

Referee Report for “Job placement agencies in an agent-based model of the local labor market with the long-term unemployed and on-the-job flows”

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July 12, 2016

The main objective of the paper is the evaluation of the effectiveness of job placement agencies and of active labour market policies (ALMP) in increasing the probability of finding a job and reducing unemployment. In order to reach empirical results, the Author uses a job search model of the labour market as the base for a calibration and simulation exercise.

The model takes account of various form of heterogeneity on both the demand and the supply side of the labour market. The labour force and the labour demand are characterised by 5 different level of skill and the economy is characterised by 3 different sectors. The human capital of the unemployed depreciates and their search intensity reduces along with the duration of unemployment.

Overall, the model contributes to the previous literature because it jointly considers on-the-job flows, human capital depreciation, search intensity, the heterogeneity of agents and firms, and the presence of active labour market policies.

MAJOR POINTS:

1. In my opinion, in the introduction the Author should clarify the reasons why a search model with *heterogeneous agents* is needed for the evaluation of active labour market policy. For what I have understood, the heterogeneity among sectors and in the worker skills is used by the Author in order to split among employees that search on the job and employees that do not search. But probably the same result could be achieved by taking a random productivity per match and computing a threshold of the productivity that divides the employees in the two categories, as usual in search models.

The main question is: what results adds an agent-based model to traditional search models, such as the one of [1], where analytical so-

lutions related to the influence of the ALMP on endogenous variables are obtained?

2. to my knowledge, all the value functions must be pre-multiplied by the interest rate (say r). For instance, the value of being unemployed (Eq. 2) is:

$$rU_t^i = b^i + l^i + h_t^i (E(w)_t^i - U_{t+1}^i)$$

and not:

$$U_t^i = b_i + l_i + h_t^i (E(w)_t^i - U_{t+1}^i)$$

The same for the all value functions. Has this error consequences on the results of the simulations?

3. Workers employed “under their qualification” continue to search (Eq. 5). The value of an occupied job is therefore different if the worker that fill the job has an appropriate/inappropriate skill level (compare equations 6 and 7). This generates strong inconsistencies in the whole model and has strong consequences for the value of a vacancy. The Author assumes that the vacancy is always filled by an appropriate worker as in Eq. 3, where $F(v)_t^i$ and not $\overline{F(v)}_t^i$ is used in the value function. The same happens for unemployed (Eq. 1), that seem to consider only $E(w)_t^i$ and not $\overline{E(w)}_t^i$ in their value function.

Therefore, I would like to know if this inconsistency (that must be corrected in the theoretical model) has consequences on the results of the simulations.

4. The value function of being unemployed U_t^i defines the wage rate (Eq. 11) and therefore the value functions for all the states. But U_t^i (Eq. 2) is endogenous. How the Author deals with this point? How do he set the wage if U_t^i is not calculated as an explicit function?
5. How do active labour market policies influence the theoretical model? I imagine that they change h_t^i and r_t^i . Both the probability of finding a job and the one of finding a worker depend on the tightness in the labour market, θ_t . Therefore, one should think that the world with ALMP should influence positively the search effectiveness, indicated by s . Nevertheless, it is well known from theoretical job search model that in increase in search effectiveness reduce unemployment. I wonder if the whole discussion on ALMP can be synthesised by an increase in s . . . But the footnote 11 defines A (not s) as the efficiency parameter and treats it as exogenous.

Finally, a clear relationship between the number of search units and the probability of finding a job must be specified (the footnote 7 does not highlights the point)

MINOR POINTS

- Figure 1 can be eliminated.
- the “long-term unemployment rate” could be better defined as the share of long-term unemployed on total unemployed.
- in the introduction, I would like to see a presentation of the main features of the paper and of the results.
- check the bibliography (for instance, Albrecht and Vromann (2003), cited at page 3 and Buraffini, cited at page 4, are not reported in the bibliography.
- the Table 1 is interesting but never referred. I think it should.
- change: $lambda \rightarrow \lambda$; $beta \rightarrow \beta$
- “the higher the duration, the lower the maximum number of search units”, page 9. So that the number of search units decreases in time or it jump when the unemployed becomes a LTE? This should be clarified.
- at page 15, Table 2 (not 1) presents the parameters.
- the calibration procedure should be synthesised.
- the results of the simulations can be synthesised and they must be compared with the literature results,

References

- [1] Jan Boone and Jan C. van Ours ”Effective Active Labor Market Policies”, October 2004 IZA Discussion Paper No. 1335; CentER Discussion Paper No. 2004-87