

Portfolio Optimiser for ReMetrica

Portfolio Optimiser is a tool that is used in conjunction with ReMetrica and can provide the best possible results for a number of scenarios. Portfolio Optimiser seamlessly interacts with ReMetrica result sets allowing you to easily define the parameters of an optimisation problem.

Easy to use

- With two basic modes (maximise return and minimise risk) the occasional modeller can interact with the easy to use interface to set up the optimisation problem.
- Does not require any programming.

Practical

- Any type of risk can be measured (e.g. underwriting loss, cat bond profitability).
- Uses third-party linear solvers which are fast and robust.
- With advanced mode the user can load up pre-written modelling language files describing a problem and link it to inputs in the ReMetrica study.

Case study 1: Cat bond portfolio

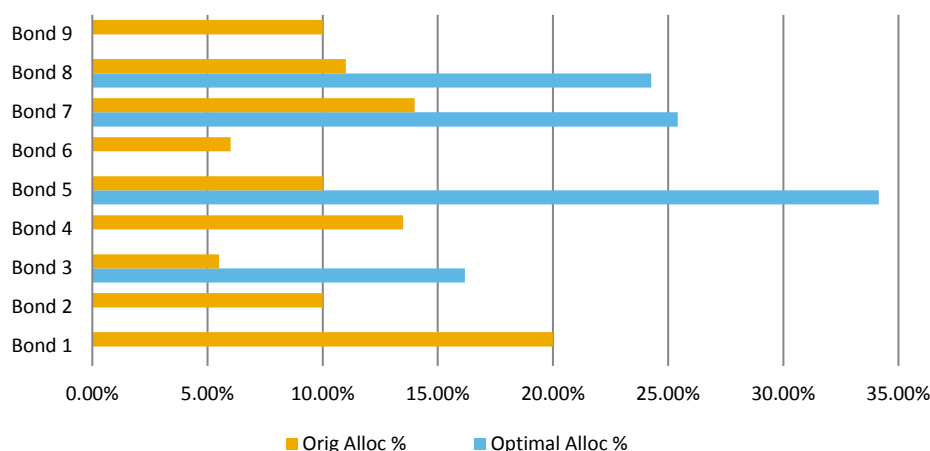
Portfolio Optimiser can be used to determine the optimal mix that maximises the investor's profit on a portfolio of bonds whilst keeping the portfolio below a level risk tolerance. The optimal mix will depend on variables such as underlying bond attachment and exhaustion probabilities. For the specific cat bonds looked at it eliminated Bond 6 from the portfolio due to the likelihood of it suffering a complete loss.

We're here to empower results:

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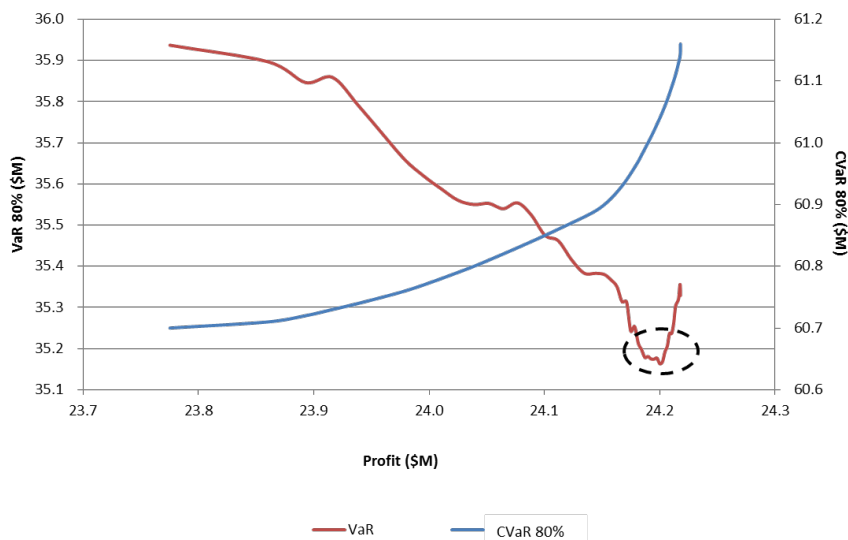
Case study 2: Insurer making best use of capital

Insurers can use Portfolio Optimiser to analyse their use of capital in groups of risks across their portfolio. Risk groupings for example can be a market share in a geographical region, different classes of business or individual large commercial risks. The insurer can use Portfolio Optimiser to understand some of the following areas:

- whether each group is making the **best use of capital**,
- how capital allocation to each group can be improved to **increase profitability**, and
- how the mix of business can be used to **reduce volatility**.

For example: Portfolio Optimiser can help to identify the optimal strategy for an insurer writing business across 250 risk groups, so that it:

- maximises profit,
- minimises risk and
- satisfies 1 in 200 year constraints.



Here the measure for the company is its economic capital measure, given by CVaR95%, which is the average of the total losses in excess of the 99.5th percentile. Moreover, the Portfolio Optimiser can consider different levels of risks in order to generate an efficient frontier.

About ReMetrica

ReMetrica® is Aon's award-winning dynamic financial analysis (DFA) modelling tool for enterprise risk management and economic capital modelling. It is the preferred choice by many of the world's leading insurance and reinsurance companies and actuarial consulting firms. ReMetrica is the tool clients need to make informed, strategic business decisions. Its powerful modelling capabilities enable clients to test a range of different strategies and scenarios for a variety of applications.