

## Quantitative Finance &gt; Portfolio Management

# Minimizing the Probability of Lifetime Ruin under Stochastic Volatility

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We assume that an individual invests in a financial market with one riskless and one risky asset, with the latter's price following a diffusion with stochastic volatility. In the current financial market especially, it is important to include stochastic volatility in the risky asset's price process. Given the rate of consumption, we find the optimal investment strategy for the individual who wishes to minimize the probability of going bankrupt. To solve this minimization problem, we use techniques from stochastic optimal control.

Comments: Keywords: Optimal investment, minimizing the probability of lifetime ruin, stochastic volatility.

Subjects: **Portfolio Management (q-fin.PM)**; Optimization and Control (math.OC); Probability (math.PR)

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