Selection Without Exclusion*

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Abstract

It is well understood that classical sample selection models are not semiparametrically identified without exclusion restrictions. Lee (2009) developed bounds for the parameters in a model that nests the semiparametric sample selection model. These bounds can be wide. In this paper, we investigate bounds that impose the full structure of a sample selection model with errors that are independent of the explanatory variables but have unknown distribution. We find that the additional structure in the classical sample selection model can significantly reduce the identified set for the parameters of interest. Specifically, we show that the identified set for the parameter vector of interest is a one-dimensional line-segment in the parameter space, and we demonstrate that this line segment can be short in principle as well as in practice. We also provide non-sharp bounds. We expect these to be easier to compute and likely to be associated with lower statistical uncertainty than the sharp bounds. Throughout the paper, we illustrate our approach by estimating a standard sample selection model for wages.

Key Word: Sample Selection, Exclusion Restrictions, Bounds.

JEL Code: C10, C14.

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