The Core and Competitive Equilibria of Assignment Markets with Middlemen

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Abstract: Initially, we consider an assignment market with middlemen each of whom can trade one unit of indivisible goods. We show the core equivalence in this market, which leads to a necessary and sufficient condition for the existence of a competitive equilibrium. This condition is characterized by an integral solution of a partitioning linear program. Next, we consider a generalized assignment market with middlemen each of whom can trade multiple units of indivisible goods. Using the results in the previous market model, we present a necessary and sufficient condition for the existence of a competitive equilibrium in the generalized market.

Keywords: Assignment games; Middlemen; Competitive equilibrium; Core; Partitioning linear program

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