

Birth of Cities: Division of Labor and Transportation Costs*

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Abstract

In this paper, we construct a model with two-region, two sector and two types of workers. One type of workers has a comparative advantage in agricultural production and mobile between two regions, while the other type of workers has a comparative advantage in producing manufactured goods and immobile between regions. We assume that intra-regional (inter-regional) trade incurs transaction (transportation) costs. This paper shows that when the productivity of workers is low relative to the intra-regional transaction costs, division of labor is not performed and the market does not exist. In this economy, both workers are self-sufficient. When the productivity of workers becomes medium level, division of labor is progressed in a region where both types of workers exist, and the market is formed. The number of people living in this region increases and this region becomes the city. When the productivity of workers becomes high, inter-regional trade starts and the division of labor is also progressed in the other region.

JEL Classification: R10

Key words: city formation; division of labor; transportation costs; comparative advantage;

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