

Asset and Liability Management Tools

A HANDBOOK FOR BEST PRACTICE

Edited by Bernd Scherer

RISK
BOOKS

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Portfolio Optimisation with Drawdown Constraints

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Optimal portfolio allocation is a longstanding issue in both practical portfolio management and academic research on portfolio theory. Various methods have been proposed and studied (for a review, see, for example, Grinold and Kahn, 1999). All of them, as a starting point, assume some measure of portfolio risk.

From a fund manager's standpoint, who trades clients' or banks' proprietary capital, and for whom the clients' accounts are the only source of income in the form of management and incentive fees, losing these accounts is equivalent to the death of the business. This is true with no regard to whether the employed strategy is valid long-term and has very attractive expected return characteristics. Such a fund manager's primary concern is to keep the existing accounts and to attract the new ones in order to increase revenues.

A particular client who was persuaded into opening an account with the manager through reading the disclosure document, listening to the manager's attractive story, knowing previous returns, etc, will decide on firing the manager based, most likely, on the account's drawdown magnitude and duration. In particular, it is highly uncommon for a commodity trading advisor (CTA) to still hold a client whose account has been in a drawdown, even of small size, for longer than two years. By the same token, it is unlikely that a particular client will tolerate a 50% drawdown in an account with an average- or small-risk CTA. Similarly, in an investment bank setup, a proprietary system trader will be expected to make money in one year at the longest, ie, it would not be acceptable to be in a drawdown for longer than a year. Also, he/she may be shut down if a certain maximum drawdown condition is breached (normally around 20% of backing equity). Additionally, the trader will be given a warning drawdown level (around 15%) at which his/her running of the system will be reviewed.