Welfare Analysis of the Number and Locations of Local Public Facilities

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Abstract

We develop a discrete or finite household model with congestable local public goods where the level of provision, the number of facilities and their locations are all endogenously determined in a purely normative context. We prove the existence of an equal-treatment identical-provision second best optimum, where all households are required to reach the same utility level, the provision of local public good is required to be the same at all facilities, and all facilities must serve the same number of consumers. Such an optimal public facility configuration may or may not be geographically centralized if there is only a single public facility site. Moreover, the optimal public facility configuration could be either concentrated (single site) or dispersed (multiple sites), depending crucially on the degree of congestability and the household valuation of the local public good as well as the commuting cost.

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