CERF Project Update – March 2021

Title

Building a robust combinatorial exchange for portfolio trading: a market design approach

Update

I have been developing the theoretical side of the project. More specifically, in highly stylised models I illustrate the shortcomings of trading protocols which do not allow package/portfolio bidding. While it is fairly standard to make the above point, it is fair from obvious how to get around the issue. Abstracting away from computational issues, I advocate "core matching" to allow for the full possibility of gains for trades. Realising such trades, however, require specifying "core prices" which support these trades and ensuring that such a matching & pricing protocol is strategically implementable, i.e., incentive compatible. Noting the lack of incentive compatibility as a general impossibility in these environments, I turn my attention to the task of maximising participants' incentives to bid as close as possible to their true values. I focus on pricing rules with a view towards robustness to perturbations (small changes) in bids. Next, I need (would like) to develop a theoretical justification for specific thoe pricing rules I identify as "robust".

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