

Abstract

This thesis examines the application of the spatial aspect applied in the competitive models in the context of the natural resource economics. At first, the spatial models are thoroughly derived in one dimension. Then also their general properties such as the choice of the agents' location or their payoff function are examined. These properties are investigated for various distributions of the resource, and therefore they depend also on their parameters. The Nash equilibrium and local stability conditions are derived for the basic setups. In the second part, these competitive models are numerically tested also in a two-dimensional space. One of the results also suggests, that in the setup where the players have perfect information, the beginning player is not necessarily always better off than the second player. Throughout the entire thesis it is also comprehensively examined whether the existence of corners of the strategy space has an impact on the existence of the competition which was successfully demonstrated on several cases.

JEL Classification Q20, Q22, C62, C68, C72

Keywords spatial models, natural resource exploitation, Nash equilibrium, fishery, computer simulations

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