On the core of many-to-many matching markets with transferable utility *

Ata Atay

Institute of Economics, Hungarian Academy of Sciences

We discuss transportation games that model many-to-many matching markets with transferable utility. This model has been studied by Sotomayor (2002) and Sánchez-Soriano et al. (2001) who independently proved non-emptiness of the core and raised several open questions on its properties. In the talk we aim to explore the structure of the core of transportation games by reporting what our work in progress has produced so far.

It is known that players on the same side are substitutes and players on the opposite sides of the market are complements. We first demonstrate that if we consider mixed-coalition enlargements, these properties do not hold any more. Related to this question, we conjecture that a maximum value minimum balanced family in a transportation game is a partition, in fact it is a 2-partition. Secondly, we see that, differently from assignment games that model one-to-one matching markets, transportation games are neither ONTO-lemaral nor INTO-lemaral. Thirdly, Sotomayor (2002) showed that there is no opposition of interest between the two sides of the market and the core is not a lattice. We conjecture that, for a given non-degenerate transportation game, there is (at least one) core vertex where all sellers get their core maximum payoffs; and there is (at least one) core vertex where all buyers get their core maximum payoffs.

*Based on joint work (in progress) with Marina Núñez and Tamás Solymosi.