# Pricing in a capacity constrained duopoly with imperfect mobility of buyers

Massimo A. De Francesco
University of Siena

Some recent contributions on Bertrand-Edgeworth competition depart from the customary assumption of perfect buyer mobility. This has typically been accomplished in terms of a two-stage game in which, once prices are set, a static subgame is played where each buyer chooses which seller to visit. By focussing on the mixed strategy equilibrium of the buyer subgame, imperfect buyer mobility is proven to significantly affect pricing (see, e. g., Burdett et al., 2001). The present paper analyzes imperfect buyer mobility in a symmetric duopoly, when a multi-stage buyer subgame is played after prices are set and assuming equality between (an inelastic) total demand and industry capacity. Two relevant symmetric equilibria of the dynamic buyer subgame are identified. In one equilibrium, the buyers are playing in each stage the (symmetric) mixed strategy equilibrium of the static buyer subgame. However, and quite remarkably, the dynamic buyer subgame also exhibits an equilibrium in which beliefs play a key role. In fact, there exists a perfect Bayesian equilibrium in which the buyers choose randomly only in the first stage, to subsequently keep loyal to the seller previously chosen conditional on having been served. This equilibrium has the property that all buyers will certainly be matched to the sellers by the second stage of the buyer subgame; from that stage onwards, each seller on the equilibrium path has attached as many loyal customers as capacity can accomodate. This norm of conditional loyalty is shown to raise the firms' market power: at the (symmetric) subgame perfect equilibrium of the entire game, the price is higher than that corresponding to the equilibrium of the buyer subgame in which the buyers are constantly randomizing.