Unemployment Benefits and Financial Factors in an Agent-Based Macroeconomic Model

Reply to Referee Report 2

First of all, thanks to the Referee for positive comments and valuable suggestions. In what follows, we explain how we will revise the paper following the referee report.

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• The attempt to model the decentralized matching process in many markets simultaneously is one of the main contributions of the papers. At the same time, I also think the authors do not emphasize enough the role played by the structure of the different matching processes in their model. To give some examples which clarify my meaning, the authors model in detail the matching process in the deposit market. However, it is not clear how competition and heterogeneous interest rates among banks in that market should affect the overall business cycles dynamics. Furthermore, at p. 14 the authors provide an interesting discussion of the dynamics underlying business cycles in their model. However, in their discussion they do not provide any intuition about how the characteristics of the matching process in the market for goods and labor may impact on such a dynamics. I think that such discussions should be added to the paper.

See reply to the second point.

• Business cycles in the model are basically determined by the interplay between firm leverage and the dynamics of the wage-profit struggle (see e.g., Goodwin, 1967, Akerlof and Stiglitz, 1969. An increase in profits expands investment which in turn raises employment and wages. In turn the rise in wages erodes profits and sets the premises for the recessionary phase. This wage struggle will be affected by the rate at which, respectively, wage growth reacts to reductions in unemployment (Eq. 6) and price growth reacts to changes in inventories (Eq. 10). So far, the assumptions made by the authors imply the same expected growth rate and the same growth rate variance for both wages and prices. In addition, wages and prices reacts to variables that are positively correlated (a reduction in inventories is likely to be associated with a reduction in unemployment and therefore a rise in demand). This has some consequences for the wage-profit dynamics of the model and, in turn, both for the characteristics of business cycles and for the influence of unemployment subsidies. I think the authors could try to perform some additional sensitivity experiments where the parameter \alpha (which determines the expected growth rate of wages and prices) takes a different value for wages and prices. In alternative, the authors could try to make heterogeneous the support of the uniform distribution determining the stochastic growth of prices and wages. Notice that these modifications would introduce in the model different degrees of sluggishness of prices and wages and to see their impact on the overall business cycles dynamics. This would shed more light about the relations between, on the one hand, the structure of the decentralized matching process in the labor and goods markets, and aggregate dynamics on the other hand.

We will perform some additional sensitivity experiments aimed at investigating the effects of different sluggishness of prices and wages. In this way, we will also have the possibility to further discuss the role of matching processes in shaping the business cycle.

In particular, we will provide a deep analysis of matching mechanisms regarding the goods and labour markets, while we do not expect the matching mechanism of the deposit market, which was built consistently with the overall framework based on decentralized matching, to have relevant implications on macroeconomic dynamics.

Moreover, we will include the suggested references on the wage-profit struggle.

• The role played of the parameter "g" (fraction of public workers), is not clear and should be explained. Also, what are the consequences of rising unemployment subsidies rather than increasing the amount of public workers?

Related to this point there are two main issues. The first regards the role of the parameter “g”, that is the fraction of public workers. With respect to this issue, we can perform an additional sensitivity experiment in order to better understand the role of this parameter.
The second issue is about the countercyclical government policy through unemployment benefits or the fraction of public workers. It could be interesting to evaluate the consequences of the latter choice in our model, considering for instance the role of the public sector as an “employer of last resort” along the Minskian tradition (Wray, 2007). However, this topic would require an extensive analysis which could divert attention from the aim of the paper. For this reason, we prefer to consider this complex issue as a potential topic to be analysed in a next paper. As for the current version of the paper, we will try to provide ideas on the different effects of the two policies. Indeed, we can suppose that both the interventions make the aggregate demand to rise, but the hiring of more public workers, given the level of public wages compared to private ones, could be less effective in restoring private sector’s production (due to less workers – with a reasonable required wage – available to private firms).

• The results of the model about the role of unemployment subsidies are very complementary to previous ones in the agent-based models. In particular, the finding about the stabilizing role of unemployment subsidies into a regime where investment is profit-driven complements similar ones obtained in the models by Dosi et al (2010, 2012) where investment is driven by expectations about demand. This complementarity could be stressed more in the paper. In addition, the authors could also have a look at the paper of Napoletano et al. (2013), which perform a comparison between profit-led and demand-led regimes and the role of wage flexibility in the two regimes.

We will add the suggested references and we will provide some related comments.

Finally, we also thank the referee for “minor comments”. We will amend the current version according with the required adjustments.

References

L Randall Wray (2007), Employer of Last Resort: Strategies for combating poverty, Development, Palgrave Macmillan, vol. 50(2), pages 96-102, June.