Building Networks of Local Public Goods: Optimal Policy and Information Asymmetry

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Abstract

The paper develops a network formation model where links are local public goods that provide homogeneous benefits to connected agents. We consider agents that are initially isolated and must decide whether or not to build links. We study the efficiency of networks that arise when the cost of building links vary between agents. Initially, values are common knowledge and high valuation individuals will have incentives to pay for the local public good while lower valuation individuals have incentives to free-ride on the provision of others. In this case, the efficient outcome is achieved as the optimal aggregate level of public good is supplied. When the value of a link is an agent's private information, the equilibrium network is inefficient. Inefficiency comes from both the expectation to free ride on others' efforts, and from the duplication of efforts when building links.

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