

Technological Progress, Heterogeneous Firms, and Unemployment*

Kosho Tanaka[†]
Nagoya University

Abstract

The paper investigates the effect of productivity growth on unemployment in a search model with heterogeneous multi-worker firms. New technology creates two types of firms: those that become obsolete or reap rewards. I develop a model in which technological progress accelerates firm obsolescence but encourages surviving firms to update technology. Along with this, the increased opportunity to capitalize on new technology promotes firm entry, and an elevation in employment costs induces exit. The model simulates that the net relationship between growth and unemployment is negative as supported by recent estimates, mainly through a change in aggregate productivity.

*I am in debt to Noritaka Kudoh, Takashi Shimizu, Kathuya takii, Ryo Arawatari and Atsushi Ohyama for valuable comments.

[†]Graduate School of Economics, Nagoya University, Furo-cho, Chikusa-ku, Nagoya, 464-8601, Japan. Email: kt.kosho@gmail.com. Homepage: <http://www1.m2.mediacat.ne.jp/kt.kosho/>.