

## Referee's Report

"Welfare, Employment, and Hours of Work" by A. Hall and G. Zoega

### Summary

This paper considers why unemployment is higher and hours shorter in continental European countries (especially Mediterranean ) than in Anglo-American countries. The paper adopts a standard Diamond-Mortensen-Pissarides search and matching model with endogenous hours. Therefore, workers respond to economic conditions through both the intensive and extensive employment margins.

The explanation is intuitive. Due to a range of institution factors, workers in Europe capture more of the match surplus in a match. Higher wages induce greater consumption which requires more time (an insight attributed to Becker) and hence less working hours. Higher wages also induce lower vacancies and hence more unemployment which is a familiar finding from the basic Pissarides model.

To formalize this argument, the paper qualitatively assesses the comparative statics of their model with respect to unemployment benefits, taxes, and public consumption expenditure. The paper also presents a principle components exercise which supports the hypothesis.

### Comments

The paper has a reasonable insight. I cannot confidently state that it is not found elsewhere in the literature but I have not seen it. On the other hand, given the familiarity and relative straightforward nature of the model, the contribution does not seem particularly novel. Rather than become overly concerned with this judgement, I want to consider more the execution of the paper. My more fundamental criticism is that the paper is poorly crafted.

Consider first the motivation. The stylized facts have a more convincing and thorough delivery. The paper suggests a basic inverse relationship of hours and unemployment but the evidence presented is limited. Why not plot these figures for OECD countries averaged over three multi-year intervals around 1995, 2005, and 2015. It might also make sense to look at other similarly averaged figures for some measures of productivity, wages (or perhaps their ratio), tax rates, and other relevant aggregate measures to exhibit the basic relationships.

Now consider the model. There appear to be sloppy mistakes, some more serious than others. To start, per period utility function in consumption and hours worked is given by

$$U(c,h) = c\phi(1-h)$$

where  $\phi$  is a decreasing concave function. I do not see how this relates to Becker's allocation of time where  $c$  would require actual hours allocated to it via a home production function. The utility function seems standard and does not really incorporate Becker's logic.

In addition, the paper claims that this function "has the property that the substitution and income effects of wage changes cancel out in the absence of bargaining." The net income and substitution effects of wages on hours net out for Cobb-Douglas utility, that is if and only if  $\phi$  is linear. I do not

know what is meant about the absence of bargaining. This statement is a confusing start at best. When the next paragraph leaves it to the reader to infer that  $M$  is the matching function and market tightness is  $\theta = V/U$ , a reader can become frustrated and lose confidence in the veracity of the analysis.

The results are also limited by modelling restrictions. Specifically, the model assumes either no savings or perfect insurance against unemployment shocks. Both are very limiting in this context for obvious reasons but the paper fails to admit these shortcomings.

I also struggled with the comparative statics. They appear to ignore the government's budget constraint. In particular, section 4 begins "A higher level of unemployment benefits  $z$ , holding taxes and public consumption unchanged..." The government budget must become violated as the labor market tightens. As such, this analysis is only partial. The paper claims that the model reduces to three unknowns in three equations and later two unknowns in two equations. I fail to see how this can be given the government's budget constraint in equation (10). I like the approach of expositing the logic with graphical analysis but the comparative statics should be done properly using a matrix of equations.

These difficulties basically stem from what I perceive to be sloppiness throughout the paper. The paper should properly consider what it is doing with / how it is treating Germany and France. The references are not in alphabetical order.