

Economics 530a

Cooperative Game Theory

Fall 2006

Itzhak Gilboa (until October 25th) and Herbert Scarf (from October 25th)

Office Hours: By appointment.

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Requirements: Term paper/class presentation.

Outline

Part I: Cooperative games with transferable utility (TU, Gilboa)

1. Basic definitions and examples
2. The core
3. The Shapley value
4. Convex games
5. The bargaining set and the kernel
6. The nucleolus
7. Application: bankruptcy problems.

Part II: Cooperative games with non-transferable utility (NTU, Scarf)

1. Basic definitions and examples
2. The core
3. Games and markets: the Debreu-Scarf theorem
4. The Shapley-Scarf house model
5. Matching problems and the Gale-Shapley algorithm
6. The alpha core.

Reading List

Myerson, R. B. Game Theory: Analysis of Conflict. Harvard University Press, 1991.

Osborne, M. J. and A. Rubinstein A Course in Game Theory. MIT Press, 1994.