

Ordered probit models with anchoring vignettes.

Claudio Rossetti
Faculty of Economics
University of Rome “Tor Vergata”
claudio.rossetti@uniroma2.it

July 15, 2008

Abstract

This paper presents a new Stata command for estimation of ordered probit models with individual specific thresholds where anchoring vignettes are used to correct for differences in response scales. The analysis of ordered response data is very common in many research areas. Surveys in the social sciences very often have questions on individuals' subjective evaluations of their own situation or what they think about a certain aspect of society. Nevertheless, when respondents use the ordinal response categories of standard survey questions in different ways, the validity of analyses based on the resulting data can be biased. Anchoring vignettes is a survey design technique that may be used to position self-reported responses on a common, interpersonally comparable scale. The model presented here is a parametric ordered probit model for the self-assessments where the individual specific thresholds depend on the same set of covariates as in the ordered probit model for the responses to the vignettes (King et al., 2004). Furthermore, we allow for the possibility of controlling for unobserved heterogeneity in response scales by including a random individual effect in the thresholds. The model is estimated by maximum likelihood. The new Stata command presented here takes advantage of the new technology available in Stata 10. Specifically, the maximization routine is written in Mata, the matrix programming language of Stata, and the new Mata function `optimize()` is employed to maximize the likelihood function. This results in very fast convergence. After a brief description of the ordered probit models with individual specific thresholds and anchoring vignettes, we describe the new Stata command for fitting such models and present an empirical application.

Keywords: ordered response models, ordered probit, anchoring vignettes, reporting bias