



# 'Doggedness' or 'disengagement'? An experiment on the effect of inequality in endowment on behaviour in team competitions



Shaun P. Hargreaves Heap<sup>a,1</sup>, Abhijit Ramalingam<sup>b,\*</sup>,  
Siddharth Ramalingam<sup>c,2</sup>, Brock V. Stoddard<sup>d,3</sup>

<sup>a</sup> Department of Political Economy, King's College London, The Strand, London WC2, UK

<sup>b</sup> School of Economics and Centre for Behavioural and Experimental Social Science, University of East Anglia, Norwich NR4 7TJ, UK

<sup>c</sup> IDFC Foundation, Naman Chambers, G Block, BKC, Mumbai 400051, India

<sup>d</sup> Department of Economics, University of South Dakota, 414 E Clark Street, Beacom Hall 326, Vermillion, SD 57069, USA

## ARTICLE INFO

### Article history:

Received 8 February 2014

Received in revised form 9 September 2015

Accepted 1 October 2015

Available online 20 October 2015

### Keywords:

Public goods

Experiment

Team competition

Inequality

Doggedness

Disengagement

## ABSTRACT

Teams often suffer from a free rider problem with respect to individual contributions. That putting teams into competition with each other can mitigate this problem is an important recent insight. However, we know little about how inequality in endowment between teams might influence this beneficial effect from competition. We address this question with an experiment where teams contribute to a public good that then determines their chances of winning a Tullock contest with another team. The boost to efforts from competition disappears when inequality is high. This is mainly because the 'rich' 'disengage': they make no more contribution to a public good than they would when there is no competition. There is evidence that the 'poor' respond to moderate inequality 'doggedly', by expending more effort compared to competition with equality, but this 'doggedness' disappears too when inequality is high.

© 2015 Elsevier B.V. All rights reserved.

## 1. Introduction

Few doubt some degree of inequality is unavoidable. For instance, if everyone received the same pay-off, independent of their efforts, there would be no incentive to make costly efforts. But can there be too much inequality? Does inequality ever discourage effort? If so, what level of inequality is optimal for the encouragement of effort? We address a specific instance of this question with an experiment. We focus on outcomes that are determined through a competition between teams, where individual contributions to team effort affect the likelihood of a team's success.

One example of this type of interaction is a competition between political parties or lobbying groups that depend on the voluntary contributions of their members to fund a campaign budget. Team sporting contests are another. Companies

\* Corresponding author. Tel.: +44 1603 597382; fax: +44 1603 456259.

E-mail addresses: [s.hargreavesheap@kcl.ac.uk](mailto:s.hargreavesheap@kcl.ac.uk) (S.P. Hargreaves Heap), [abhi.ramalingam@gmail.com](mailto:abhi.ramalingam@gmail.com), [a.ramalingam@uea.ac.uk](mailto:a.ramalingam@uea.ac.uk) (A. Ramalingam), [siddharth.ramalingam@idfc.com](mailto:siddharth.ramalingam@idfc.com) (S. Ramalingam), [brock.stoddard@usd.edu](mailto:brock.stoddard@usd.edu) (B.V. Stoddard).

<sup>1</sup> Tel.: +44 20 7848 1689.

<sup>2</sup> Tel.: +91 22 42222000.

<sup>3</sup> Tel.: +1 605 677 6643.

are similarly formed by groups of people whose combined efforts influence the likelihood of their success; and, within organisations, the tournament system of remuneration often creates such contests between sales, design, or production teams (Bandiera et al., 2013). These examples suggest such contests between teams are an important class of economic and social interactions.

Given monitoring difficulties, there is likely to be some individual contribution to a collective enterprise like a campaign group, a company, a sports or workplace team that is subject to the free rider problem. This is the aspect of individual behaviour that concerns us because it has been argued competition between teams (or its creation) can help each team to overcome this free rider problem (see Bornstein et al., 1990; Bowles and Gintis, 2011; Tan and Bolle, 2007; Ishida, 2006; Gunnthorsdottir and Rapoport, 2006; Marino and Zábojník, 2004). This is an important and relatively recent insight concerning the benefits of competition. However, teams are rarely equally endowed and little is known about how this type of inequality between teams might affect this benefit. This is why our specific question is potentially important for policy. We are concerned with whether inequality of endowment between teams affects the benefit from competition for the free rider problem over individual contribution to a collective enterprise.

The question is particularly suited to experimental investigation. In part, this is because the influence of competition in this respect is often much larger than the standard rational choice models predict, suggesting competition has some additional, non-standard motivational power that can be fruitfully examined in the laboratory (see, for example, Sheremeta, 2010 for evidence on behaviour in contests). In addition, there are two common but conflicting intuitions about how this specific motivational power of competition might be affected by inequality; and experiments might help settle this dispute. One intuition comes from when 'weaker' sports teams seem to perform better than expected against 'stronger' ones (as in 'Miracle', the movie version of the US ice hockey victory over the USSR in the Lake Placid Winter Olympics). The underdog is spurred by adversity, so to speak, into a special show of 'doggedness'. Alternatively, members of both teams may feel, given the level of inequality, the result is already a foregone conclusion and so all make lower contributions. This is the intuition that inequality can cause 'disengagement'.

There is some evidence of 'disengagement' in individual sporting tournaments when there is inequality (e.g. Brown, 2011; Franke, 2012). There is also experimental evidence that investment in conflict falls in individual contests when there are differences in ability (see Fonseca, 2009; Anderson and Freeborn, 2010; Deck and Sheremeta, 2012; Kimbrough et al., 2014). The experimental evidence on free riding in team competitions is more mixed and focuses primarily on inequality in the number of team members. The rational choice theoretical expectation is that small teams will contribute more because the prize is worth more to each member of a small team than a big one. Kugler et al. (2010) find contributions are boosted beyond these expectations and there is a small difference between the small and the big teams but in the reverse direction to that predicted by rational choice theory (Abbink et al., 2010, have a similar result). Against this Zhang (2012), in a voter participation experiment, finds members of small groups are more likely to participate (i.e. the equivalent of contribute more) but the reverse is the case once communication within teams is allowed. Levine and Palfrey (2007), in a voting participation experiment, find evidence that as group size increases, voting falls. They also find participation increases when the election is evenly balanced, a 'competition' effect. Further, they also find an underdog effect whereby members of small teams are more likely to vote. A difference in the number of team members is one aspect in which teams may be unequal. In our experiment, in contrast, we introduce inequality through differences in the individual endowment across teams.<sup>4</sup>

We examine this type of inequality for three reasons. First it maps team inequality on to the more familiar form of individual endowment inequality. Second, in some settings, inequality is not or cannot be expressed through differences in numbers in each team, but it can be, and often is, manifest through differences in team endowments that are relevant in determining the outcomes of competitions. This is the case in campaigning groups where total campaign budget matters; and in sporting contests where the number of players is fixed. For instance, the cost of a player typically depends positively on that player's potential skills and where this relation is linear, the average potential skill of a team player will depend on the team's overall budget. Each player then faces a choice over how much of their potential skill, indexed in these conditions by the amount spent on his or her services, to contribute to the competition. Third, inequality in the endowment of each team does not affect the rational choice prediction of team contributions to the public good. This is potentially important for the interpretation of any differences in behaviour we observe. It is well known from the individual contest literature that there tends to be over investment in conflict relative to the equilibrium prediction. In this context, if inequality affected both the rational choice equilibrium prediction and actual behaviour, it would become difficult to interpret whether this arises from the change in the equilibrium or a change in the determinants of the out-of-equilibrium play. We avoid this difficulty: in our experiment, if inequality affects behaviour, then it is because it influences behaviour for non-rational choice reasons.<sup>5</sup>

The design of the experiment captures the free rider aspect of the individual effort decision via a public goods contribution problem. We examine the influence of competition between teams on these public good decisions by making a

<sup>4</sup> Bornstein et al. (2005) introduce a different kind of inequality by making one team always the winner in the event of a tie but this has less obvious counterparts outside of committee procedures.

<sup>5</sup> This difficulty arises in some of the 'number' inequality team contests and in those individual contests where inequality is captured by particular kinds of 'ability' differences. It is also worth noting that there is another aspect of inequality: that between members of an individual team. This aspect of inequality within a group appears to influence contributions to a group public good (e.g. see Buckley and Croson, 2006). Since, we are concerned with the effect of inequality between team resources, we deliberately avoided introducing this source of difference in behaviour into our experiment by giving each individual in a team the same endowment.

Download English Version:

<https://daneshyari.com/en/article/883443>

Download Persian Version:

<https://daneshyari.com/article/883443>

[Daneshyari.com](https://daneshyari.com)