Portfolio Selection with Constraints on Trading Frequency

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Abstract : We study a portfolio selection problem of an investor who faces constraints on rebalancing frequency, which is common in pension fund investment. We formulate it as a multiple optimal stopping problem and utilize the dynamic programming principle. By numerically solving the corresponding Hamilton-Jacobi-Bellman (HJB) equation, we find a series of free boundaries characterizing optimal strategy, and the constraints significantly impact the optimal strategy. Even in the absence of transaction costs, there is a no-trading region, depending on the number of the remaining trading chances. We also find that the equivalent wealth loss caused by the constraints is large. In conclusion, our model clarifies the impact of the constraints on transaction frequency on the optimal strategy.