

BARGAINING THEORY

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This short 10h course intends to provide the students with a quick overview of the problem of allocating a surplus among several agents when, for instance, there exist gains from trade to be made but the conditions for agents to behave competitively are not met. Instead, the agents bargain about how to split the surplus to reach an allocation.

The course will address, formally, first the axiomatic approach to the bargaining problem as stated by Nash in the 50's, and then the search for a noncooperative (i.e. strategic) foundation to the most commonly used axiomatic solution, the Nash bargaining solution. The latter will be shown to be the limit outcome of an alternating offers bargaining game for increasingly patient agents.

As an illustration of the usefulness of the approach, a strategic foundation is provided for the Lindahl equilibrium of an economy with public goods, in which assuming competitive behaviour —if interpreted as implemented through personalised prices— is problematic (if interpreted instead as implemented through personalised taxes, the incentives to misreport preferences are well known).

Lecture notes of (a more extended version of) the course will be made available. A list of subjects to be addressed and an indicative reading list (not to be covered in a 10h course) is provided below.

Part 1: Axiomatic approach to the bargaining problem. The bargaining problem and Nash's bargaining solution (Nash, 1950). Other solutions: Kalai-Smorodinsky (Kalai and Smorodinsky, 1975).

Part 2: Strategic approach to the bargaining problem. Nash's demand game (Nash, 1953). Rubinstein's alternating offers bargaining game (Rubinstein, 1982). Nash equilibria and subgame perfect equilibria of Rubinstein's game. Existence and uniqueness of a stationary subgame perfect equilibrium for Rubinstein's game. Alternating bargaining with risk of breakdown of the negotiations. Convergence of the unique stationary subgame perfect equilibrium of Rubinstein's game to the Nash bargaining solution.

Part 3: Example of bargaining foundation of a competitive outcome.

Dávila, Eeckhout and Martinelli (2009) bargaining over public goods.

Binmore, K., Nash Bargaining Theory III, Ch. 11 in K. Binmore and P. Dasgupta (Eds.), "The Economics of Bargaining", Blackwell, Oxford (1987).

Binmore, K., M.J. Osborne, A. Rubinstein, Noncooperative Models of Bargaining, Handbook of Game Theory Vol. 1, Elsevier Publ.

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