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Experimental economics and deception: A comment

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1. Introduction

At a recent conference at which we were participants (the 1996 Amsterdam Workshop on Experimental Economics) one recurrent theme at a number of sessions was the issue of deception in economics experiments. Not withstanding some heated exchanges, it seemed clear that the predominant view among the participants was that deception in an experiment should be avoided. In the present paper Bonetti challenges this orthodox position claiming there is little evidence that deception has undesirable consequences, and there are gains from using deception. Consequently, a rigid methodological prohibition of deception is deemed "unnecessary and dangerous". To our knowledge this is the first paper which addresses the topic systematically, and as such it represents an extremely useful contribution to an important and timely debate. On the other hand, we believe Bonetti underestimates the potential problems associated with deception and, in some cases, overstates the benefits. Correspondingly, this comment advocates a more cautious position, closer to that of the prohibitionists.

There are two obvious functions of deception in relation to experimental design. Deception can be used either as a treatment variable or as a way of

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manipulating subjects' beliefs about other treatment variables. [1] In the first case, one is investigating the effect of deception on some other variable, and to do this, at least some of the subjects must recognise that deception may occur (or is occurring) at some point in the experiment. In the second case, deception is purely a methodological device used to explore hypotheses not related to deception. Here, it is crucial that subjects are unaware of the deception. Both modes might be relevant to economics. Although Bonetti does not discuss this directly, we can think of cases where economists might have reasons to study deception as a treatment variable. [2] For example, an experiment might be designed to study whether knowledge of deception erodes cooperation in some institutional setting. After all, there might be good reason to expect deception to be a feature of many economic relationships. Bonetti's primary interest seems to be to promote the role of deception in its function as a methodological tool. He pursues two lines of argument intended to challenge the prohibitionists. First, he attempts to dilute worries over the negative consequences of deception drawing on evidence from the psychology literature, and second, he seeks to point out specific advantages of deception to make out a positive case for its use. We consider each of these in the next section.

2. The benefits and costs of deception

2.1. The positive rationale for deception

In the section of the paper "Why deceive?", Bonetti suggests a number of rationales for deception. One argument is that deception may be *necessary* to achieve some experimental objectives. In our view, however, he fails to make a convincing case on grounds of necessity. His case is made in two ways. First, he suggests that subjects in an experiment should not be told the hypotheses being tested; therefore, it is necessary to distract subjects' attention by telling them some cover story which is different from the true purpose of the experiment. Second, he states that some hypotheses can *only* be tested using deceptive means. We think that both lines of argument are questionable.

[1] There are other possibilities too. For example, 'deception' might be a dependent variable in an economic experiment designed to observe the extent of, say, cheap talk in a strategic setting.

[2] Bonetti's discussion of deception as a treatment variable is in the context of psychology experiments.

We agree with Bonetti that, in general, it is undesirable to tell subjects the hypothesis being investigated, but it does not follow that one must therefore mislead subjects by articulating some fictitious motive. Such a presupposition, in our view, reveals a misunderstanding (or at least a difference in opinion) with respect to how an economics experiment works. It is a feature of the typical economics experiment that the participant is confronted with real decisions. Subjects are told the rules of the experiment which define the actions that are allowed within the experimental environment. Subjects are also told how those possible actions translate into some reward medium (usually, a financial payoff). The experimenter is then typically interested in what choices subjects will make in the environment so constructed or how behaviour varies with some controlled change in the environment. [3] Notice that within this scheme, one needs to say nothing at all about the *purpose* of the experiment. Having explained the rules, all one need say is something like the following, "here is a situation in which you, the subject, have to make a choice, these are the possible implications of your choices, do what you will". If this characterization of an experiment seems fair, there is no necessity to use deception to disguise the true purpose of the experiment. [4]

Let us now consider some of the more specific experimental objectives which, in the view of Bonetti, necessitate deception. One example occurs in relation to his discussion of "exploitation aversion". Bonetti refers to an experiment conducted by Weimann (1994) who simulated the contributions of $n-1$ group "members" in a public goods game to create an environment of either cooperative or uncooperative behaviour on the part of "others" in the group. The point of the experiment was to study the reaction of the nth member when the others were believed to be either cooperative or uncooperative. Bonetti concludes that, "...evidence supporting what Weimann calls 'exploitation aversion' necessarily required deception". It is true that the hypothesis under investigation here requires observations of subjects' behaviour in both cooperative and uncooperative settings. We are not convinced, however, that deception is the *only* means by which the behaviour of others can be appropriately controlled. Two alternative means of

[3] To say that a decision is 'real' in the sense defined here, is not to say that it is just like some other decision in a naturalistic setting, but rather that there is a decision environment in which the agent makes their own choices in knowledge of the consequences and that those consequences really do follow from their actions.

[4] We take this to be a thumbnail sketch of the notion of an economic experiment (interpreted as microeconomic system) as set out by Smith (1982).

controlling the behaviour of others could be the use of selective sampling procedures or the use of large sample sizes. By using information from previous experiments, the experimenter can select subjects based on desired attributes such as their propensity to cooperate. Likewise, by using large samples with various stages of interaction one can simply observe how individuals respond when they are grouped with people of various cooperative tendencies. Surely, these methods would be more expensive that the one discussed by Bonetti, but our point is to demonstrate that deception is not a *necessary* element of such experimental tests.

A further question about the necessity of deception arises in relation to Bonetti's discussion of experimental nomenclature or labelling. Bonetti quite rightly suggests that experimentalists might affect the behaviour of subjects by their use of "labels" (e.g., *do you want to contribute to the group account or the private account?* might evoke a different response from *do you want to put your tokens in pot A or pot B?*). Consequently, Bonetti argues that experimentalists might wish to investigate the effects of using alternative terminology. We agree entirely! But, while we believe this is a very important observation, we are not at all convinced that this practice is indicative of deception. This leads us to a further observation about the paper. On reflection it is perhaps a little curious that Bonetti offers no definition of *deception.* We believe that there is good reason to distinguish among various concepts that one might be tempted to call deception. For instance, there might be a distinction to be made between full-blown deception (the experimenter tells the subject something that is untrue) and *weaker* notions of deception such as being "economical with the truth" (the experimenter avoids telling subjects something which is in fact true). As will be clear from what we have said above, we view at least some forms of "economy with the truth" as perfectly legitimate (e.g., not explicitly telling subjects the hypothesis being tested). Our primary concern then, is with the use of methods which convey false information to subjects. Clearly this opens up a grey area since one can imagine "economy with the truth" being used to actively mislead subjects. We note this as a point which should give pause for thought to those on both sides of the debate.

We do agree with Bonetti that there may be cases where the use of deception would appear attractive in terms of reducing the costs of experimental designs. One example considered by Bonetti is an experiment examining the effect of group size on contributions to a public good. The argument goes like this: if it is *beliefs* about group size which affect subjects' own propensity to contribute, it is only necessary to manipulate perceptions and not actual

group size. In this example, the effect of group size on subject contributions is the variable being studied, and deception is being used to alter its perceived level. We agree with Bonetti that this method has clear cost-saving advantages; however, we do not see this particular advantage as sufficient to justify the use of deception. There must be a consideration of the advantages versus the potential costs. We believe that such advantages might appear quite small relative to the potential costs. It is to this point that we now turn.

2.2. Dangerous deceptions

Bonetti, quite rightly, suggests that a major concern of the prohibitionists has been that the use of deception in experiments might taint the behaviour of subjects in future experiments (the 'indirect effect'). Bonetti reviews a range of psychological studies involving deception pointing out two features of this evidence: (i) deception sometimes affects future behaviour but (ii) deception does not always taint future behaviour.

We agree that the evidence reviewed supports both conclusions (i) and (ii). However, we disagree with a further inference Bonetti seeks to draw from (ii). In Bonetti's view the prohibitionist case rests on the assumption that the use of "...deceptive experiments *inevitably* taints the behaviour of the pool of experimental subjects for later experiments" (emphasis added). On this reading, the prohibitionist case falls in the light of (ii); i.e., deception is licensed so long as it is confined to modes of deception which do not taint future behaviour. In our view the case for prohibition is not obviously dislodged by (ii), and if we are right about this, one of Bonetti's main challenges to the prohibitionist case is suspect.

The mere possibility that deception might influence the behaviour of the subject pool would be enough to raise grave concern about deception if the costs of tainting were sufficiently high and there were at least some uncertainty as to whether particular instances of deception might have the tainting effect. We must surely admit that our understanding of the impact of deception, and its potential to be transmitted through the subject pool, is at best imperfect if not quite rudimentary. As such, any given deployment of deceptive methods may carry some positive probability of tainting future behaviour. Even if this probability is thought to be small, a case for prohibition could then be forged on the basis that the potential costs of "tainting" are sufficiently big.

We are struck by a parallel here with the case for banning smoking in public places (such bans are pervasive in the US and growing elsewhere). Even

though the probability of my being affected by other persons' cigarette smoke may be very small, the case for the ban may be made on the basis that the effects *can be* extremely grave. The argument that smoke will not always cause you harm will, presumably, fail to persuade the anti-smoking lobby.

Is there a case for thinking that the costs of tainting are potentially 'large'? We think so for reasons related, at least in part, to our earlier characterization of the experimental method in economics. Economic experiments are designed to place subjects in a specific environment and observe resulting behaviour. When interpreting the data, the experimenter needs to address this question: what was the environment as perceived by the subject? Despite the fact that the environment has been created by the experimenter, this is not a straightforward question to answer. It may be, for example, that the subjects did not understand the instructions given by the experimenter. It seems to follow naturally from this that the experimenter should take care to ensure that the subjects do understand the environment in which they have been placed. Yet another wedge between the experimenter's perception versus subjects' perceptions of the environment arises if subjects do not believe the experimenter. We think it follows that every care should likewise be taken to ensure that subjects trust experimenters.

Notice that if subjects have reasons to doubt the experimenter, then all of the advantageous uses of deception which Bonetti cites are lost. We find it quite ironic that the efficacy of deceptive methodology relies on subjects believing the deceptions to be true. Can this really be sustainable in the long run? It seems unlikely that it can.

We believe that great care should be taken to avoid the possibility that experimentalists develop a reputation for lying to subjects. The emergence of such a reputation could make it difficult for any given experimenter to establish trust. This we suggest is far from trivial. If, in general subjects do not trust experimentalists this could seriously confound data interpretation and so it seems not overly dramatic to argue that the viability of the entire methodology is at stake. There is of course a single methodological principle which would go a long way to safeguarding this valuable public good (the experimentalists reputation): do not lie to subjects. It may not only be *subjects'* perceptions about the trustworthiness of experimentalists that matters, however. There could be another dimension as well. As experimental economists we are conscious of the fact that there is a constant struggle to convince non-experimental economists that experimental data is meaningful. It is all too easy for a general economist, faced with apparently challenging data to respond by criticizing some aspect of the method. The favourite, and

simplest, rebuff is to criticize the scale of incentives used in an experiment. It is unclear whether subjects must face "real" (financial) incentives to produce meaningful responses; like the evidence on the effects of deception, the evidence is mixed. Most experimental economists, however, err on the side of caution. It is generally thought better not to rely on hypothetical data in the face of this potential doubt, even though it would be a great deal cheaper. There are even stronger reasons for erring on the side of caution in relation to the use of deception. As individual experimentalists we can choose whether or not to use real or hypothetical payoffs in our own experiments, but we rely on the behaviour of the community of experimentalists to maintain a reputation for trustworthiness. Let us not free ride on this public good, please.

3. Conclusion

Bonetti clearly demonstrates that there are some benefits associated with the use of deception, but we claim that these are only short run considerations which are outweighed by potentially large spillover costs. We believe that Bonetti under-emphasizes the importance of these spillover effects. Moreover, the reputation of experimental economists in the academic community needs careful consideration. Hence, it is our view that prohibition of deceptive methods in experimental economics should be the default position.

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