

Report on “An estimation of worker and firm effects with censored data” (MS 1247)

This paper proposes an estimation method that enables the estimation of models with high dimensional fixed effects when the dependent variable is censored. The estimation procedure is an easily implementable least squares estimation method, faster than Tobit and feasible even in complex settings. The small sample performance of the proposed estimator is investigated in a Monte Carlo study. In addition, the authors provide an empirical application using censored wages from individual Social Security records.

My main comments are as follows:

Estimator In the context of panel data models with fixed effects, would it be possible to combine the FILS estimator with a bias-corrected version of the Tobit model as the one proposed by Jimenez Zambrano (2005)?

Monte Carlo study I am not sure whether having the simulation exercise in the case without fixed effects, in comparison with the model in subsection 5.1, adds much to the analysis. Similarly, I would suggest merging the two experiments in subsection 5.2, making only variations in some particular parameters (such as T) but keeping the other parameters fixed according to the calibration to the AKM model.

Empirical application

- I think the authors should clarify why they consider women together with men in their analysis (and this has to be done definitely before page 30). The sample of female full-time workers from the Spanish Longitudinal Live Sample (LWLS) may suffer a substantial selection bias, not only due to the labor market participation decision, but also due to the retrospective nature of the data used.
- I would also like to know why the estimation method proposed by (according to the text) “Carneiro et al. (2008) and Guimaraes et al. (2009)” is neither mentioned before page 24 nor used in the simulation exercises.
- Is the covariance term $Cov(\alpha_i, \beta_{ji})$ missing in the variance decomposition in equation (8) or is it omitted because the estimated correlation coefficient is close to zero?

Other minor comments

- **Abstract:** I suggest providing a more comprehensive summary of the empirical results in the abstract. For example, including the size of the bias when ignoring censoring in the estimation (saying that with the proposed estimator “firm and worker characteristics explain approximately 31% and 63% [in page 29, but 64% in page 30] of the observed wage dispersion, respectively, whereas

with the traditional approach, these figures increase to 42% for firm effects and decrease to 39% for individual effects” is much more informative).

- **Page 1, last line:** "good large sample properties" should be small sample performance.
- **Sorting assignment between workers and firms:** I think the reference to the literature in assortative matching is better placed in the introduction than in page 21 and page 28.
- **Page 4, equations in range (c):** U should be U_i .
- **Page 13, equation (2):** is it really needed that x_{it} would be exogenous? In a fixed-effects framework, they could be correlated with the α_i term, right?
- **Page 25, equation (7):** although in the empirical application T is 32 months, if the individual fixed effects are estimated by some bias (due to the finite time horizon), would not the $\hat{\eta}$ be also biased?
- **Page 27, table 9:** are the differences in coefficient estimates for the two alternative models statistically significant?
- Figure 3 is missing.
- **Page 27, correlation coefficient:** the change in the estimated correlation coefficient in the sample with firms that have at least 5 or 10 observed employees seems substantial (from -1.2% to positive). Have the authors tried other numbers?
- **List of references:** Abowd, J. & Woodcock, S. (2004) is not mentioned in the text. I only find Carneiro et al. (2008) in the list of references, which should be updated as Carneiro et al. (2012).

References

- [1] Jiménez Zambrano, Gabriel (2005), “Modified maximum likelihood estimation of tobit models with fixed effects: theory and an application to earnings equations”, *Investigaciones Económicas*, XXIX (3): 575-607.
- [2] Carneiro, Anabela, Paulo Guimarães, and Pedro Portugal (2012), “Real Wages and the Business Cycle: Accounting for Worker, Firm, and Job Title Heterogeneity”, *American Economic Journal: Macroeconomics*, 4(2): 133-52.