

Knowledge Spillovers, Mergers and

Public Policy in Economic Clusters

by

George Norman and Lynne Pepall

**Department of Economics
Tufts University
Medford
MA 02155**

Abstract

This paper investigates the way market concentration affects research activity in an economic cluster. The firms in the cluster play a two stage Cournot game. In the first stage firms choose whether or not to engage in costly research that generates technological improvements that spill over perfectly to the other firms in the cluster. In the second stage, after the knowledge spillovers have occurred, firms compete in quantities. We solve for a symmetric mixed strategy equilibrium to the first stage of the game, and find that too low a degree of concentration destroys firms' incentives to undertake research. We then explore whether increasing concentration through merging can stimulate research activity in the cluster. Finally, we consider a public policy response to stimulate research and compare whether a direct public subsidy is preferable to a self-financing arrangement.

Keywords: agglomeration, research, perfect spillovers, mergers

JEL Codes: L10, O38