

This paper investigates the effects of age dependent minimum wages in the United Kingdom. The focus is on the discontinuity in the applicable minimum wage rates which occurs when workers become 22 years old, but the analysis is extended also to the discontinuity which occurs at age 18. The authors use regression kink design (RKD) to identify the effects of the discontinuity on employment, unemployment and economic inactivity.

This manuscript has several substantive issues which – if possible - need to be addressed before it can be considered by a journal. The fundamental issue is that the NMW does not seem to be binding for a vast majority of 21-year old workers. This leaves me wondering whether the null findings presented in the paper tell us something fundamental about the effects of minimum wages, or whether they simply reflect the fact that no one needs to respond to a non-binding policy. Apart from that, I have reservations regarding the reduced-form evidence, algebraic formulas, functional forms, and interpretation of some of the results. I elaborate on these points below.

- 1) The paper needs more descriptive evidence. It is very difficult to evaluate the importance of the policy and soundness of the research design without any summary statistics, discussion of sample selection criteria, survey attrition, and only one figure illustrating the employment dynamics. Employment dynamics depicted in the Figure 1 should cover much broader set of ages – after all, the authors extend the analysis to years 18 and 21, and the reader has no idea how the employment rate behaves around these ages. The figure should be also stratified by gender and skills of the workers. The same should be done for unemployment and and economic inactivity.
- 2) From my reading of Table 6, it seems that the NMW discontinuity is binding for about 3% of workers. If this assertion is correct (the authors do not discuss the bite of the policy in the paper), then I worry about the usefulness of this exercise. As mentioned above, the null findings may be in such case driven by the fact that no one needs to respond to a non-binding policy.
- 3) From my reading of the literature, there seem to be several papers identifying sharp discontinuities of employment dynamics at the point when workers become eligible for higher minimum wage rates. This list also includes one recent paper missed by the authors (Kreiner et al., 2017). Is there a reason why the British case should be different from the dynamics observed in the other countries? Is there an institutional feature of the labor code or an economic model which would predict the employment probability smoothly deteriorating prior to the age 22, rather than shifting suddenly at the threshold?
- 4) And more importantly, is there a reason to expect that there should be a sharp discontinuity right at the age of 21, as tested by the authors? From both the workers' and employers' perspectives, this seems like an irrational behavior. Rather than being an evidence of dynamic effects of the discontinuity, the finding of significant effects at the age 21 raises concerns about appropriateness of the chosen modelling strategy.
- 5) The formula presented in equation (5) is wrong. Instead of copying a simplified formula from Norton et al., the authors should do the math themselves and derive the effect correctly. This mistake casts doubt on all the estimates presented in the main analysis.

- 6) It is unlikely that the quadratic age controls in the Dif-in-dif analysis would be flexible enough to approximate the dynamics of the employment rate over the ages 18-40.

Moving ahead, there are two obvious paths to take. If the NMW discontinuity at age 22 is indeed largely non-binding, then the authors should either shift their focus to a discontinuity with better bite – potentially this could be the one at age 18 (bearing in mind that there are other issues with this particular age threshold). Or focus on showing that the results of DRW cannot be reproduced, which is interesting and valuable in its own right. Further interpretations of the slope changes around the 22-year threshold are however likely to be tenuous, and should be avoided.

#### References

Claus T. Kreiner, Daniel Reck and Peer E. Skov "Minimum Wages and Youth Unemployment: Evidence from a Danish Discontinuity". KU Working paper series, June 2017