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*Optimal Dynamic Futures Portfolio in a Regime-Switching Market Framework.*

We study the problem of dynamically trading futures in a regime-switching market. Modeling the underlying asset price as a Markov-modulated diffusion process, we present a utility maximization approach to determine the optimal futures trading strategy. This leads to the analysis of the associated system of Hamilton-Jacobi-Bellman (HJB) equations, which are reduced to a system of linear ODEs. We apply our stochastic framework to two models, namely, the Regime-Switching Geometric Brownian Motion (RS-GBM) model and Regime-Switching Exponential Ornstein-Uhlenbeck (RS-XOU) model. Numerical examples are provided to illustrate the investor's optimal futures positions and portfolio value across market regimes. (Received January 14, 2021)