

Referee report, Endogenous ranking in a two-sector urn-ball matching process, by Giuseppe Rose

The paper analyses a matching model where the matching process is given by an urn-ball matching technology, such that the firms may get zero, one, or many applicants. The issue analyzed in the present paper is whether the firms would have an incentive to rank their applicants, i.e., to hire the most productive one with certainty if obtaining more than one application. This is an interesting question (although it is not correct that Gavrel (2009) and Moen (1999) ignore the issue, particularly Moen studies in detail when the firm will strictly rank their applicants). To what extent ranking takes place will influence the matching function, and is thus an important issue.

The author analyzes the question in a model where firms open different types of vacancies, designed either for “undergraduates” or for “graduates”. The costs of maintaining vacancies vary between firms. Workers are of different types, and the type influences both education cost and productivity in a graduate firm.

It is argued that whether or not the graduate firms will rank their applicants depend on how this will influence the supply of graduate candidates. If not ranking the applicants increases the supply of graduates, the firms will not rank their applicants.

The paper analyses interesting issues. However, I have serious concerns about the derivation of the main results.

When analyzing the question of ranking or not ranking, the starting point should be to study how this will influence the profits of the firm, taking all aggregate variables, including the supply of graduate candidates, as given. The firms strictly rank their applicants if and only if the productivity increases more with a worker’s type than his outside option does. However, it may be that if all firms rank their applicants, the outside options of workers increases a lot with rank, in which case firms may randomize. In the resulting symmetric equilibrium, firms will still chose a high-type worker with higher probability than a low-type worker, but the latter will be chosen with a strictly positive probability.

This type of analysis is absent. Instead, on page 19-20, it is argued that the firms chose whether or not to rank the applicants based on how this will influence the supply of graduate candidates. This is very unconventional indeed. In an atomistic market, the standard assumption is that a single firm has no impact on aggregate variables. The author argues that due to the folk theorem, firms will be able to coordinate on an efficient solution, but that is a highly unusual assumption in a setting like this. Before this issue is resolved, I cannot recommend publication of the paper in any journal.

In addition, the model is rather complicated. I will recommend the author to simplify it substantially, and allow for one source of heterogeneity only.