The double cheating game

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Experimental studies of cheating have been quite prominent in recent years: Abeler e.a. (2019) report over 70 studies using the variations of the canonical design by Fischbacher and Follmi-Heusi (2013). Results of these experimental study convincingly show that people generally are not totally honest, but that cheating is commonly not overwhelming either: on average, people extract about one quarter of possible cheating rent. Numerous studies confirm this general pattern, both in different contexts and around the globe.

Of special interest are social cheatings, or cheating decisions that arise as a byproduct of agreement between two (or more) individuals. Limiting attention to two-players situations in this parer, there exists some literature on the topic (Welsel and Slalvi, 2017; Kocher e.a., 2016 etc) which studies dishonest decisions made jointly by two people – typically, in the sequential game when one player's decision is observable to the other when this latter makes his decision. Not surprisingly perhaps, this setup yields systematic joint cheating, but does so in the context of Pareto lies (in terminology of Erat and Gneezy, 2015).

By contrast, our paper is apparently the first study of intentions to collude on cheating in general settings, when both cheating decisions are independent and endogenous to the players. Unlike the previous literature we set up a general framework, where joint cheating may be black, white or Pareto. We achieve this by a combination of two games – cheating a la Fischbacher and Follmi-Heusi, and investment game (Berg e.a. 1992). Our design allows to disentangle cheating (misreporting true state of the world to the experimenter) and fairness considerations towards the other fellow player. This combination makes the design somewhat involved, which factor is further aggravated by the credibility of promises. In order to avoid potential confounds, we use pen and paper procedure which ensures trustworthiness of all elements of our experimental design in the eyes of the subjects. Careful instructions, demonstrations of the play ground and quiz questions ensure that no more than 6.4% of all decisions were inconsistent with the rules of our experiment. These observations, coming from different subjects, have been discarded from analysis.

Experimental design is as follows. Experiment is ran in sessions of 12 students in each, with stranger matching by pairs. In each pair, the first players were separated from the second by means of an opaque screen, and have receivd at their disposal a fixed amount of x, which they were asked to share with the second in any proportion they see fit. The second players, having received their share, have to throw a dice into a special pipe, access to which will only have them and, perhaps, their partners-the first players, but the experimenter-never. The number of points that fall on the dice determines the yield (a number from 0 to 5) by which the second player must multiply the amount that he received from the first player, and which is at his disposal. At the same time, of course, the second player can cheat, calling, for example, a greater yield than fell on his dice. Received (from his point of view) the amount of the second player can divide between himself and the first player in any proportion he likes, and return to the first player his share, as in the game of dictator.

In February-May 2019, we ran in Moscow 6 sessions of that game with 72 decision-makers in each of the two treatments. Of 432 decisions, 28 were excluded on the grounds of mistakes (6.4%, none systematic across subjects). Of the 202 observations in double cheating game, 112 were not checked (55%), and 90 checked (45%); of these latter, only 26 (about 1/4) were fined.

Inferred distributions of rates of return of the second players (responders) is provided in Figure 1, separately for the situations when checking from the first player is impossible (left panel, labeled 1) and when it is possible (right panel). Both picutres clearly reveal modal defection to highest outcome (5). Differences across treatments is not significant (chi^2=7.84, p<0.165), but when the extreme outcomes of 5 is dropped, double cheaters are cheating more than single ones ($WMW z=2.56, p<0.0102). We attributie this fact to largest incentives to not `let your partner lay down', which we calibrate using a behavioural model.

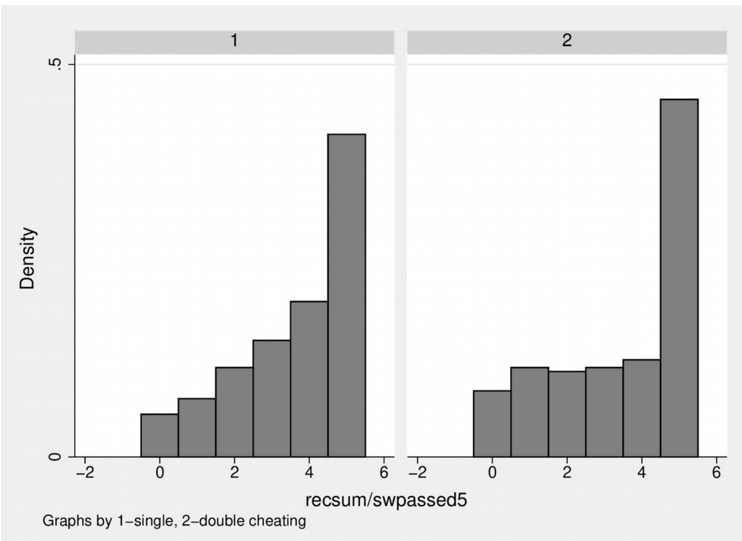

Figure 1. Inferred distributions of outcomes for player 2

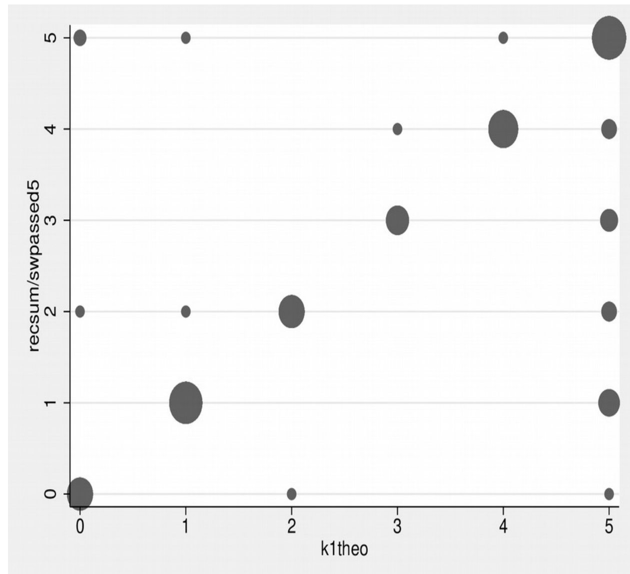

Figure 2. Joint distribution plot of reported outcomes of players 1 (horizontal) and 2 (vertical axes).

Figure 2 shows the joint distribution of reported outcomes of player 2 and checking outcomes. As can be seen from the picture, the majority of checked outcomes (on the main diagonal) correspond with the reported ones, which may again be due to different patterns (e.g. willingness to support the partner's parole). Few dots northwest of the main diagonal correspond to corections of overreporting, which are the decisions of honest checkers. By contrast, the path at the maximum pay of the checkers corresponds to the (second largest by frequency) situation when disnonest checkers induce honest second players to cheat. This all implies that double cheating invokes heterogeneity in attitudes towards cheating: some subjects care about honesty per se, and are ready to fight for that, some others cheat and accept that, some push others towards cheating.

More detailed analysis of this issues and the game in general shall be presented at the conference.