

Review of “Job duration and inequality”

The paper applies the agent-based model presented in Chen and Desiderio (2018) to study the impact of job duration on unemployment and inequality through three kinds of sensitivity analysis. The authors find that longer contracts decrease inequality, but this result depends also on the macroeconomic context and, in particular, it exists in presence of a loose monetary (and credit) policy.

In my opinion, the paper addresses an important topic. Moreover, I think that the finding of a changing relationship between flexibility and unemployment/inequality in presence of different macroeconomic (credit availability) contexts is very interesting. Even if the model contains some debatable assumptions and is not really calibrated, its qualitative findings are plausible. There aren't model without debatable assumptions and it is quite standard for all economic models (and especially for agent-based ones). However, I suggest to explain clearly some choices and to avoid assumptions that are not useful for the model to work, in order to reduce this critique as much as possible. Therefore, some assumptions, that I will highlight among the remarks (especially the assumptions that are related to the “core” mechanism of the model), should be revised to obtain a considerable improvement of the model. Other assumptions should be sustained by empirical data or theoretical models, or should be safeguarded (as a robustness check) by a sensitivity analysis showing that the overall mechanism does not radically depend on them (or showing how it changes). If this is not feasible for few of the listed debatable assumptions, these improvements could be performed in a future version of the model and, in the current paper, they should be discussed and included in the possible extensions inserted in the conclusions.

Major remarks

- Page 3 and 27, sentences such as “to foster growth and reduce unemployment, they can therefore also be thought to be conducive to lower inequality”. I am not sure that papers recommending temporary jobs are aimed at (and care about) reducing inequality. The debate about relationship between growth and inequality is very large and I suggest to be very careful in pulling together the two aims (growth and inequality).
- Pag.4 “When in fact job contracts are shorter, in our model firms have to increase wages more often in order to hoard labor”. I think that shorter contracts can reduce the bargaining power of the workers, reducing their wages. If this is the empirical finding, I suggest to modify the “Maximum growth rate of wages” parameter with an inverse function of unemployment and a direct function of job contract length (for instance with $D=2$, $h=2\%$ and with $D=10$, $h=10\%$).
- Page 5 “In the aggregate assets and liabilities must sum to zero...”. It holds because the model considers only financial assets without “real” assets. Please specify it.
- Page 7 “the wage of previously-hired workers is also updated to the new wage”. Please sustain this assumption with some empirical evidence or theoretical papers, or perform a robustness check of the model without this assumption.
- Page 9 “total financial resources are not sufficient to pay for the wage bill, and the firm is allowed to fire redundant workers at zero costs”. This assumption has to be improved, given the centrality of this mechanisms for the whole analysis. The problem of rigidities are firing costs. I suggest, for instance, to add a firing cost, at least for workers hired in the previous periods (the authors can assume that newly hired workers are not already really hired). With a firing cost, that is a reimbursement for the fired workers equal to a fraction of the wage, the firm should reduce its profits and the number of fired workers could be enlarged. A sensitivity analysis on the reimbursement amount parameter could be very interesting.
- Page 9 “The firm’s credit rating at time t is defined as 1 minus its probability of default...”. This assumption is meaningless, especially if the entrant firm is a new firm, but also if the authors consider the new firm as a financial restructuring of the same defaulting firm, given that the probability of default is not firm specific except for the leverage of the firm: all firms produce an

homogeneous good, with the same production function and hiring workers with the same skills. CR could be computed as a maximum leverage. In this way, the interest rate is also capped (no usury) and the hyperbolic tangent function (moreover, please describe this function) could be replaced by a simpler/better one. Otherwise, the probability of default could be a function of all firm defaults or total bad debt or gdp growth or unemployment, that is an aggregate variable able to represent the phase of the business cycle, in order to build a financial accelerator mechanism, as later explained in the paper. Another possibility is to link the credit rationing to the net worth of the bank (that should also be a function of its profits tied to the bad debt amount and, therefore, related to the momentum of the business cycle).

- Page 11 “For simplicity we suppose the share c (i.e. the marginal propensity to consume out of wealth) to be the same for all households”. This is a strong assumption, especially for a paper aimed at analysing inequality. I think that it can be easily modified in order to account for the fact that saving rate increases with wealth. A possibility is a function such as $C = (D+I)^c$ with c near but minor to 1 (for instance 0.8). Another possibility is $C = c_0 + c_1(D+I-c_0)$, that is with a fixed minimum fundamental consumption c_0 . And so on.
- Page 12 “net worth A will evolve...”: net worth is not introduced nor explained. Is it E_f in Table 1? Please check it in all the paper (net worth A is present many times).
- Page 12 “At the end of each period, the firm has also to pay back a fraction t of its outstanding debt”: in this way, loans are never ending! Firms should keep track of each loan and repay it over a given number of periods.
- Page 13 “the new firm inherits from the defaulted one a share k of its outstanding debts...”: why? Please avoid this assumption. In order to reduce the bank bad debt, the model should (but perhaps it already performs this activity: please clarify) only impose to defaulted firms to repay to the bank the available money. For instance, if a firm has a residual loan of 50 and is not able to pay back the current payment of 5, but it has 3, the bad debt should be 47 and not 50. This also assures the stock-flow consistency of the model.
- Page 15: what is a period? I think that “Debt repayment rate” at 5% is too low. Moreover, as already said, delete the share of bad debt. The presence of a so low share of bad debt makes the bank too strong (and prevents a possible credit constraint mechanism due to a reduction of the bank’s equity).
- Page 22 “we take the average Gini coefficients after discarding the first 100 periods”: ok, but it should be done in all simulations, not only in the GSA. Please clarify if all the reported results are computed without the transient initial period. If so, the authors should explain it before (for instance, in Section 2.6).

Minor remarks

- The code used to simulate the model could be published in an appendix or as a file on the JEIC website, in order to make the results reproducible.
- Page 4 “...point at a decreasing relationship between contract duration and inequality...”: decreasing could concern the strength of the relationship, not the “direction”. I think that authors would state that the relationship is inverse, therefore “decreasing” could be substituted by “inverse”.
- Page 6 “buy goods from a fixed number of randomly picked firms”: this sentence is misleading, given that the authors explain that households “buy from the firm charging the lowest price among the selected firms”. Please specify it modifying the previous sentence (for instance: “buy the cheapest goods from a fixed number of randomly observed firms”).
- Page 10-11, Equations 10-11: please specify that in the other cases P and Y are constant (I suppose). For instance, in Equation 10 what happen to P when $I > 0$ and $P_i < P$ or when $I = 0$ and $P_i > P$?
- There are few typos or expression that are a bit ugly, such as:
 - Page 13: “evolve according to to...”
 - Page 20: “we briefly illustrate in Section 3.2 for the reader’s sake. Subsequently, we will report our findings in Section 3.2”. Section 3.2 is the current section.