

Influence of Population Density on Market Size and Agglomeration of Firms

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Abstract

In this paper, we show that population density plays important roles both in the international trade and economic growth. First, to show the effect population density on manufacturing agglomeration, we construct a two-country and model having land space and a monocentric city structure. We show that firms agglomerate in the country with high population density. In addition, we construct a model of economic growth and show that the growth rate is raised by the high population density.

We derive some welfare properties. The agglomeration of manufacturing firms in the high population density country improves the welfare, and the high growth rates in the high population country raises the welfare. However, in the high population density country, the living spaces for agents become narrow, which lowers the welfare of the country. There is a trade-off between the variety of consumption goods which increases with agglomeration and economic growth and the living spaces which becomes narrow by the high population density.

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Key words: population density, living space, agglomeration, growth rate.

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