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Unanimous rules in the laboratory ☆

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ABSTRACT

We study the information aggregation properties of unanimous voting rules in the laboratory. In line with theoretical predictions, we find that majority rule with veto power dominates unanimity rule. We also find that the strategic voting model is a fairly good predictor of subject behavior. Finally, we exploit a framing effect to study how the presence of less sophisticated agents affects Veto's welfare properties.

1. Introduction

In many sensitive situations, group decisions are required to be unanimous. Examples include a number of international organizations that would not exist without granting some sort of veto power to their members.[1] They also include partnerships and other unlimited liability companies, and criminal trials by jury in the US. The central question in this paper is: what voting system is best in such situations?

When agents have no uncertainty about their preferred alternative, all unanimous rules are equivalent – a proposal to reform the status quo is only accepted if it is Pareto improving (Wicksell, 1967 [1896] and Buchanan and Tullock, 1962). Unanimous rules are, however, not equivalent when agents are uncertain about the merits of a proposal and share common

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[1] See, e.g., Zamora (1980); Posner and Sykes (2014); Maggi and Morelli (2006); and Bouton et al. (forthcoming) for a discussion.

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objectives. This is because voting then ought to aggregate the information dispersed among agents. The problem is that unanimous decision making is believed to aggregate information poorly (Feddersen and Pesendorfer, 1998; Guarnaschelli et al., 2000).[2] This raises the question of whether a group necessarily sacrifices information aggregation when it grants veto power to its members.

In this paper, we compare the performance, in the laboratory, of two of the most widely used unanimous rules: *unanimity rule* and *majority rule with veto power* (henceforth Unanimity and Veto).[3] Under Unanimity, agents must consent or dissent. The reform is then adopted if and only if no one dissents. Under Veto, agents can consent, dissent, or veto. The proposal is then accepted provided that no one vetoes and a (simple or qualified) majority consents. The main difference is that under Unanimity agents cannot convey negative information about the reform without blocking it altogether. The intense debate during the early years of the United Nations Security Council on the impossibility of dissenting without vetoing illustrates that this difference is far from innocuous (Sievers and Daws, 2014).

And indeed, we find that, in contrast to Unanimity, Veto consistently aggregates information well in the laboratory. Hence, our findings provide empirical support to our previous theoretical result that Veto Pareto dominates Unanimity (Bouton et al., forthcoming). This provides a rationale for the use of Veto in practice and sheds light on the evolution of decision-making practices in the United Nations Security Council and the Council of the European Union. It also suggests that it would be beneficial for voting bodies that currently use Unanimity to adopt Veto instead.

Our experiment design follows the typical setup considered in the information aggregation voting literature.[4] There are two possible states of the world (Red or Blue). Agents observe a binary private signal (red or blue) that is correlated with the realized state. They have a common objective: they are all rewarded if the group decision (Red or Blue) matches the state (decision Red represents the status quo). To make the group decision, they hold a simultaneous vote according to a pre-specified voting system: Unanimity or Veto.

Theoretically, the welfare performance of these voting rules depends on the information structure. To understand this idea, note that under both rules, any single agent can enforce the status quo. If the red signal is sufficiently informative relative to the blue signal, enforcing the status quo when observing a red signal is a weakly dominant strategy. In this case, where the red signal is *decisive*, information aggregation is relatively straightforward and both Veto and Unanimity are efficient. When the red signal is *not decisive*, however, information aggregation is a more subtle problem and Veto outperforms Unanimity because it offers the possibility of revealing a negative signal without pinning down the outcome.

We consider both cases in the laboratory. First, in the case where a red signal is not decisive, we use equally informative signals as in Feddersen and Pesendorfer (1998) and Guarnaschelli et al. (2000). We find that groups using Veto make about a third the number of mistakes as those who use Unanimity. This difference is due to a dramatic reduction of type II errors. That is, using Veto makes it much less likely that agents will reject a good reform (or in the typical jury interpretation, acquit a guilty defendant). In the case where a red signal is decisive, we find that performances under Veto and Unanimity do not differ significantly. Our data therefore provides strong empirical support for the theoretical predictions.

We then analyze subject behavior in detail. This is important because, unless we can convince ourselves that the model is a sufficiently good predictor of subject behavior, we can hardly extrapolate our welfare results to variations in group size and information structure, for instance, let alone draw policy implications. Overall, despite some heterogeneity, we find that the model predicts aggregate behavior fairly well.

Finally, to inform the comparison between Unanimity and Veto, we run control treatments with two alternative voting rules: simple majority rule (henceforth Majority) and unanimity rule under the constructive abstention regime (henceforth Constructive Abstention). Beyond being a standard benchmark in the literature, the Majority treatments are useful to assess the consequences of equilibrium multiplicity under Veto. Constructive Abstention is strategically equivalent to Veto but changes actions' focality. We exploit this framing difference to study the sensitivity of Veto's welfare properties to the presence of less sophisticated agents.

1.1. Related literature

Our paper is the first to compare the information aggregation properties of different unanimous voting rules in the laboratory.

Guarnaschelli et al. (2000) documents evidence of strategic voting under Unanimity in the Condorcet Jury setup. They show that, in line with theoretical predictions, subjects vote against their signal and that this improves information aggregation with respect to sincere voting. Goeree and Yariv (2011) also find evidence of strategic voting. In addition, they find that allowing for communication among agents before the vote substantially reduces the impact a voting rule has on the

[2] Coughlan (2001); Duggan and Martinelli (2001); Persico (2004) and Bouton et al. (forthcoming), however, highlight cases where unanimous decision making features good information aggregation properties.

[3] Among international organizations Unanimity is used, e.g., by the North Atlantic Treaty Organization (NATO), the European Council (for most sensitive topics, excluding Common Foreign and Security Policy), and the Southern Common Market (Mercosur). In contrast, Veto (or a close variation) is used, e.g., by the European Council (for the Common Foreign and Security Policy), the United Nations Security Council.

[4] This literature includes, e.g., Austen-Smith and Banks (1996), Feddersen and Pesendorfer (1996, 1997, 1998), McLennan (1998), Myerson (1998) and McMurray (2013).