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*Stochastic Hellinger Distance: A Statistical Tool for a Financial Economics Problem*

Consider an agent possessing non-tradable asset and investing in stock market. Her goal is to find optimal portfolio and optimal time to liquidate all her assets. This problem can be solved if we understand how optimal portfolio depends on horizon. Our approach relies on extending Hellinger distance to positive martingales. This extension allows us identifying agents/investors whose optimal portfolio is horizon-unbiased. Our results contributed independently with other researchers to the birth of Forward Utilities. An advanced extension of Hellinger distance leads to Minimal Hellinger Deflator which is related to the Non-arbitrage theory.