Competing for talents ☆

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Abstract

Two organizations compete for high quality agents from a fixed population of heterogeneous qualities by designing how to distribute their resources among members according to their quality ranking. The peer effect induces both organizations to spend the bulk of their resources on higher ranks in an attempt to attract top talents that benefit the rest of their membership. Equilibrium is asymmetric, with the organization with a lower average quality offering steeper increases in resources per rank. High quality agents are present in both organizations, while low quality agents receive no resources from either organization and are segregated by quality into the two organizations. A stronger peer effect increases the competition for high quality agents, resulting in both organizations concentrating their resources on fewer ranks with steeper increases in resources per rank, and yields a greater equilibrium difference in average quality between the two organizations.
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1. Introduction

Consider an academic department trying to improve its standing by hiring a new faculty member. Several economic forces influence such a decision. First, if the potential appointee is of high quality, the presence of such a colleague in the department will make the department more attractive to other faculty members due to the peer effect and may therefore help the department's other recruiting efforts. Second, the new recruit can upset the department's existing hierarchical structure and bring about implications for the internal distribution of departmental resources. "Salary inversion" is often seen as a potential problem in academia [12,19]. More generally, conventional wisdom in personnel management emphasizes the importance of "internal relativity" in the reward structure of any organization. In other words, the decision to make a job offer cannot be viewed in isolation; instead the entire reward structure of the organization has to be taken into account. Third, in a thin market with relatively few employers, the recruitment efforts of one department will affect the availability of the talent pool for another department. Hiring decisions in one department therefore have implications for the sorting of talents across all departments that need to be considered in an analysis of strategic competition for talents.

In this paper we develop a model of the competition for talents which incorporates all these economic forces. While the concern for the quality of one's peers, or the "peer effect," is widely acknowledged in the education literature [6,20,14,18], and modeled extensively in the literature on locational choice [4,8], the implications for organization design and especially organization competition, have received little attention.[1] We take the first step with a stylized model to study organizational strategies to attract talents in the presence of the peer effect, and analyze the resulting equilibrium pattern of sorting of talents.

Section 2 introduces a game between two organizations, *A* and *B*. Talents have one-dimensional types distributed uniformly, and a utility function linear in the average type of the organization they join (the peer effect) and the resource they receive in the organization. Each organization faces a fixed capacity constraint that allows it to accept half of an exogenously given talent pool, and a fixed total budget of resources that can be allocated among its ranks. There are three stages of the game. In the first stage of resource distribution, the two organizations each simultaneously choose a budget-balanced schedule that associates the rank of each agent by type with an amount of resource the agent receives. In the second stage of talent sorting, after observing the pair of resource distribution schedules, all agents simultaneously choose one organization to apply to. In the third and final stage of admissions, each organization admits a subset of its applicants no larger than the capacity. The payoff to each organization is zero if the capacity is not filled, and is given by the average type otherwise. The payoff to any agent that is not admitted by an organization is zero.

Finding a subgame perfect equilibrium in the above game of organizational competition is difficult, because the space of resource distribution schedules is large, and because little can be said in general about the continuation equilibrium given an arbitrary pair of resource distribution schedules. In Section 3 we develop an indirect approach based on the quantile–quantile plot of

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[1] In [4], two communities decide their public service output and tax rate by majority voting, while in [8], private schools choose admission and tuition policies to maximize profits in a competitive equilibrium with free entry. Neither paper addresses the issue of strategic competition between organizations in a non-cooperative game. The existing economic literature on the competition for talents typically focuses on either the informational spillovers resulting from offers and counter-offers [1,13], or the implications of raiding for firms' incentive to offer training [16]. [21] studies the impact of raiding opportunities on unemployment in a search environment.