Camp." Dinner was at the top of the mountain at the olympic museum. Prior to dinner, attendees had an opportunity to go ice skating or play broom ball on the olympic skating rink. The complete seminar proceedings have been posted at **http://www.northinfo.com/papersearch.cfm**

Northfield European Seminar Wrap-up

Institute of Directors Business Centre • London • April 24, 2008

The Northfield Spring 2008 Investment Seminar was held in London at the Institute of Directors Business Centre on April 24, 2008. The purpose of the seminar was to highlight recent advances in analytical techniques for the investment industry to our growing number of European clients and prospects.

The presenters included Dan diBartolomeo, Daniel Mostovoy, and Anish Shah of Northfield. Eoin Murray, Chief Investment Officer at Old Mutual Asset Management also gave a presentation. The topics included; "Short Term Risk from Long Term Models," "Optimal Multiple Manager Funds," "Portfolio Risk Models, From White Swans to Black Swans," "The Equity Risk Premium, CAPM and Minimum Variance Portfolios," and "Twelve Questions Your Risk Management Tools Should Help You Answer."

The seminar concluded with a well deserved post seminar reception. There was no cost to attend, however, donations to the Prince's Trust were strongly encouraged. The Prince's trust is a very worthwhile organization that makes a huge positive difference to the lives of many thousands of young people. Visit **http://www.princes-trust.org.uk** to learn more. Seminar attendees donated over £8,000 to the organization. The seminar proceedings have been posted to **http://www.northinfo.com/papersearch.cfm.**

Newport Summer Seminar Wrap-up

Tennis Hall of Fame • Newport, RI • June 6, 2008

Northfield's annual summer seminar took place at the International Tennis Hall of Fame, in Newport, RI on June 6th. The seminar presented recent research and technical advances to an audience of Northfield clients and friends.

The agenda consisted of 6 presentations including: "The 'Variety' of Security Returns and the Tradeoffs Between Capital Growth, Risk and Taxes," "The Equity Rick Premium, CAPM and Minimum Variance Portfolios," "Hedge Fund Contagion and Liquidity," "Investment Belief Systems: A Consultant's Perspective," "An Introduction to Independent Components Analysis (ICA)," and Twelve Questions Your Risk Management Tools Should Help You Answer."

As is customary, the seminar coincided with the USA Professional Championship of Court Tennis. Following the presentations, attendees viewed a court tennis demonstration by Northfield President Dan diBartolomeo, and then a Semi-Final Match between world champion Rob Fahey of Australia and Mike Gooding of the U.S. Fahey won the match and went on to win the Championship. Court Tennis, or "real tennis" is the medieval sport that is the progenitor of all modern racquet sports. To learn more, visit the US Court Tennis Association site at **http://www.uscourttennis.org**.

After tennis on Friday evening, everyone enjoyed a relaxing oceanfront dinner party at The Chanler, on the Cliff Walk in Newport. The complete proceedings have been posted to our website at **http://www.northinfo.com/papersearch.cfm.** Northfield does not charge attendance for this event, however, we do accept donations on behalf of the Pine Street Inn, Boston's primary homeless shelter.

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in the composition of the portfolio? Put in another way, do we know what our portfolios imply about how risk averse our investors are to these two different aspects of risk? If we have an explicit understanding of these issues, we can neatly encapsulate the problem by mixing cash into our benchmark index to represent the proportional degree of concern for absolute risk and return.

4. As active managers, we employ strategies that incorporate our skills in "security selection" and also in making sector/country/style decisions. To the extent we wish to outperform benchmarks via a particular source of skill, we must accept uncertainty in that aspect of portfolio returns in order to have an opportunity set. Institutional investors rightly place on an asset manager being "true to their style" and assume that successful performance is accidental if it arises from an investment process inconsistent with the manager's investment thesis. Does the risk decomposition of our portfolio appropriately reflect our expected sources of superior performance?

5. Volatility of benchmark relative returns arises from two sources. The first is "tracking error" which arises from the random influence of changing market conditions and firm specific events. The second source of volatility is strategy risk, which is the extent to which the effectiveness of our strategies varies over time. For example, if a star research analyst resigned, the potential negative impact on our portfolios would be a form of strategy risk, not tracking error. Have we been able to analyze our past performance track record with respect to the degree of strategy risk, and formulate internal management policy accordingly?

6. For a portfolio to represent the best balance of expected returns and risks at the portfolio level, the weight of each security position must balance expected returns and expected risks at the margin. As such, it is possible to infer the expected returns on securities from the composition of a portfolio. This process is often referred to as "reverse optimization." To the extent we obtain these implied expected returns, are they consistent with our actual beliefs about the expected returns from different securities? This information can also be a key to ensuring quality control across a set of heterogeneous client portfolios. Are the implied expected returns consistent across the many portfolios under management (if we believe that IBM will outperform Microsoft in one portfolio, we must believe that for all portfolios!)?

7. The sensitivity of a portfolio's return to the returns to the returns of a given sector (or country) involves both the weight of the portfolio allocated to that sector (country) and the extent to which the specific firms held in the portfolio are more or less sensitive to business conditions in that sector (country). How does your risk management process differentiate between the value weights allocated to a sector (country) and the economic exposure of your portfolio to the influence of that sector (country)?

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8. Macroeconomic relations to security returns are often unintuitive. For example, we might believe that oil companies benefit from high oil prices, while airlines suffer greatly. However statistical tests have demonstrated that certain industries such as "chain retail" are even more sensitive to energy costs than airlines (consumer spending declines, consumer avoid driving to dispersed locations, shipping costs, HVAC costs, etc.). How does your risk management process alert you to broad macroeconomic exposures in your portfolio that may not be intuitively obvious?

9. Regulations in many European countries (e.g. UCITS 3) now require that most mutual funds sold across national borders have a standing risk management process that includes a periodic calculation of a 10 day Value-At-Risk, and the reporting of those results to boards of directors and in some cases regulators. Current regulatory discussions are likely to extend this requirement to separately managed accounts in many countries, even for investors with long term investment horizons. Does your risk management process support the necessary reporting?

10. Large asset management organizations typically manage many portfolios with heterogeneous goals and requirements. Let us assume we decide that a particular stock is a "buy" and want to purchase 300,000 shares of stock X in aggregate for our portfolios, but market liquidity limits us to 30,000 per day of buying. How do we decide in which portfolios this purchase has the most benefit, and is therefore the most urgent? Many investment firms simply dump this problem on their traders to work out in an ad hoc fashion or limit the size of aggregate purchases to quantities that are more easily obtained, both of which are obviously sub-optimal solutions.

11. Investment consultants often use the dispersion between returns of similar portfolios as evidence of poor quality control on the part of an asset manager. On the other hand, the differences in client goals, constraints and preferences should produce different portfolios for different clients and therefore different returns. Can you estimate the expected level of dispersion amongst the entire range of managed portfolios, and thereby demonstrate that the observed dispersion arises from differences in client need, rather than sloppy management?

12. To the extent that capital gain taxes reduce the range of possible return outcomes to the investor, the balance of portfolio return and risk is quite different when taxes are considered. How are the risk profiles of your portfolios differentiated between institutional clients that are not subject to capital gain taxes and private clients that normally are subject to capital gain tax? Similarly, for mutual funds that have both taxable individual shareholders and tax deferred shareholders (e.g. 401K plans), how has the influence of taxation on risk tolerance been rationalized?

13. The efficiency of equity trading can often be greatly improved by better communication between portfolio managers and traders with regard to which trades are urgent (and hence must be completed quickly) and which can be completed more slowly in order to minimize market impact. One way to analyze this problem is to consider the set of undone trades as a long short portfolio that you are trying to liquidate. You are "long" stocks that you do have and don't want, and "short" stocks you do want but don't have. A standard risk decomposition report on this "long/short" portfolio can clearly point out which positions have the greatest contribution to portfolio risk and hence are the most urgent to complete.

Northfield Staff Speaking Engagements

Northfield President Dan diBartololomeo will be presenting "The How, Why and Why Not of "What if?," on June 24th, at the Boston Security Analyst Society in Boston. This talk will discuss the pros and cons of using Monte Carlo simulations for analysis of asset allocation for high net worth investors.

On July 2nd, Dan will be presenting "Risk Management for Equity Trading, Fat Tails and Liquidity Gaps," at the CARISMA Research Centre Conference, in London. This presentation will focus on methodologies for controlling risk during the equity trading process and the estimation of potential volatility during periods of low liquidity. The Center sponsors workshops and conferences throughout the year. Visit the CARISMA website for more information at **http://www.carisma.brunel.ac.uk.**

Dan will present "Fat Tails, Tall Tales, Puppy Dog Tails," at the Boston Security Analyst Society on July 16th. This presentation will review the issues of "fat tailed" probability distribution for high-frequency equity returns, and the implications for portfolio management and trading.

Northfield's Steve Gaudette will be giving a presentation on the Equity Perspective of Performance Attribution at the Performance Measurement 101 Conference in New York, July 17-18. Visit **http://www.frallc.com/reports/marketing_package_B629.html** for more information.

Northfield's Nick Cutler gave a presentation on the "Managerial Issues of Firmwide Risk" at the Global Investment Technology Leadership Roundtable in St.. Michaels, MD, May 13-15th.

Technical Support Notice: Transitioning to NisOpt 2008 Timetable

By Mike Knezevich

This Newsletter article is devoted to providing information regarding the optimizer transition from our 32 version to the 2008 version. Hopefully this will provide you the information you need or the location at which you may find the information.

Optimizer (Standalone version NisOpt32):

Discontinuation Dates:

Cut-off dates needed to be modified due to the lack of documentation and an unforeseen performance issue with the UNIX version of runlib which has since been resolved. The new dates are separated by geographical regions due to the concentration of support and development in the US.

North American Clients:

As of June 30, 2008, NISOPT32/NISBATCH32 will be discontinued for all US and Canada clients.

Non-North American Clients:

As of July 31, 2008, NISOPT32/NISBATCH32 will be discontinued for all clients outside North America.

NisOpt32 Uninstall:

Uninstalling the application is easy. During the monthly (i.e. June 30th in the US) download, the application files associated with NisOpt32 will be removed while data is being updated.

Optimizer (Non-Standalone Version):

Partner Supplied Version:

Clients subscribing to Northfield products through MARS, Factset and/or Clarifi will receive the updated optimizer versions via the respective vendor as the new product is incorporated. Transition will not be necessary for clients using only a partner platform. Clients using the standalone version in conjunction with the partner platform will need to update the standalone version. Import/Export functionality will remain within the NisOpt2008 standalone for those clients comparing output across platforms.

Library Version:

The runlib 32 versions may be kept for development purposes, but will no longer be supported or updated. These files will not remain indefinitely, but will be removed at any point in the future at Northfield's discretion.

Documentation:

As mentioned above, lack of documentation is the primary reason for rescheduling discontinuation dates.

The on-line help files will not be complete. These files which are delivered with the application are in the process of being completely over-hauled. The time necessary to complete these changes was under-estimated, but updated files will be delivered as they become available. In the interim, three product documents have been updated to assist users with the latest application.

The transition document provides information regarding the differences between versions and working with project files in the NisOpt32 format. This documents is available at: **http://www.northinfo.com/documents/273.pdf**

A product manual is available describing application functionality. This manual covers the standalone Nisopt2008, the library files, NisBatch2008 as well as some specific topics. This document is available at: **http://www.northinfo.com/documents/177.pdf**

An optimizer walk through document has been made available to users. This document contains in-depth step-by-step instructions on using the optimizer.

All three documents were delivered via the June 2008 download. Users will find a link for each in the start menu.

Clients currently not using NISOPT2008 should contact Northfield immediately as neither support nor development will be provided for NISOPT32 after the corresponding cut-off dates.

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