

**Referee report on the paper “When is there more employment, with individual or collective wage bargaining”, by Jose Ramon Garcia and Valeri Sorolla**

This paper compares the outcomes of individual wage Nash bargaining and union bargaining in the standard large-firm Pissarides (1990) matching model. The wage is bargained by a union having as an objective the expected utility of its members. It is shown that the employment level is higher in the individual vs. unionised framework depending on the (exogenous) bargaining power of an individual compared to a union and the cost of opening a vacancy. The comparison is made both with a situation with marginal decreasing productivity of labour, and for a situation of constant marginal productivity. The authors propose calibrations of the U.S. and Spanish economies to illustrate the comparison.

**Comments:**

-the hypotheses of the paper are well related to the (already quite abundant) literature on the issue. I would have been good perhaps to mention a little bit more how the results compared to other papers in the literature who have modelled collective wage bargaining in the context of a search-matching model.

-most of the comparisons are made in terms of the relative exogenous bargaining powers in a situation of individual bargaining versus a situation of collective bargaining. This should be done but at the same time corresponds to the most mechanical part of the model –and also from an empirical viewpoint, observing bargaining powers is likely to be difficult. For this reason, I think it would have been useful to underline more how the economic mechanisms in presence in the cases of individual vs. collective bargaining differ. With Nash bargaining, as well known, the outcome depends not only on the exogenous bargaining power but also on the extent to which the threat point and the payoff of reaching an agreement differ, which is the more endogenous part of the model. The easiest comparison could be based on the two (unnumbered) equations preceding equations (22) and (23) (see, respectively, pages 10 and 11), which show that the two solutions differ on the fact that (i) average productivity (instead of the marginal productivity) matters in the case of collective bargaining, and that (ii) in the collective bargaining case, the solution does not depend on labour market tightness, while wages increase with labour market tightness in the individual bargaining framework. I think it would be useful to focus a bit more the analysis in these two dimensions of the models (instead of only in exogenous bargaining powers) and also to explain the intuition for which labour market tightness does not play a role in the collective bargaining model. Although probably out of the scope of this paper, these two dimensions are also potentially interesting and exploitable from an empirical viewpoint. Indeed, (i) tells us that the two solutions will differ depending on the value of  $\alpha$  (i.e. depending on the shape of the production function, and the extent to which productivity is decreasing, which one can in principle observe) and (ii) provides a prediction in terms of how the difference between the two solutions will evolve with changes in labour market tightness ( $\theta$ ).