# Estimating the price elasticity of beer: Meta-analysis of

**data with heterogeneity, dependence, and publication bias**

Jon P. Nelson\*

*Department of Economics, Pennsylvania State University, University Park, PA USA*

*E-mail: jpn@psu.edu*

ABSTRACT

Precise estimates of price elasticities are important for alcohol tax policy. Using meta-analysis, this paper corrects average beer elasticities for heterogeneity, dependence, and publication selection bias. A sample of 191 estimates is obtained from 114 primary studies. Simple and weighted means are reported. Dependence is addressed by restricting the number of estimates per study, author-restricted samples, and author-specific variables. Publication bias is addressed using a funnel graph, trim-and-fill, and Egger’s intercept model. Heterogeneity and selection bias are examined jointly in meta-regressions containing moderator variables for econometric methodology, primary data, and precision of estimates. Results for fixed- and random-effects regressions are reported. Country-specific effects and sample time period are unimportant, but several methodology variables help explain the dispersion of estimates. In models that correct for selection bias and heterogeneity, the average beer price elasticity is about -0.20, which is less elastic than values used in alcohol tax policy simulations.

*Keywords*: alcohol, prices, alcohol taxes, meta-analysis

*JEL classification*: I120, I100, C10, C590

**\***Correspondence at: 642 Glenn Rd, State College, PA 16803, United States. Tel.: +1-814-237-0157. *E-mail address*: jpn@psu.edu

The full version of the paper can be found at: <http://econ.la.psu.edu/papers/THE%20PRICE%20ELASTICITY%20OF%20BEER_2.pdf>