Filling the gap between American and Russian options: adjustable regret

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Abstract

We study several infinite-horizon optimal multiple-stopping problems for (geometric) Brownian motion. In finance, they naturally span between the American and Russian option formulations in terms of price and reduced regret. In statistics, they are continuous-time examples of best-choice problems with multiple rights. We find explicit formulas for the value functions and describe completely optimal exercise strategies whenever one exists. We also conjecture a new characterization of the value function for the open problem of the Russian option for arithmetic Brownian motion with drift.

1Invited Session: Dynkin Games