**Tullock Contest Literature Review**

**Symm\_1\_1: Standard Tullock Contest**

Sheremeta, R.M. (2013), OVERBIDDING AND HETEROGENEOUS BEHAVIOR IN CONTEST EXPERIMENTS. Journal of Economic Surveys, 27: 491-514. <https://doi.org/10.1111/joes.12022>

The following table are studies that resemble our standard Tullock Symm\_1\_1 contest very well. Others are found in the referenced meta-study, but with fewer similarities.

Table

Description automatically generated

Though there is substantial variation in the overbidding percentage for each study, ours is very much in line insofar as overbidding is present and the degree to which subjects overbid is substantial (greater that 25%)

**Symm\_1\_3: Win majority but choose single effort**

**Symm\_3\_1: Win majority and choose different efforts each time**

Though there does not seem to be a perfectly comparable experiment, there are those that require subjects to win 2/3 contests. This is essentially mimicking either of our cases. The Symm\_3\_1 case is more closely related as here a subject must choose three efforts for each district. In **Mago, S.D., Sheremeta, R.M., & Yates, A.** (2010). Best-of-three contests: Experimental evidence. *ESI Working Paper* 10-22. *Retrieved from* [*http://digitalcommons.chapman.edu/esi\_working\_papers/109*](http://digitalcommons.chapman.edu/esi_working_papers/109)the researchers allow participants to bid up to 200 francs for prize of 100, but they are paired against the same person. So if you know you’re playing the same person at least twice, it stands to reason that you may view a contest within which you play the same person three times, but must win 2/3 to win the contest. Hence, the comparison of their study with our Symm\_3\_1 map. The most substantial difference is that there is potential for a learning effect in Sheremeta’s study whereas ours is a one shot against another participant and so is not likely to involve a between subjects effect due to learning. [Razzolini](https://www.sciencedirect.com/science/article/pii/S0167268119301179?casa_token=7rIxgW1mM_cAAAAA:w0t20mg1BstDwCZVF6IXn5gU_3Cx0I45V5ccSO1nBTVZcaEOoRQnkJPHTi1-MOYf6Cs564Y#sec0002) conducts a similar Best of 5 experiment and has participants bid up to 100 francs for prize of 100.

Our results are that:

symm\_1\_3~ 41; 51% of prize; Eq. was 30; that is 37% higher than eq.

symm\_3\_1~ 17+17+17 = 51; (72% bid in all three); 64% of prize; Eq. was 10 in each, 30 total; that is 70% higher than eq.

Sheremeta: 60 with eq of 32 so close to 100% more than eq in total, though this is sequential

Razzolini: still experiences over bidding

In another [Sheremeta](https://onlinelibrary.wiley.com/doi/full/10.1002/soej.12182?casa_token=m7apc8I8nQ8AAAAA%3AiyIhG3q5apZaa-1Yy0cT3_gRAi-TceWbyAbTZSdYRJ5ZQ-FkoYzYIqkfQwkJQAg4sJZvN0Ys6GY) paper the authors investigate multi-battle games and again find that in total, participants bid more than equilibrium for the overall contest comprised of three battles. This is just to add support to the idea that a best of three style game or contest results in over bidding, a result that we see, though the magnitudes by which overbidding occurs seems to vary.

**Gerry: One player has advantage in single contest**

Only able to find informational advantage but nothing that provides a reference for other studies that focus on increasing the probability a player wins ex ante.