An Optimal Stopping Problem Arising in Hedge Fund Investing

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Abstract

Traditional fee structures for hedge funds involve a flat fee expressed as a percentage of assets under management, together with a performance fee that has the structure of a call option. This structure has disadvantages for investors both in terms of expenses, as well as the incentives it provides for hedge fund managers. We will discuss a new fee structure that has been adopted by some funds in the industry, referred to as the shared-loss fee structure. In this framework, in return for receiving upside participation, the fund manager provides some downside protection against losses to the investors. We study the optimal stopping problem of an investor deciding when to withdraw funds from a hedge fund operating with a shared loss fee structure. We will consider properties of the value function, characterized as the solution of a variational inequality, and stopping boundaries, and also discuss a connection with participating contracts with guaranteed rates of return arising in insurance.