

Response to Referee 3
Quantitative Economics MS 2442
“Welfare and Spending Effects of
Consumption Stimulus Policies”

Christopher D. Carroll, Edmund Crawley, William Du,
Ivan Frankovic, and Håkon Tretvoll

Thank you for your thoughtful comments and suggestions on our paper “Welfare and Spending Effects of Consumption Stimulus Policies”. They were all very useful to us in revising the paper. We hope you agree that the paper has improved. In the following, we summarize the main changes we have made based on your, the other referees’, and the editor’s suggestions. Thereafter, we state each of your comments in italics and provide point-by-point responses to them.

1 Summary of Main Changes

1. We have ...

2 Essential points

- **Results without the splurge factor.** *The first half of the paper spends some time on motivating the splurge factor in consumption, but it is then taken for granted in the policy evaluations. Thus, the two sections appear somewhat disconnected. It would help me to see the policy results for a model calibrated without the splurge factor, at least in an appendix. Is matching the initially very high MPC out of transitory shocks essential for the policy conclusions drawn in the paper, or would the same conclusions be obtained from a more standard heterogeneous agent model? I imagine a removal of the splurge factor will make stimulus checks and income tax cuts much less attractive, but the strength of the channel should be reported.*

Response.

- **Education specific transition rates, E to U vs. U to E.** *In the model, transition rates from employment to unemployment (E to U) are calibrated to different values across education groups, while job-finding rates out of unemployment (U to E) are constant across groups. The probability of transitioning out of unemployment also appears to not change over the cycle, while the separation rate does (this seems odd, as the DMP literature tends to assume that separation rates are constant and job-finding rates move with the cycle (see, e.g., [Hagedorn and Manovskii \(2008\)](#))). This focus on E to U rates is not motivated and the reader is left to wonder whether this is a crucial assumption or not. It appears that the model could be calibrated to match the same moments with heterogeneous U to E probabilities and constant separation rates, instead. I presume this would make recessions much worse for unemployed dropouts, boosting the welfare effects of a UI extension. Given that the welfare results of the paper strongly favor UI benefit extensions, a discussion of the heterogeneous E to U rates assumption seems warranted.*

Response. In response to your comment and some questions/comments from another referee, we have updated our presentation of the calibration of the transition probabilities between employment and unemployment in section 3.3.1 in the paper.

As you point out, our strategy is to calibrate the same probability of transitioning from unemployment to employment for each education group and education-specific probabilities of transitioning from employment to unemployment. This allows to fit our calibration targets which are the average duration of unemployment and the education-specific unemployment rates in normal times. As we are using the 2004 wave of the SCF, we use numbers for 2004 from the Bureau of Labor Statistics for the average duration of unemployment of 1.5 quarters and for the

education-specific unemployment rates.

Note that this calibration strategy is consistent with the results in [Mincer \(1991\)](#) who finds that the main difference between education groups is in the incidence of unemployment, and not its duration. He states that “the reduction of the incidence of unemployment [at higher education levels] is found to be far more important than the reduced duration of unemployment in creating the educational differentials in unemployment rates” (page 1).

[Mincer](#) reports probabilities of transitioning into unemployment as the product of the probability of job separation times the conditional probability of unemployment given a job separation, and both of these are lower for higher education levels. For our calibration, this means that a higher job finding rate *within* the quarter of the job separation for more educated workers translates into a lower probability of transitioning from employment to unemployment during a quarter. In that sense, our calibration is consistent with short-term job-finding rates being higher for more educated workers.

In our model of a recession, unemployment increases because the probability of transitioning from employment to unemployment increases for each group. This would be consistent with a model where the job separation rate is constant, but there is an increase in the conditional probability of being unemployed at the end of the quarter when the separation happens. However, our model is not detailed enough to separately identify these two probabilities, so it is only the overall probability of an E to U transition which increases in a recession.

[Mincer \(1991\)](#) refers to data from 1979 and 1980, and there may have been substantial changes in the labor market since then. However, more recent work by [Elsby and Hobijn \(2010\)](#) include data up to 2009 and echo [Mincer’s](#) findings (see their Figure 8).

- ***The welfare criterion.*** *I had trouble understanding the welfare criterion used to evaluate the three different policies. My own intuition for comparing the policies would have been to simulate, for each policy, two recessions, one with the policy and one without, and then compare aggregate welfare between the two; potentially also to an economy without a recession, to quantify the cost of business cycles. This approach is deemed not viable at the top of page 27, because it would give the social planner incentive to redistribute outside of recessions. I think this point warrants additional explanation. Is the problem that recessions end stochastically, making it difficult to exclude welfare gains from, e.g., a UI extension after the recession is over? In this case, one could compute this measure for each recession length, not including the additional welfare gains from continuing policies after the recessions, and*

weight them by their probabilities. I'm sure the explanation is perfectly obvious to the authors, but a reader will strongly benefit from an additional discussion. It was also unclear to me why the recessionary policies investigated had fiscal costs in non-recessionary periods, as suggested in equation (12). Relatedly, page 9 states that all policies have the same fiscal cost and are financed through taxes in the far future, but I could not find how $PV(\text{policy}, \text{Rec})$ or $PV(\text{policy}, 0)$ are constructed. How can they be included in equation (12) without further assumptions about the timing and implementation of taxation schemes? This also matters for the results presented on page 25—is $NPV(\infty, \Delta G)$ roughly constant across policies?

Response.

3 Suggestions

- **Robustness.** *In my view, the robustness section can be relegated to an appendix. None of the exercises come close to changing the welfare ranking across policies. Further, in three of the four exercises (risk aversion, interest rates and recession properties), the quantitative welfare results change only marginally.*

Response.

- **Liquid wealth distribution in splurge estimation.** *When estimating the splurge factor, the authors calibrate a model to the Norwegian economy to match marginal propensities to spend out of lottery winnings and the liquid wealth distribution. Unfortunately, they latter does not exist for Norway, hence the authors instead target the US liquid wealth distribution from the 2004 SCF. I think it would be prudent to target a liquid wealth distribution for a country whose labor market institutions more closely match Norway's, e.g., Germany or France. The European Union's Household Finance and Consumption Survey provides such a measure, the codes to compute the relevant metrics are provided with the Brookings Paper by [Kaplan, Violante, and Weidner \(2014\)](#).*

Response.

- **Targeted stimulus checks.** *In the final paragraph of the introduction, the authors discuss the possibility of targeted stimulus checks (as opposed to the case discussed in the paper: means tested, but universal distribution). I think estimating this case would help readers benchmark the welfare results by providing an upper bound. As of now, it is clear that UI extensions in the model do most to increase welfare; but are they far away from this hypothetical upper bound?*

Response.

- *Effect of UI extensions on job-finding rates.* The model presented in the paper does not feature endogenous search, which precludes the UI extensions from having negative effects on job-finding, as proposed in, e.g., *Mitman and Rabinovich (2015)*. In this sense, the authors, in the name of tractability, stack the deck in favor of the UI extensions. I'm strongly sympathetic to the assumption, but it would be interesting to know how bad the negative incentive effects would need to be for the UI extension to lose its effectiveness. For example, assuming that job-finding probabilities decrease linearly with benefit size, how negative would the function's slope need to be for the paper's conclusions to revert? A back of the envelope calculation could provide an answer. My prior would be that the number is too high to be realistic, strengthening the conclusions in the paper.

Response.

Finally, we would like to thank you again for your careful advice on our paper. We hope you find our revision satisfactory.

References

- ELSBY, M. W. L., AND B. HOBIJN (2010): "The Labor Market in the Great Recession," *Brookings Papers on Economic Activity*.
- HAGEDORN, M., AND I. MANOVSKII (2008): "The cyclical behavior of equilibrium unemployment and vacancies revisited," *American Economic Review*, 98(4), 1692–1706.
- KAPLAN, G., G. L. VIOLANTE, AND J. WEIDNER (2014): "The wealthy hand-to-mouth," Discussion paper, National Bureau of Economic Research.
- MINCER, J. (1991): "Education and Unemployment," *NBER Working Paper*, (w3838).
- MITMAN, K., AND S. RABINOVICH (2015): "Optimal unemployment insurance in an equilibrium business-cycle model," *Journal of Monetary Economics*, 71, 99–118.