

Multi-product Supply Function Equilibria*

Work in Progress

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Abstract

We solve for Nash equilibria in a single-round procurement auction with two heterogeneous divisible goods and a uniform price for each good. There is (dis)economies of scope in production and goods could be substitutes or complements for the procurer. Before demand is realized, firms offer a vector of supply functions where supply of a good depends on the prices of both goods, which corresponds to the design of some electricity markets. We show that payoffs and the allocation of underlying goods are invariant to bundling. For quadratic costs and linear demand, bundles can be chosen such that it is equivalent to trade divisible packages in two separate auctions. Such packaging simplifies the analysis of and the operation of a multi-product auction.

Keywords: Supply function equilibrium, multiproduct auction, wholesale electricity markets, bundling

JEL codes: C62, C72, D43, D44, L94

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