

---

**CAROLE BERNARD**, University of Waterloo  
*Optimal Investment under State-Dependent Constraints*

Bernard and Boyle (2010) derive the lowest cost strategy (also called "cost-efficient" strategy) that achieves a given wealth distribution. An optimal strategy for a profit seeking investor with law-invariant preferences is necessarily cost-efficient and is almost surely unique. In the specific case of a Black and Scholes market, the optimal strategy is always path-independent and non-decreasing with the stock price. Assuming now that investors still want to achieve a given distribution at a fixed horizon but have additional state-dependent constraints, we show how to construct an optimal strategy. In the case of the Black and Scholes market, we show that such optimal strategy is not necessarily non-decreasing in the stock price, may be path-dependent and is not unique anymore.

Joint work with Steven Vanduffel (Vrije Universiteit Brussels).