

**Evaluation of the PhD dissertation by Barbara Pertold-Gebicka, "Skill-intensity of occupations, labor market polarization, and occupational allocation of college graduates"**

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This thesis is an interesting exercise merging different strands of the literature that has been broadly concerned with the impact of technological progress on the labor market. It adopts the occupation as the anchor to link and provide consistency across three essays concerned with: the allocation of college graduates to occupations; the skill intensity of occupations; polarization in the labor market.

The work reveals ambition when electing the topics to be handled and approaches to be followed. It also indicates strong awareness and critical sense over the state of the literature. The analysis is implemented in a skilful way. Just the effort to deal with that many different datasets is in itself already worth acknowledging. Also, the thesis is well written, stating its arguments very clearly. The issues have relevant policy implications.

In synthesis, I strongly believe that the current draft warrants a dissertation defence and the eventual award of a doctoral degree.

Below I point out some of the limitations I identify.

*"College degree and occupational allocation of graduates"*

The idea of improving upon the work by Gottschalk and Hensen (GH) by explicitly considering the impact of the supply of college educated workers in their chances of employment in the "college" versus "non-college" sector is neat. Also, exploring regional variation to identify the impacts is in principle also a good idea.

Some drawbacks of the current analysis are:

- Equations 4 to 7 that state the labor supply directed at each sector, which form the major contribution of this work over GH, are introduced in a somewhat ad-hoc way. They would preferably follow explicitly from a model of workers' choices. Also, no

rationale is provided for the choice of the specific functional form used. (after reading the appendix, the link is still not obvious to me.)

- The implications of shifts in the supply and demand that follows in the thesis text are also discussed in a too loose way.
- In empirical work, one is never free of criticism when aiming at breaking tricky endogeneity problems. In this case in particular, the exogeneity of the location of the colleges during the not-that-far-away communist regime may be disputable.
- The regional analysis and the national analysis provide quite different results. The author attempts to reconcile these results with a mechanism that is intuitive and seems plausible, but nevertheless, with the evidence presented, the text still reads as speculative. More direct evidence would be very welcome. For example, would there be a way of directly modelling the dynamics of the process?
- While the hypothesis that there are spillovers from a high concentration of skills, which generate demand for those skills, is plausible, I find the evidence presented not yet convincing enough. However, the idea is so nice and its test so challenging that I would see it as a very interesting line for further research.
- Still on the empirics, I would prefer to see the work sticking to the thresholds to define college jobs that have been consistently used in the previous literature, across countries that have themselves very different rates of return to university education (so the fact that the Czech Republic has higher returns does not seem a reason strong enough to adopt, in the core part of the analysis, thresholds different from the previous research).
- What is meant by "commercial sector" in the definition of the sample? Is it only the services and no manufacturing?
- Maybe I missed something, but seems to me that there is a typo on page 12, when stating that "More robust and more interesting is the positive within-country correlation between the fraction of college graduates in the population and the probability of a college graduate to work in a noncollege occupation." From page 11 and the graph, my understanding was that the correlation within-countries was negative.

*"Measuring Skill Intensity of Occupations with Imperfect Substitutability Across Skill Types"*

*and*

*"Job market polarization and employment protection in Europe"*

My overall impression from the first of these chapters is that it relies on a dense set of assumptions and proxy variables to infer relative productivities from household reported data. I would have liked to see more detail on the different procedures implemented.

The second paper crucially depends on the previous one, as it applies the measure of skill requirement of occupations developed to a cross-country analysis.

The measure of skill requirement proposed may overcome the assumptions implicit in the measures used in the previous literature, but it certainly relies on a wide array of other assumptions, which may be less innocuous. Moreover, it loses the simplicity that previous measures possess.

Also, the measure is developed in a setting of college versus high school workers, a dichotomous setting. Its application to analyze polarization, where we have by definition at least three skill levels, seems a logical stretch. Also, to deduct the measure itself, skill is defined as the schooling level of the worker, leaving open the question as to whether the proposed measure could be complicating beyond reasonable.

I suspect the proposal will have to be decanted into a more clear cut measure before it can be used by researchers in this field.

*Conclusion of thesis*

Just like it has an overall introduction, the thesis would deserve an overall conclusion.