

Financial Applications of Convex Optimization

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We propose to implement the problem of portfolio optimization with transaction costs. This is discussed in [1]. Authors in [1] discuss various constraints and transaction cost models some of which can make the problem non-convex. In such cases, a convex relaxation is used.

A survey of financial applications is available in [2]. We will implement, experiment and analyse this problem using the data from the real world.

References

- [1] Lobo, Miguel Sousa, Maryam Fazel, and Stephen Boyd. "Portfolio optimization with linear and fixed transaction costs." *Annals of Operations Research* 152, no. 1 (2007): 341-365.
- [2] Li, Ao, and Levent Tuncel. "Some applications of symmetric cone programming in financial mathematics." *Transactions on Operational Research* 17 (2006): 1-19.