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SUMMER SESSIONS

Refresh your knowledge of essential topics in investing

Asset Allocation: From Theory to Practice and Beyond, Part III – Challenges & Solutions

Presented by Will Kinlaw

Key Points

- Investors should address relative performance goals directly in the objective function rather than impose arbitrary constraints.
- Investors can integrate asset allocation and factor investing by investing in asset classes in a way that conforms to their preferred factor profile.
- Investors should explicitly account for the ways in which they use liquidity when determining their allocation to liquid and illiquid asset classes.
- When deciding when to rebalance, investors should consider the explicit cost of rebalancing against the implicit cost of holding a sub-optimal portfolio.
- When stress testing portfolios, investors should consider losses that could occur at any point during the investment and during turbulent environments.

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Asset allocation entails many challenges for investors. In part three of our asset allocation series, Will Kinlaw addresses five of these challenges:

Challenge 1: Relative performance. Investors do not want to perform poorly while other investors perform well. This is often addressed with constraints, but constraints are an arbitrary and inefficient solution. Investors should address relative performance goals directly in the objective function rather than impose arbitrary constraints.

Challenge 2: Integrating asset allocation with factor investing. Some investors prefer to construct portfolios from asset classes because asset classes are readily observable and directly investable. However, other investors prefer to allocate to factors because they believe asset classes are defined arbitrarily and do not capture the fundamental determinants of performance as directly as factors do. Also, some factors carry risk premiums that are not directly available from asset classes. Investors can “have it both ways” by continuing to invest in asset classes but in a way that conforms to an investor’s preference for a chosen factor profile.

Challenge 3: Liquidity risk. Among other uses, investors rely on liquidity to implement tactical asset allocation decisions, rebalance a portfolio, meet capital calls, seize new opportunities, and respond to shifts in

risk tolerance. Investors should account explicitly for the impact of liquidity on a portfolio in units of expected return and risk, thereby enabling liquid and illiquid asset classes to be compared within a single, unified framework.

Challenge 4: Portfolio rebalancing. Investors typically rebalance a portfolio whose weights have drifted away from its optimal targets based on the passage of time or distance from the optimal targets. Investors should approach rebalancing more rigorously by recognizing that the decision to rebalance or not affects the choices the investor will face in the future. Dynamic programming can be used to determine an optimal rebalancing schedule; the Markowitz and van Dijk quadratic heuristic is a close approximation in cases where dynamic programming is computationally infeasible. Tolerance band approaches to portfolio rebalancing are generally superior to calendar-based approaches. Investors could do even better by employing an approach that explicitly balances transaction costs against sub-optimality (drift) costs.

Challenge 5: Stress testing. Investors typically evaluate exposure to loss at the end of the investment horizon. To assess risk in the real world, investors should consider losses that could occur during the investment horizon, not just at its conclusion; moreover, they should condition for more turbulent environments when losses are most likely to occur.

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