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Journal of Economic Theory 148 (2013) 2049–2067

JOURNAL OF Economic Theory

www.elsevier.com/locate/jet

Eliciting information from a committee ☆

Andriy Zapechelnyuk

School of Economics and Finance, Queen Mary, University of London, Mile End Road, London E1 4NS, UK

Received 30 June 2011; final version received 20 March 2012; accepted 4 March 2013

Available online 24 April 2013

Abstract

The paper addresses the mechanism design problem of eliciting truthful information from a committee of informed experts who collude in their information disclosure strategies. It is shown that under fairly general conditions full information disclosure is possible if and only if the induced outcome is Pareto undominated for the committee members.

JEL classification: D82; C78; D72

Keywords: Communication; Multidimensional mechanism design; Experts; Collusion; Axiomatic bargaining; Closed rule

1. Introduction

Specialized committees are routinely created by political institutions. The purpose of a committee is gathering information that would allow for better policy decisions. Yet its members may have biased interests relative to those of the public (represented by a policy maker or a legislative body), so they may be tempted to manipulate policy decisions by hiding or distorting information.

An important feature of a committee is that its members debate about which information to disclose, or which advice to give to the policy maker. As a result, any information disclosed by the committee is an agreement that equilibrates interests of its members and that, in general, could be different from the truth. This paper addresses the question of how, and under what conditions, truthful information can be elicited from committees.

☆ The author thanks Tymofiy Mylovanov for fruitful conversations that inspired this paper, as well as Shintaro Miura, Ronny Razin and two anonymous referees for helpful comments and suggestions.

E-mail address: a.zapechelnyuk@qmul.ac.uk.

0022-0531/$ – see front matter
http://dx.doi.org/10.1016/j.jet.2013.04.008

A considerable body of literature addresses the problem of eliciting truthful information from informed and biased experts, via cheap talk communication [2,3,8,10,13,23], through commitment to certain legislative rules [6,22,31] or by (constrained) delegation of decisions to the informed party [1,11,12,15,16,21,28,29]. The underlying assumption in the above literature is that experts communicate information independently or privately. In contrast, this paper focuses on experts who can collude in their actions. It is harder to elicit the truth from experts in this case, since the experts have more freedom in manipulating the policy maker's decisions. An illustrative example is the problem of consulting with a committee whose members have interests biased in similar directions. Suppose that a policy maker considers cutting social benefits to a certain group of population and consults two experts whose preferences are biased towards higher social benefits. Even when cutting the benefits is socially optimal, the experts are not likely to give that recommendation, as, for instance, the advice to *do nothing* is Pareto superior. For another example, consider two experts whose interests are biased in the opposite directions with asymmetric magnitude. As disclosing the truth would favor one of them relative to the other, instead the experts might coordinate on communicating false information that would balance their interests better.

We present a model where a policy maker, who acts on behalf of the society, has to choose a (multidimensional) policy whose exact effect is uncertain. In order to make a correct policy choice, the policy maker appoints a committee of n experts, who find out the relationship between policies and their outcomes, and then give advice to the policy maker. The committee members have biased interests relative to the policy maker and relative to one another. Before any advice is given, the policy maker commits to a policy rule that specifies how she will deal with the advice. Then the committee members engage in bargaining over possible outcomes that their advice could induce through influencing the policy maker's decision. This paper uses the axiomatic approach to the bargaining problem. In other words, we are interested in results that hold under a wide range of specifications of bargaining procedures that satisfy a few requirements (axioms).

The basic insight of the paper is that under a wide range of circumstances there is no loss for a policy maker for dealing with committees, as compared to independent, non-communicating experts. We show that whenever truth-telling is not Pareto inferior to any other outcome, thus being a viable prediction in the case of independent experts, it remains achievable in the case of colluding experts (provided the policy maker can commit to a policy rule).

Our main result (Theorem 1) states that for every bargaining solution that satisfies certain axioms, there exists a rule that implements the first best outcome for the policy maker if and only if it is Pareto undominated for the committee. Our axioms are very basic. We demand the solution to be *Pareto efficient*, *continuous*, and to satisfy the *dummy* axiom (i.e., the bargaining solution should not depend on *dummy* experts whose actions have no effect on the policy maker's decision). The proof is constructive: we show that every Pareto undominated outcome can be implemented by a *closed rule*. Under a closed rule, if the committee unanimously agrees on some policy, then it is adopted with certainty. However, if the committee disagrees and offers a menu of policies, the policy maker randomizes over the experts' proposed policies with the probabilities that depend on the identities of the experts, but not on their proposals. By choosing the probabilities of adopting experts' proposals, the decision maker influences the experts relative "bargaining strength", and hence manipulates the bargaining solution to achieve the desired outcome, as illustrated by example in Section 4.

A crucial assumption for the main result is the ability of the policy maker to randomize over policies. Yet one may wonder whether implementation of the first best outcome is possible by *deterministic* policy rules. We illuminate some difficulties of deterministic first best implementation and argue that it cannot be done by many simple deterministic rules. We also show that in the