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CPPI under Regime Switching and Transaction Cost

Portfolio insurance has been extensively applied in the financial industry, typically designed to protect portfolio value from dropping below certain predetermined floor. It allows participation in risky investments for potential upside profits and mean-while control downside risk. As one of the main portfolio insurance strategies, the CPPI adopts a simplified self-financing strategy to dynamically rebalance portfolio between a risky asset and a reserve asset. In this talk, I will introduce some results I recently obtained on CPPI in a discrete-time regime switching setting with transaction cost. Explicit formulas are derived for a variety of portfolio performance measures and can be easily implemented for sensitivity analysis. A numerical example with a real dataset will be given to demonstrate those obtained results.