# Pure price duopoly equilibria for atomic distributions of consumer preferences

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**Abstract**

We show that in a duopoly with homogeneous consumers, if these are negatively influenceable by each other behavior (e.g. through a congestion/ snob/ Veblen effect), a pure price equilibrium with positive profits for both firms exists. Furthermore, even in the case products are undifferentiated, an equilibrium where firms charge different (positive) prices and have different profits exists. In particular, such an equilibrium exists for atomic distributions of consumer preferences. Thus, when firms engage in uniform price competition, heterogeneity is neither a necessary condition to ensure existence, nor to achieve asymmetries. We further show that in the case products are differentiated, social differentiation overcomes the effect of standard differentiation in creating price asymmetries. We obtain the results by allowing non-loyal (probabilistic) consumption behavior. We conclude by showing that having loyal consumers reduces firm profits, and the equilibrium where all consumers are non-loyal produces the highest profits for both firms.

***Keywords:*** Social influence, Bertrand duopoly; Bertrand paradox; Bertrand competition; consumption externalities; product differentiation; pure price equilibrium

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