History versus Expectations in Economic Geography Reconsidered

DAISUKE OYAMA

Graduate School of Economics, Hitotsubashi University

oyama@econ.hit-u.ac.jp

Abstract

This paper considers a class of adjustment dynamics with forward-looking migrants in a new economic geography model à la Krugman (1991a). Specifically, we employ the equilibrium dynamics due to Krugman (1991b) and Fukao and Benabou (1993), where migration incurs moving costs which depend on the size of the current migration flow, so that migrants care about the future migration behavior of the economy. Our main goal is to identify a state that is *absorbing* (i.e., if the initial state is in a neighborhood of this state, then any equilibrium path converges to it) and *globally accessible* (i.e., for any initial state, there exists an equilibrium path that converges to this state) when the degree of friction is small (i.e., the migration cost and/or the rate of time preference is small). We show that such a state generically exists (which is unique by definition) and is characterized as a unique maximizer of a potential function of the static model.

The proof strategy for our result follows that of Hofbauer and Sorger (1999), who study stability under a different class of perfect foresight dynamics, due to Matsui and Matsuyama (1995), in potential games. We first show that equilibrium paths in our dynamics are solutions to a certain optimal control problem with state variable inequality constraints (see, e.g., Hartl *et al.* (1995)). Global accessibility is then shown by a turnpike theorem for the optimal control problem, while absorption follows from the observation that the maximized Hamiltonian of the optimal control problem serves as a Lyapunov function for bounded trajectories.

THE PAPER IS AVAILABLE AT:

http://www.econ.hit-u.ac.jp/~oyama/papers/hist-vs-exp.html

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