



Portfolio Construction Without Optimizers

Program Description: Portfolio construction in Modern Portfolio Theory (MPT) equals mean-variance optimization. It is an open secret that practitioners are struggling to implement MPT despite the many innovations proposed in the last 30 years of applied research. In this webinar, we focus exclusively on non-optimization techniques, which allow turning signal into allocations without the use of optimization algorithms. Solutions discussed range from simple rules-of-thumb heuristics, mapping techniques, risk parity ideas to promising insights from more recent quantitative research related to machine learning and related methods.

Approach: Top-down presentation focusing on the bigger picture, combined with spreadsheet example calculations which can be modified to be used in productive applications or transferred to other system environments like R, Python and similar.

Target Audience: portfolio managers, quantitative analysts, investment analysts, asset managers (both traditional and alternative), system developers

Materials: Participants will receive the presentation slides as a PDF file, spreadsheets containing example calculations and a 6-month free license for our Excel add-in “Advanced Portfolio Analytics” (used in some of the spreadsheets)

Webinar Delivery: Microsoft Teams, 7 hours interactive lecture: 9am to 5pm (including 2x 15min breaks and 1h lunch break), Time Zone UTC+2

Price: 450 CHF

Program Details

1. Why We Build Investment Portfolios
 - Search for Diversification, not Diworsification
 - Diversification Effect on Non-Linear Dependencies and Non-Normal Distribution
 - Market-Cap-Weighting as a Non-Optimization Approach
2. What is Optimization?
 - Analytical Optimization
 - Unconstrained mean-variance problem
 - Linear Equality and Inequality Constraints
 - Numerical Optimization
 - Linear and Quadratic Problems
 - Other Search Algorithms
 - Random Portfolios for Portfolio Construction
3. What are the Issues with Optimizers?
 - Concentration: a Feature, not a Bug
 - Garbage-In-Garbage-Out: Out-of-Sample Issues
 - Real-world Constraints
 - Time-variable Goal Functions
4. Non-Optimization Portfolio Construction
 - Equal-Weighted Investing: No Information Investing
 - Waterfall Allocations from Hierarchical Clusters
5. Risk-Based Portfolio Construction
 - Inverse-Volatility Trade
 - Risk Parity: Equal Volatility Contributions and Beyond
 - Bringing Back Return Considerations
6. Conclusions

The content of this program can be combined with content from other programs for customized **inhouse training** purposes. Please contact email@andreassteiner.net for details.