

## Reply to the Invited Reader Comment

First we want to thank the author of the comment because it comprises a general assessment of our paper with highly constructive and instructive recommendations. We will quote the main points in bold face and append our comments.

**The main flaw is that the interpretation is too lengthy and too speculative. At times it loses the thread and makes for difficult reading. In order to retrieve the thread, the paper should focus on data and econometrics.**

The first part of our paper (replication of Devereux's analysis) is much easier to write than the investigation of possible reasons for the observed differences between the U.S. and Germany. The data provide evidence on some of the possible reasons for the differences. This requires additional regressions (e.g. the sample restriction to state-approved occupations) which cannot be found in Devereux's paper. The discussion of possible reasons that cannot be investigated empirically with our data unfortunately has to remain speculative to some extent. We think that our interpretation part including the empirical extensions remains interesting but agree that the readability of the paper could be increased significantly by shortening it.

**The strength of the paper lies in the replication part, and, with some modifications discussed below, its interpretation. The discussion of labor market imperfection is the most ambitious and the least convincing part of the paper. ... The paper has a focus on occupational up-grading and the business cycle and that is sufficient for one paper. The first suggestion therefore is to focus on parts one and two.**

We fully agree.

**The data set used has advantages and also some disadvantages for investigating wages and employment over the cycle. One disadvantage not explicitly mentioned in the paper is that it is not possible to construct the exact wages. Wages from the register data are daily wages, not hourly wages. Daily wages may or may not vary over the cycle through hourly variations.**

It is true that we do not observe hourly wages. We observe the sum of an employee's earnings liable to social security for the notification period which is, in most cases, the calendar year. By division with the length of the notification period we get average daily wages. These wages are indeed very likely to vary over the business cycle due to changes of working hours. However, *in our analysis this is not a limitation* because the occupation wages we look at are averages over all persons in an occupation and *over all years*. Hence, these occupation wages are constant over time. The research question we address is how the aggregate average wage responds to cyclical fluctuations *if wages within occupations are held constant over time*. In this analysis average wage variation over time is induced solely by the employees' changes between occupations. We understand that in order to make this point more comprehensible, our description of the composition wage regressions should be improved.

**A second problem with the estimates results from potential endogeneity. How can one ensure that the direction of causality is from unemployment rates to occupational skill composition and not vice versa? For instance, educational expansion may have generated supply shocks. More graduates have been produced and at times that may have contributed to non-neutral technical change and to an increase in unemployment rates, perhaps even contributing to the business cycle. I do not recommend providing an answer. Trying to identify supply or demand factors underlying wages, employment and unemployment is not the theme of the paper. However, if the authors agree that unemployment rates and the occupational composition of employment and wages may be interdependent, they should mention this in the conclusion.**

We agree that the educational expansion may have generated supply shocks. To the best of our knowledge, however, these shocks can best be described as smooth trends and should therefore be captured by the trend variables we included. That these shocks contribute to the business cycle significantly is possible from a *theoretical* point of view but to us it seems *practically* irrelevant and was therefore not mentioned in the paper. Apparently, the author of the comment considers the endogeneity issue not as a crucial one but rather suggests to make the paper water-proof by making the related exogeneity assumption explicit. We agree that this is a good thing to do.