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Fairness That Money Can Buy. Procedural Egalitarianism in Practice*

Abstract:

Contrary to communitarian market criticism institutions relying on money and bidding can strengthen faculties of ‘self-governance’. Securing *procedurally egalitarian bidding* on the basis of *declared* monetary evaluations guarantees that all realized changes of a status quo are in an ‘objective’ (pecuniary) sense *equally* advantageous for all members of the community. We show how to use this idea in the context of Elinor Ostrom type common(s) projects. Empirical evidence on ‘procedurally fair bidding’ is presented. The practical scope and limits of procedural egalitarianism need further empirical exploration but money may be the best means to express moral values in ‘communitarian consent’.

JEL Classification: H4, H61, D62, D63, D71.

Keywords: Fair Procedures; Governing the Commons; Communitarianism; Contractarianism; Egalitarian Mechanisms; Unanimity; ‘Crowding out’.

1. Introduction

1.1 The Ostroms’ Commons

Elinor Ostrom’s work demonstrates empirically that under certain conditions communities can manage their own affairs informally and without centralized state institutions (see Ostrom 1990). In particular, neither a *protective state* defining property and enforcing contracts (thereby creating large markets) nor a *directive state* telling citizens what to do when facing common(s) problems are necessary to avoid the “tragedy of the commons” (see Hardin 1968). Often citizens can get by without the helping hand of a formal state institution.

We share Elinor Ostrom’s preference for solutions of “common(s) problems” that are both “non-state” and “non-market”. We believe, however, that in such

* This paper has been strongly influenced by James M. Buchanan and Elinor Ostrom both through their written works as well as personal communication. When we last visited them (together with Ursula Gueth) in Bloomington and then in Fairfax we were all planning on this and other joint projects and symposia with the ZiF in Bielefeld and with Liberty Fund in Charlottesville, Va. respectively. Our ‘commons’ falling apart we can still honor our friends—who were also friends to each other—by working on. Elinor Ostrom could not anymore participate in the symposium at the ZiF but participated in organizing and in the editorial process of RMM. James M. Buchanan did participate and enjoy the Liberty Fund symposium on his work in September 2012. They shall remain our inspiration.

cases formal organization may be superior to relying on merely informal (spontaneous) ways of cooperation. Quite contrary to the communitarian critique of markets and the use of money, formal organization, relying on the use of money can further rather than hinder the expression of egalitarian community values. Voluntary egalitarian cooperation in the use of scarce common resources may be facilitated by the use of bidding processes without driving out fellow feelings in small communities. The use of money in a formal bidding process can ‘buy’ fairness without corrupting other moral standards.¹ It is *not* ‘just the money’ but rather the violation of egalitarianism and norms of interpersonal equal respect that matter.²

Formal organization and the use of money may in fact be a (and perhaps the only) way to combine both liberal ideals of acting consensually as separate persons and the communitarian ideal of Imparting the “civic teaching—that we are all in this together” (Sandel 2012, eBook position 2429). Contrary to the fictions of philosophical contractarianism the consensus constraint can be institutionally embodied as veto power in the formal mechanism suggested subsequently.

In contexts like the social group structures studied by Elinor Ostrom, *formal non-state* organization relying on the “measuring-rod of money” can help self-governance without crowding out voluntary participation.³ To understand how humans can self-organize even when facing the severe scarcities of potentially tragic commons’ problems, Elinor Ostrom used a whole array of methods reaching from field studies over laboratory experiments to formal game theory (see Ostrom 2012, 51–65). Doing so she convinced herself and others that self-governance beyond “market and state” can be viable without leading to over-exploitation of common pool and other resources. Her bottom up approach was complementary to her husband’s top down approach in his “political theory of a compound republic” (V. Ostrom 1971).

Contrary to her husband Vincent, Elinor Ostrom was not—at least not primarily—thinking in terms of constitutions and legal mechanisms. Where his work was firmly rooted in the (American) tradition of constitutional design (see classically “The Federalists”), she was interested in the specifics of institutions that were results of human actions without being results of human design (Ferguson 1967). The search for general ‘design principles’ and their implementation were not driving her case-oriented research agenda.⁴ Her focus was less on the theory than on the empirical side. Yet Elinor Ostrom thoroughly believed that both sides had to be taken into account.

¹ Showing how sheds new light on Michael Sandel’s influential criticism of formal organization and the use of the “measuring-rod of money”; see Sandel 2012, and also the instructive review discussion Besley 2013.

² Though the title of Frey 1997 seems to indicate otherwise Frey will be closer to our ‘liberal’ outlook than to full-fledged Sandeleian communitarianism.

³ It may be noted in passing that B. F. Skinner’s “Walden Two” as an essay on utopian organization relied on formal organization as well; see Skinner 1976[1948].

⁴ Elinor Ostrom conceived of her empirically oriented work as complementary to the theoretical issues of constitutional design addressed by Vincent Ostrom, and so do we.

1.2 Formal Mechanisms on the Commons

In digging a tunnel, starting from both sides is generally a good idea provided that ‘ends meet’. Starting from the theoretical side we focus on the formal and normative aspects of mechanisms of self-governance. We axiomatically characterize and transfer the most central ideals of contractarian Constitutional Political Economy, *CPE*, (see Buchanan and Tullock 1962) of ‘great societies’ to smaller community contexts. Procedurally fair formal bidding may be impractical and partly utopian for great societies. Yet, such bidding could conceivably be implemented in small communities by an act of deliberate constitutional choice. And, as we shall claim, implementing formal mechanisms exhibiting what we call ‘communitarian procedural egalitarianism’, *cpe*, may be a viable strategy to solve common(s) problems without state or contract and in non-hierarchical ways.

The axioms introduced in the next section below characterize specific bidding and compensation cum contribution schemes independently of the issue of their incentive compatibility (which have been the focus of many game theoretic discussions). That individuals may strategically ‘mis-’represent their ‘preferences’ by their bidding is irrelevant since the underlying procedures are not evaluated in welfare economic terms, in particular not in terms of preferences over their results. Except for the fact that a result emerges under a procedure without being vetoed there is no standard by which to assess whether it is an improvement for each individual member of the community (as compared to a status quo that will emerge or persist without agreement). In short, ours is not a contribution to the theory of consequentialist mechanism design in which mechanisms are evaluated in terms of standard welfare economic criteria.

We understand the concern that implementing formal mechanisms could crowd out the ability to self-organize. We do not, however, take it for granted that formal mechanisms need to crowd out fellow feelings and the ability to self-organize. Whether relying on formal bidding procedures, will or will not weaken the self-organizing abilities of communities cannot be answered in theory. Our hypothesis that the sense of equal mutual advantage conveyed by fair procedures of monetary bidding does not stand in the way of self-organization—and may even further it—must be empirically (experimentally) studied. Though we will provide a few hints on first empirical results (see *section 4.*) the subsequent argument focuses on the theoretical exposition of how the informal communitarian egalitarianism of small-scale societies can be formalized and adapted to organizational purposes by relying on monetary bidding.

2. Contractarianism in Communities

Whereas the unanimity requirement of philosophical contractarianism and CPE cannot⁵ plausibly be applied to large-scale state action and the ‘great society’⁶ it seems appropriate for the smaller (sub-)communities of states envisioned in Elinor Ostrom’s work on governing the commons. These communities are anarchical in that their organization does not (at least not directly) depend on the state and/or contracts enforced by it. As opposed to large-scale interaction for which the notion of a social contract is always a mere fiction they in fact do embody something like an ongoing contract leading to a process of real rather than merely fictitious ‘politics as exchange’.

2.1 Contractarianisms

‘*Communitarian contractarianism*’ accepts any change of an otherwise prevailing status quo as legitimate if within a given community of bearers of veto-rights no veto has been issued. In communitarian contractarianism the unanimity requirement is regarded as sufficient to render the position ‘contractarian’ even though neither membership in the (moral and/or legal) community nor the veto-rights themselves arose from contract. Communitarian unanimity differs from the unanimity requirement of a ‘private contract’ of a self-selected arbitrary number of individuals.

The self-selection to a group forms the basis of an individualist contract in the narrow sense. In such ‘*club-contractarianism*’ membership in the relevant group is endogenous to the contract among those who agree to act. According to club-contractarianism individuals can freely associate to pursue some project or other without endorsing the communitarianism of granting a veto to those who are not included by agreement.⁷

It seems obvious to us, though not widely understood, that the type of contractarianism popular in Public Choice and Constitutional Political Economy is not of the club-contractarian but rather the communitarian variety.⁸ “The Calculus of Consent” deals with “the logical foundations of constitutional democracy” (Buchanan and Tullock 1962) in the presence of original veto-power and thus with decision-making in an exogenously given, pre-defined community:⁹ First, Buchanan seems to believe that it is necessary and sufficient for the normative acceptability of collective decisions that they are (or at least can

⁵ At least not without fictitious assumptions that make it vulnerable to the standard objection that fictitious consent is no more consent than fictitious bread is bread.

⁶ Even though it formed its original focus and expresses the egalitarian ideals of small community life of our original human adaptation.

⁷ There is no community basis for that kind of contract.

⁸ See on this in more detail, Kliemt 1994. James M. Buchanan personally pointed out that ascribing to him substantive instead of procedural egalitarianism would be mistaken. He is, of course right. The substantive egalitarian values operate on the level of choosing the procedurally egalitarian rules that may lead to substantially unequal results of any kind.

⁹ Neglecting Tullock’s possibly diverging views on the matter we shall focus on Buchanan henceforth.

be) based on the (conceivable) agreement of *all* individual members of a moral community or ‘polity’ (*communitarian contractarianism*). Second, since according to Buchanan, beyond agreement of the members of the ‘polity’ there is no moral standard of right and wrong,¹⁰ criteria of acceptability must be procedural rather than substantial (*proceduralism*). Third, all members of the moral community have fundamental political rights to individually and separately veto collective decisions. Each individual is in that sense a moral and political equal to each other (*egalitarianism*).

2.2 CPE and cpe

To spell out explicitly the implications of *communitarian procedural egalitarianism* (or ‘cpe’) for public projects we shall rely on intuitively appealing axioms. They can be used to characterize schemes of collective decision-making that conjoin (in the spirit of Wicksell 1969[1896]) the financing and the specification of collective projects: Bidding procedures fulfilling the axioms determine for all bid vectors along with payments and transfers a “set of acceptable projects” (if according to bids the set of acceptable projects is empty the status quo is maintained).

Next we introduce, certain Constitutional Political Economy, *CPE*, ideals of unanimous agreement. We axiomatically characterize formal ‘bidding mechanisms’ securing that all individuals (according to their overt bids) gain equally by any change of the status quo—in terms of monetary bids minus monetary transfers.¹¹ Such mechanisms procedurally express egalitarian democratic ideals of consensual politics. For great societies they are—as all contractarian theory—expressive of a theoretical standard of opinion formation yet cannot be implemented in institutional practices. For non-hierarchical small communities like those described in “governing the commons” they could conceivably be implemented in practice and, if implemented, in fact support a shared sense of perceived fairness and the communitarian feeling of being ‘in it together’.

3. Characterizing the Procedure

3.1 Basic Model of Bidding for a Collective Measure

Let $i = 1, 2, \dots, n$ (≥ 2) denote individuals who are all members of the exogenously fixed community I of participants in a collective decision. The decision is

¹⁰ Not even a welfare function, in particular not a ‘welfarist’ one.

¹¹ Our approach should not be mistaken as an exercise in conventional mechanism design: a. Contrary to conventional mechanism design we are exclusively concerned with overt behavior. b. We do not address a social planner (benevolent or other) who uses the mechanism as an instrument to achieve a given goal (e.g. maximizes a given welfare function). c. There is no technocrat who construes (incentive compatible) procedures to bring about certain results for the collectivity. d. We do not need to start and do not start from a well-defined game under common knowledge assumptions.—In short, the mechanisms considered here are not evaluated as instruments of maximization but according to their procedural properties alone regardless of the consequences.

to be binding on all members of I . Assume that the members of the community I participate in the selection of a non-empty subset S of projects from a finite non-empty set of possible projects¹² $\Omega = \{a, b, c, \dots\}$; $S \neq \emptyset$, $S \subseteq \Omega$, $|\Omega| < \infty$. For all $S \neq \emptyset$ we assume for the sake of simplicity that the costs $C(S)$ are commonly known. If these costs are positive money goes to the outside world if they are negative it flows in.

For each non-empty S , $\emptyset \neq S \subseteq \Omega$, the members I of I are assumed to bid $b_i(S) \in \mathbb{R}$. The bid b_i of individual $i \in I$ is a list of the form

$$b_i = (b_i(S) \in \mathbb{R} : \emptyset \neq S \subseteq \Omega).$$

The vector of all such individual bids—the ‘bid vector’—is accordingly

$$b := (b_1, b_2, \dots, b_n).$$

In the setting envisioned here everything is described in objective terms, in particular monetary units. Nothing is said about subjective perceptions, ‘true’ evaluations and preferences. We restrict ourselves to dealing with *game forms rather than games proper*.

This seems adequate since constitutional analysis should focus on constitutions and these are basically game forms. So, for the time being, we shall not enter game theory proper but rather stick to game form analysis and express *cpe*-values concerning such game forms in objective terms by three axioms.¹³

3.2 Axioms and Derivation of Rules

The bids $b_i = (b_i(S) \in \mathbb{R} : \emptyset \neq S \subseteq \Omega)$, $i = 1, 2, \dots, n$, are observable in overt behavior. These stated values rather than some subjective private values form the relevant value information. *All further considerations are ‘wrb’ or ‘with respect to bids’*. Let us define for convenience:

$S^* = S^*(b) \subseteq \Omega$, chosen set S^* of projects according to the bid vector b , and

$\forall S, \emptyset \neq S \subseteq \Omega$: $C(S)$, ‘costs’ of the project S , $C(S) \in \mathbb{R}$, *wolg* $C(\emptyset) = 0$,¹⁴

$\forall b : (C(S^*(b)))$, ‘costs’ if according to the bid vector b the set of projects $S^*(b)$ is implemented,

$\forall i \in I$: $c_i(S^*(b), b)$, individual compensation/costs in case of implementing $S^*(b)$; i.e. monetary transfers within the community.

¹² Subsets—expressing the bundling or exchange of assent—could as well be interpreted as possible projects.

¹³ Our purely procedural perspective should not be confused with familiar discussions of demand revealing mechanisms in Public Choice Theory; see for an overview Mueller 2003.

¹⁴ External ‘costs’ can be negative if a public project yields positive revenue as for instance in case of exploiting natural resources or making some other gain by the project. Note also, that even then it may be necessary to compensate those who are opposing the project.

With these preliminary definitions in mind, consider the three axioms for an arbitrary bid vector $b \in \mathbb{R}^n$:

Axiom P(profitability and efficiency wrb):

- (a) If $\forall S, \emptyset \neq S \subseteq \Omega: \sum_{i=1}^n b_i(S) < C(S)$
then $S^*(b) = \emptyset$ and $\forall i \in I: c_i(S^*(b), b) = 0$
- (b) otherwise $S^*(b)$ with $\sum_{i=1}^n b_i(S^*(b)) \geq C(S^*(b))$ and
 $\sum_{i=1}^n b_i(S^*(b)) - C(S^*(b)) \geq \sum_{i=1}^n b_i(S) - C(S)$ for all $S, \emptyset \neq S \subseteq \Omega$ is implemented.

If the ('external') costs of all non-empty sets of projects are not covered by the sum of bids no project will be implemented ($S^*(b) = \emptyset$) and no payments are made ($\forall i \in I: c_i(S^*(b)) = 0$). Otherwise $S^*(b)$ is optimal wrb.

Axiom C(ost balancing wrb):

If $S^*(b) \neq \emptyset$ then $\sum_{i=1}^n c_i(S^*(b), b) = C(S^*(b))$

Whenever $S^*(b) \neq \emptyset$ the sum of the payments will cover the external cost. We could also speak of a balanced budget requirement.

Axiom E(galitarian symmetry wrb—see Güth 2011):

If $S^*(b) \neq \emptyset$ then

$$[\forall i, j \in I: b_i(S^*(b)) - c_i(S^*(b), b) = b_j(S^*(b)) - c_j(S^*(b), b)]$$

According to bids all individuals profit equally from implementing a set of projects $S^*(b) \neq \emptyset$. Implicitly $S^*(b) = \emptyset$ amounts to maintaining the status quo. The latter is egalitarian too in view of (a) in axiom P. The egalitarian symmetry wrb is imposed only on changes or, in monetary terms, net gains compared to the status quo brought about by collective action (or the politics of the 'productive state').

For an arbitrary vector $b = (b_1, b_2, \dots, b_n) \in \mathbb{R}^n$ axioms E, C, P imply:

- (a) If $\forall S, \emptyset \subset S \subseteq \Omega: \sum_{i=1}^n b_i(S) < C(S)$ then $S^*(b) = \emptyset$ and $c_i(S^*(b), b) = 0, i = 1, 2, \dots, n$.
- (b) If $S^*(b) \neq \emptyset$ then the surplus $\sum_{i=1}^n b_i(S^*(b)) - C(S^*(b))$ is non-negative and maximal with
 - (ba) compensation payments
 $c_j(S^*(b), b) = b_j(S^*(b)) - \frac{\sum_{i=1}^n b_i(S^*(b)) - C(S^*(b))}{n}, j = 1, 2, \dots, n$
satisfying
 - (bb) $c_j(S^*(b), b) \leq b_j(S^*(b)), j = 1, 2, \dots, n$

Proof:

Axiom E allows to set $\Delta := b_i(S^*(b)) - c_i(S^*(b), b)$ for all $i = 1, \dots, n$.

Aggregating over i we get $\sum_{i=1}^n b_i(S^*(b)) = \sum_{i=1}^n c_i(S^*(b), b) + n\Delta$.

Axiom C for $S^*(b) \neq \emptyset$ yields

$$\sum_{i=1}^n b_i(S^*(b)) = C(S^*(b)) + n\Delta$$

which is equivalent to $\Delta = \frac{\sum_{i=1}^n b_i(S^*(b)) - C(S^*(b))}{n}$.

Axiom P implies $\Delta \geq 0$

which yields $\frac{\sum_{i=1}^n b_i(S^*(b)) - C(S^*(b))}{n} = b_j(S^*(b)) - c_j(S^*(b), b) \geq 0$ and thus

$c_j(S^*(b), b) \leq b_j(S^*(b))$, $j = 1, 2, \dots, n$; nobody ‘pays’ more than his bid.

Those individuals i who submit $b_i(S) < 0$ for some S will—should that S become the chosen $S^*(b)$ —get compensated at least according to their demand, i.e. ‘negative bid’. We assume that after bidding individuals are forced (‘taxed’, if you will) to pay according to these rules. However, since they are free to bid as low as they like, they can always see to it that a project will not be implemented (i.e. veto it).

Under certain provisions individuals could be required to post a kind of hostage before participating in bidding as envisioned here. So, if $S^*(b) \neq \emptyset$ will be implemented, they will have already made the ‘down payment’, $b_i(S^*(b))$, of what they will have to pay in case the project will be implemented. A credible institutional commitment not to abuse the ‘down payments’ but rather to pay them back if no project is realized would be necessary then. This might be something to be exogenously provided by a state enforced legal order in which the cpe process envisioned here may be embedded.

4. Theoretical and Experimental Conclusions

3.1 Theoretical

The preceding axiomatic characterization spells out explicitly and precisely¹⁵ *widely accepted normative views of communitarian procedural egalitarianism, cpe*. Like in much of traditional constitutional and legal theory the framing was in objective terms. Nothing had to be said about the subjective perceptions and evaluations of individual members of the community.

¹⁵The axioms ‘explicate’ in the sense of Carnap 1956, core background concepts of the Calculus of Consent.

More formally speaking, and as emphasized already, we have been dealing with game forms rather than games.¹⁶ These game forms *procedurally* embody certain values, most prominently that of interpersonal respect: no group of individuals is entitled to impose its will on others as an externality without having to seek agreement of each and every individual.¹⁷

The axioms presented in the preceding section imply agreement-seeking by requiring monetary transfers to compensate for externalities according to bids. In the context of the communities to which Elinor Ostrom refers in particular in her discussions of managing common pool resources the framework can be practically implemented.¹⁸ Since individual actions are significant for collective results the veto power embodied in the rules is backed up by something real and not a mere fiction in small as opposed to large communities. If in large communities formal organization based on the measuring-rod of money (operating through markets etc.) is a practical necessity it may be crowding in rather than out co-operation in the small-group contexts envisioned by Elinor Ostrom.

For those accepting the values expressed in the axioms the procedures characterized by them bestow legitimacy on its results whatever they are.¹⁹ There is no standard of improvement independent of the procedures. But implementing them may improve interactions that are not formally but merely informally ordered according to the egalitarian small group values expressed in the axioms. The transparent and simple way in which egalitarian respect is embodied in procedures fulfilling the axioms should appeal to the basic egalitarian instincts that evolved with human kind and let us manage our common problems better without making use of the formal and central enforcement process embodied in the protective or the directive state.

3.2 Experimental

As expressed in our introductory remarks we believe that relying on schemes of egalitarian bidding might in many cases facilitate co-operation in small communities. The procedurally egalitarian bidding mechanism, derived here, has been implemented experimentally under varying conditions. The variations concern

¹⁶The tradition of conventional mechanism design is certainly important but it focuses on different questions not directly relevant to the issues of procedural legal design addressed here.

¹⁷In Kant's original case this would be the community of all rational beings. In the case at hand one may think of a productive state with compulsory membership. Due to compulsory membership it can go beyond what individuals can do by organizing 'clubs'. In line with the Wicksellian ideals of Buchanan this productive state—though having the power to tax—is ideally restricted to 'politics as exchange'.

¹⁸Though the axioms express the values underlying the Buchanan-Wicksell-framework, too, corresponding procedures could hardly be implemented in great societies. The conventional assumption that a social planner would step in and design mechanisms that would let citizens reveal their preferences truthfully to him or some other benevolent despot in some equilibrium or other throws the baby (general constitutionalism) out with the bathwater (no benevolent despot).

¹⁹This is again in the spirit of the 'Calculus' and of Buchanan who in conversations would often tend to make remarks like 'whatever comes out comes out'. Results of a procedure that is deemed acceptable independently of its specific outcomes are to be accepted.

- how many public projects are possible,
- whether public projects are pure public goods or harming some and benefiting others,
- whether evaluations are common knowledge or private information and, in the latter case, whether a commonly known prior is experimentally induced or not,
- how public projects with negative costs (gains) fare compared to more efficient projects whose costs are positive.

The robust findings (see the survey of Güth et al. 2012) are that

- regularly the most efficient project is implemented, except when the most efficient project is competing with a less efficient one whose costs are negative,
- the procedural mechanism works well independently of whether or not a Bayesian game is experimentally induced or not,
- fair procedures only crowd out other regarding concerns when not only the procedure is fair but also the game proper is (a priori) symmetric.

These findings suggest that monetary bidding per se does not crowd out communitarian voluntary cooperation if the procedure is egalitarian fair. The nowadays again very popular reservations against the ‘monetarization’ (see again Sandel 2012 and also earlier Satz 2009) of social relations may be misguided. The culprit may be the lack of equality in bidding power on markets and other forms of real world free contracting rather than the monetary values. The conceivability of communitarian procedural egalitarianism seems to indicate this in theory and even to provide a remedy in practice. This is philosophically interesting since it separates dimensions of social evaluation that should not be conflated and at the same time suggests ways of organization that are communitarian in spirit yet rely on ‘the measuring rod of money’.

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