Natural Disaster, Migration, and Regional Development[+]

Daiuske IKAZAKI
Japan Women's University
Emai: ikazaki@fc.jwu.ac.jp

Abstract

In this paper, we construct a simple matching theory to consider how natural disasters affect regional economic activities and migration.

In section 2, we introduce a simple model of matching theory based on the previous studies. This theory explains how unemployment rate, a measure of market tightness, wage rate, and other important variables are determined.

In section 3, we integrate the elements of natural disasters into the model of section 2. We assume agglomeration increases productivity. Natural disasters pull down production factors and thus deteriorate productivity. Then, population drain occurs.

In section 4, we extend the model of section 3. In 4.1, we consider regional loyalty. Damages caused natural disasters decreases the utility of each household. However, suppose that the utility difference between domicile (hometown) and other regions are comparatively low. And so, it is taken for granted that people tend to stay in their hometown even if monetary gains becomes better off when they migrate to other areas. Under this premise, there are multiple steady states.

In 4.2, we assume that productivity depends on public capital, which will be devastated by natural disasters. Just after the natural disaster, public capital decreases and people in this region may migrate to other regions. We also discuss the effects of fiscal policies to recover public capital. We show that once migration and a decline in population occur, such fiscal policies may deteriorate the regional economy. That is, excess supply of public capital increases the onus of the region and declines the utility of household. If so, fiscal policies may pose further population outflow.

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