Efficiency Range of the Agglomeration and Multiple Equilibria of Non-monocentric urban Configuration

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Abstract

In this paper, we construct a general equilibrium model which uses households and firms distribute over a one-dimensional space including the households who commutes to each firm and examine here the configuration of the city becomes monocentric or multicentric city depending on the values of the transport and communication parameters. Fujita, Imai, and Ogawa have shown that different equilibrium patterns may emerge according to the values of the economy's basic parameters, thus affecting the balance of the two opposite forces. They considered a linear accessibility field and showed that the market solution was essentially monocentric. We show that there exists configurations exhibiting several centers without using spatially discounted accessibility. And, the location of the city centers are not pre-determined. Therefore, not only the number with which they appear but the cause by which they appear can be examined. Although multicentric patterns appear in real cities, it does not appear under the liner accessibility at the previous models. The reason is in an assumption using liner accessibility that all the firms communicate mutually. It is made difficult that the city center is divided into two locations. Our model proved that multicentric patterns appears in equilibrium by using the previous model (using the liner accessibility) and assuming that each firm does not communicate when the cost which performs communication between firms exceeds the profit.

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