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Risk Aversion Asymptotics for Power Utility Maximization

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We consider the economic problem of optimal consumption and investment with power utility. We study the optimal strategy as the relative risk aversion tends to infinity or to one. The convergence of the optimal consumption is obtained for general semimartingale models while the convergence of the optimal trading strategy is obtained for continuous models. The limits are related to exponential and logarithmic utility. To derive these results, we combine approaches from optimal control, convex analysis and backward stochastic differential equations (BSDEs).

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