

# A Hotelling Game on Networks

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We present a theoretical framework to study the location-price competition of firms in a Hotelling-type network game, extending the Hotelling model with linear transportation costs from a line (city) to a network (town). We show the existence of a pure Nash equilibrium price if, and only if, some explicit conditions on the production costs and on the network structure hold. Furthermore, we prove that the local optimal localization of the firms are at the nodes of the network, i.e. at the crossroads of the town. In addition, we extend the results to the case where Firms know their production costs but are uncertain about the production costs of the competitor firms in the network.

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