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Proposal power and majority rule in multilateral bargaining with costly recognition

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Abstract

This paper studies a sequential bargaining model in which agents expend efforts to be the proposer. In equilibrium, agents' effort choices are influenced by the prize and cost effects. The (endogenous) prize is the difference between the residual surplus an agent obtains when he is the proposer and the payment he expects to receive when he is not. Main results include: (1) under the unanimity voting rule, two agents with equal marginal costs propose with equal probabilities, regardless of their time preferences; (2) under a nonunanimity rule, however, the more patient agent proposes with a greater probability; (3) while, under the unanimity rule, the social cost decreases in group heterogeneity, it can increase under a nonunanimity rule; and (4) when agents are identical, the unanimity rule is socially optimal.
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1. Introduction

Many economic and political settings involve multilateral bargaining in which a group of agents negotiate over the allocation of some surplus. Such settings range from two nations' negotiating over a disputed territory, to legislators' deciding on the distribution of funds across states, parties' negotiating over the formation of a government in a multiparty parliamentary system, various divisions of an organization negotiating over scarce resources, and existing members of an international club, e.g., NAFTA, EU or WTO, negotiating the terms of accession for a candidate country. While in some cases agreement requires the unanimous

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approval of all interested parties, in others, the approval by a subset of agents is sufficient to implement a specific allocation. For instance, whereas a unanimous approval is needed for the enlargement programs of most international clubs or an organization's budget plan, the approval by a simple majority is sufficient to reach a legislative decision or to form a coalitional government.

Building on Rubinstein's [33] pioneering work, an elegant theoretical literature has emerged on multilateral (sequential) bargaining generating testable predictions about the equilibrium outcomes in a wide variety of environments. A key prediction of this literature is the presence of the "proposal power" in that the agent who proposes how to allocate the surplus receives a disproportionate share. [1] Thus, understanding how the proposal power is gained and distributed among negotiating parties is crucial in understanding the allocation of surplus, and the parties' payoffs. With some exceptions discussed below, the extant literature assumes an exogenous "recognition process" that selects the proposer according to certain rigid institutional and organizational procedures. For instance, whereas the alternating offer models a la Rubinstein [33] allow agents to take turns making proposals, a subsequent generalization introduced by Binmore [5] endows agents with a fixed probability of recognition. Absent such rigid procedures, however, agents might take costly measures to tip the proposal power in their favor. Examples abound. In organizations such as a university, a public agency, or a corporation, the allocation of scarce resources is often the outcome of active negotiations between different units, rather than external rules, and the share each unit receives is mostly determined by its power gained through costly activities. (See, e.g., [14,18,30].) At international negotiations such as the ones between Pakistan and India, and those between Greek and Turkish Cypriots over disputed territories, involved nations have often lobbied other nations to gain support for their proposals. Finally, in mediated bargaining, negotiating parties need to convince and educate the mediator about their demands, which frequently require hiring experts and professionals who can process information and present the case more effectively on their behalf. [2]

The objective of this paper is to endogenize the recognition process by letting agents compete to be the proposer. Aside from generating proposal power as an equilibrium outcome, this will also allow us to link the incentives to propose to agents' characteristics such as their time preferences and cost efficiency as well as to the institutional and organizational variables such as the voting rule and the number of agents. Several interesting issues arise from the analysis. Regarding agents' characteristics, do more patient agents have a lesser incentive to propose? Does competition for the proposal power become more intense in a more homogenous group? Can the cost of recognition ever outweigh the benefits of proposal power in equilibrium? Regarding the institutional and organizational variables, what is the role of voting rules on the competition for and the distribution of proposal power?

The formal model builds on the Baron and Ferejohn [1–3] framework, where a group of agents wants to divide a fixed surplus among themselves. Instead of assigning a fixed probability of recognition, however, I assume, as in the rent-seeking literature, that agents expend (unproduc-

[1] There is growing empirical evidence that confirms this prediction. For instance, Knight [19] uncovers that representatives affiliated with the Congressional transportation committee have used their proposal power to secure more project spending for their districts than other representatives.

[2] It is important that the recognition of an agent to propose be interpreted in a broader sense to include cases in which the agent does not literally propose but the proposal put forward, say by a mediator, is closest to his.

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