SORTING AND DECENTRALIZED PRICE COMPETITION*

Jan Eeckhout[†]and Philipp Kircher[‡]

Second Revision, October 2009

Abstract

We investigate the role of search frictions in markets with price competition and how it leads to sorting of heterogeneous agents. There are two aspects of value creation: the match-value when two agents actually trade, and the probability of trading governed by the search technology. We show that positive assortative matching obtains when complementarities in the former outweigh complementarities in the latter. This happens if and only if the match-value function is *root-supermodular*, i.e., its *n*-th root is supermodular, where *n* reflects the elasticity of substitution of the search technology. This condition is weaker than the condition required for positive assortative matching in markets with random search.

Keywords. Competitive Search Equilibrium. Directed Search. Two-Sided Matching. Decentralized Price Competition. Complementarity. Root-Supermodularity. Sorting.

^{*}The paper initially circulated under the title "The Sorting Effect of Price Competition". We would like to thank numerous colleagues and seminar participants for insightful discussions and comments. We greatly benefited from comments by Ken Burdett, John Kennan, Stephan Lauermann, Benny Moldovanu, Michael Peters, Andrew Postlewaite, Shouyong Shi, Robert Shimer and Randy Wright. Kircher gratefully acknowledges support from the National Science Foundation, grant SES-0752076, and Eeckhout by the ERC, grant 208068.

[†]Department of Economics, UPF Barcelona, ICREA, GSE, and University of Pennsylvania eeckhout@ssc.upenn.edu. [‡]Department of Economics, University of Oxford and University of Pennsylvania, kircher@econ.upenn.edu.