1148-91-267 **Karel Janecek**, **Zheng Li** and **Mihai Mihai Sirbu*** (sirbu@math.utexas.edu), 1 University Station C1200, Austin, TX 78712. *Optimal investment with high-watermark fee in a multi-dimensional jump diffusion model.*

This paper studies the problem of optimal investment and consumption in a market in which there are multiple risky assets. Among those risky assets, there is a fund charging high-watermark fees and many other stocks, with share prices given exogenously as a multi-dimensional geometric Levy process. Additionally, there is a riskless money market account in this market. A small investor invests and consumes simultaneously on an infinite time horizon, and seeks to maximize expected utility from consumption. Utility is taken to be constant relative risk aversion (CRRA). The problem can be modelled as a two-dimensional stochastic control problem with both jumps and reflection. In this setting, we first employ the Dynamic Programming Principle to write down the Hamilton-Jacobi-Bellman (HJB) integro-differential equation associated with this stochastic control problem. Then, we proceed to show that a classical solution of the HJB equation corresponds to the value function of the stochastic control problem, and hence the optimal strategies are given in feedback form in terms of the value function. Moreover, we provide numerical results to investigate the impact of various parameters on the investor's strategies. (Received February 04, 2019)