

# THE EFFICIENT FRONTIER: A BRIDGE TO VaR\*

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## Abstract

We specify and study an explicit relationship linking two important portfolio properties: mean-variance efficiency *and* value-at-risk (VaR). We demonstrate the identification of portfolios that lie on the efficient frontier which also minimize VaR for a chosen confidence level. We introduce the concept of ‘probability at risk’ (PaR) and demonstrate how to identify the minimum PaR efficient portfolio as the one which minimizes the probability of realizing a return below a chosen benchmark. Empirical analysis supports the proposition that choosing the minimum VaR portfolio versus any other efficient portfolio results in fewer return realizations breaching the minimum VaR.

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