

# Understanding Regional Growth Dynamics in Japan: Nonstationary Panel Data Approach\*

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## Abstract

This paper seeks to understand the Japanese regional growth dynamics by using the nonstationary panel data approach. There are three main findings. First, there are less empirical evidences that Japanese prefectures converges to its parallel long-run balanced growth paths. Second, under the specification that we allow for the heterogeneity in technological parameters across prefectures, we find that there are strong evidences that all prefectures have cointegration relationships, which implies that the technical process follows individual paths asymptotically. In addition, the differences of the individual paths constructed by the common factor generating persistence represent the process of follower prefectures catching up to leader prefectures. Also, the deviations from the long-run growth equilibrium, which have a stationary process, lead to the fluctuations of the catch up process in the short run. Third, in investigating the properties of the steady-state across prefectures, we find that there is an evidence that initial conditions influence the steady states.

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