



## Selection, tournaments, and dishonesty



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### ARTICLE INFO

#### Article history:

Received 26 June 2014

Received in revised form 29 October 2014

Accepted 30 October 2014

Available online 8 November 2014

#### JEL classification:

C91

K42

#### Keywords:

Dishonesty

Selection

Tournament

Piece rate

Real effort experiment

### ABSTRACT

We conduct a real effort experiment in which performance is not monitored and participants are paid according to their reported performance. Participants are paid according to a piece rate and a winner-take-all tournament and then select between the two schemes before performing the task one more time. Competition increases dishonesty and lowers output when the payment scheme is exogenously determined. Participants with a higher propensity to be dishonest are more likely to select into competition. However after selection, we find no output difference between piece rate and tournament. This is attributable to a handful of honest individuals who select competition.

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### 1. Introduction

One of the most important lessons from economics is that competition is beneficial because it is efficiency enhancing. A labour tournament, a democratic election or a marathon, all share the same goal: to maximise performance by rewarding the most productive worker, the most talented politician or the fastest runner. However, reality is not that simple. Firstly, it is often difficult, if not impossible, to measure actual output and contestants might be able to misrepresent their performance. Thus an employee may exaggerate her accomplishments, a politician may lie about her achievements and a sportsman may take performance-enhancing drugs. Secondly, participation in contests is endogenous. Some people choose to enter competitive careers, become politicians or professional sportsmen while others shy away from competition (e.g., [Niederle and Vesterlund, 2007](#)). The possibility of being dishonest, on the one hand, and the presence of selection on the other raise a number of relevant and interesting questions which we will address in this paper. First, are people more or less dishonest in competitive situations? Second, does competition actually improve performance when contestants can lie? Third, who is more likely to select into a competitive scheme, honest or dishonest people, and how does this selection impact on the effectiveness of the competitive scheme?

Economists have shown theoretically that tournaments are beneficial because they increase production (e.g., [Lazear and Rosen, 1981](#)), and some have also modelled sabotage and dishonesty in tournaments theoretically (e.g., [Konrad, 2000](#); [Curry and Mongrain, 2009](#)). Empirical evidence supports some of these theoretical predictions (e.g., [Ehrenberg and Bognanno, 1990](#)). In this paper we use an experimental approach as it allows us to observe dishonest actions empirically, which

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can be difficult using field data. We present a real effort experiment in which participants perform a similar task under different payment schemes. Actual performance is not monitored and payment depends on self-reported performance. Each participant performs the task three times. In the first two tasks subjects are paid according to either a piece rate scheme or a winner-take-all tournament in which they are randomly matched with another participant. After having experienced both mechanisms, each participant selects either the tournament or the piece rate as a payment scheme for the final task.

We find that the tournament incentive scheme results in significantly higher dishonesty, but also substantially lower output as compared to the piece rate scheme. In our experiment, for a given performance, the tournament winner receives a higher payoff than in the piece rate scheme; while, on the contrary, the loser receives nothing. Thus, the higher opportunity cost of being honest in the tournament might explain the increase in dishonesty. This is despite the fact that there is evidence that individuals face a psychological cost of lying (e.g., Gneezy, 2005; Mazar et al., 2008; Gneezy et al., 2013). We refer to this as the increase in dishonesty due to the *competition effect*. This in turn can explain the decrease in output. Once an individual decides to lie, or to increase her level of dishonesty, the relative benefit of honestly produced output suddenly falls. Moreover, such benefit decreases even further if one expects others to lie. Thus we find that, when monitoring is not available, not only does competition increase dishonesty, but it can also damage performance.

We then turn to the issue of selection, which represents the main research question of our paper. Who is more likely to choose the tournament over the piece rate? And what is the effect of letting people select the payment scheme? We find that dishonest subjects are more likely to select into tournaments. As a consequence, when participation in the contest is endogenous we have a doubly perverse effect. On the one hand, dishonesty increases as a consequence of the winner-take-all nature of the tournament, which we described earlier as the *competition effect*. A politician may lie to her electorate or a sportsman may use performance enhancing drugs because of the pressure of the winner-take all contest. On the other hand, individuals with a higher propensity to lie are more likely to enter the contest, causing an even more pronounced level of dishonesty. This can be termed the *selection effect*. As they chose to compete, the politician and the sportsman are more likely than others to be dishonest.

Finally, what is the effect of selection on output? Interestingly, at the selection stage, we find no difference in output between the piece rate and the tournament. This is attributable to a handful of honest individuals. While most honest subjects select the piece rate scheme, a few of them choose the tournament. Being honest, they do not consider lying as an option and thus, having opted for the contest, they work hard and produce high output. Hence, despite the low performance of dishonest individuals, overall output does not differ across the two schemes. This is an intriguing and encouraging result. While competition increases the amount of dishonesty it does not necessarily harm performance. This result however is subject to an important caveat, as it depends on the initial composition of the population and the fraction of honest people who are attracted by competition.

A number of experiments on dishonesty and deception have been conducted in recent years.<sup>1</sup> Gneezy's (2005) seminal contribution considered a sender-receiver game in which a player can lie and thus increase her payoff at the expense of her opponent. His main finding is that, on average, individuals are averse to lying when this leads to a small increase in their own payoffs but a substantial reduction in others' payoffs.<sup>2</sup> Mazar et al. (2008) and Fischbacher and Heusi (2013) also find evidence of aversion to lying but in individual decision-making tasks (although neither observe individual lying behaviour but instead rely on session level data). While lying does occur it is less than the full extent possible, which can be attributed to aversion to lying.<sup>3</sup>

The relation between dishonesty and payment schemes is the subject of only a limited number of recent experiments. Some studies focus on target-based schemes (Schweitzer et al., 2004; Cadsby et al., 2010)<sup>4</sup> and team incentives (Conrads et al., 2013; Danilov et al., 2013). Closer in spirit to us is a paper by Schwierien and Weichselbaumer (2010). Using the real effort task first employed by Gneezy et al. (2003), they compare a piece rate and a tournament with a focus on gender and ability. They find no difference in the overall proportion of those who cheat. Competition, however has an impact on women's cheating behaviour, though this is mainly explained by differing ability levels between the genders in the real effort task.<sup>5</sup> Belot and Schröder (2013) conduct a real effort experiment comparing a winner-take-all contest, a piece rate and a flat rate scheme with a focus on whether subjects simply misreport their performance or steal money. As no evidence of theft is found, the authors conclude that subjects' behaviour can be explained by social norms, but not by other regarding preferences. Finally, Rigdon and D'Esterre (2012) also employ the matrix task introduced by Mazar et al. (2008). They compare a piece rate scheme with self-grading, a tournament with self-grading and a tournament in which subjects grade their opponent. Their main finding is that people are more willing to inflate their result than to down grade others.

Last but not least, our experiment is related to the literature on sabotage (e.g., Harbring and Irlenbush, 2005, 2008, 2011; Carpenter et al., 2010), in which researchers have found that sabotage is more common in tournaments than in piece rate

<sup>1</sup> See, for instance, Cappelen et al. (2013), Battigalli et al. (2013), Gino et al. (2013), Ploner and Regner (2013), among others.

<sup>2</sup> Several subsequent studies have also used the sender-receiver framework to study dishonesty. See, for example, Ellingsen and Johannesson (2004), Dreber and Johannesson (2008), Lundquist et al. (2009), Maas and van Rinsum (2013), and Innes and Mitra (2013).

<sup>3</sup> These studies typically use students as subjects. In contrast, Abeler et al. (2014) use a representative sample and find that aggregate reporting behaviour is close to the expected truthful distribution, suggesting that people rarely lie.

<sup>4</sup> See also Gill et al. (2013) as an example of target-based schemes where bonuses are random.

<sup>5</sup> Gender differences in dishonest behaviour have been reported by several researchers. Friesen and Gangadharan (2012), for example, find that in the matrix game men are not only more likely to be dishonest than women, but they are also likely to be more dishonest.

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