Journal of Econometrics 174 (2013) 44

Contents lists available at SciVerse ScienceDirect

Journal of Econometrics

journal homepage: www.elsevier.com/locate/jeconom

Corrigendum to "Elliptical Lorenz Curves" [J. Econom. 40 (1989) 327–338]

Melanie Krause [1]

Goethe University Frankfurt, Faculty of Economics and Business Administration, Germany

ARTICLE INFO

Article history:
Available online 23 January 2013

In their seminal Journal of Econometrics article, Villaseñor and Arnold (1989) propose the following triparametric elliptical Lorenz Curve

$$L(\pi, a, b, d) = \frac{1}{2}\left[-(b\pi + e) - \sqrt{\alpha\pi^2 + \beta\pi + e^2}\right] \tag{1}$$

where $e = -(a + b + d + 1)$, $\alpha = b^2 - 4a < 0$ and $\beta = 2be - 4d$.

In their Lemma 1 they put forward four necessary and sufficient parameter conditions so that the functional form (1) fulfills the requirements of a Lorenz Curve. As the last of these four conditions they state

$$a + d - 1 \leq 0. \tag{2}$$

However, this equation is wrong and has to read

$$a + d - 1 \geq 0. \tag{3}$$

This sign reversal can have far-reaching consequences: A functional form satisfying the incorrect equation (2) will not go through the point $(1, 1)$ and therefore not be a Lorenz Curve. One can prove that condition (3) follows directly from the requirement $L(1) = 1$:

$$L(1, a, b, d) = 1 \tag{4}$$

$$\frac{1}{2}\left[-(b \cdot 1 + e) - \sqrt{\alpha \cdot 1^2 + \beta \cdot 1 + e^2}\right] = 1 \tag{5}$$

$$\sqrt{(a + d - 1)^2} = a + d - 1 \tag{6}$$

$$a + d - 1 \geq 0. \tag{7}$$

Given the wide use of the elliptical Lorenz Curve and the proliferation of the incorrect condition (2) in papers citing the article, this corrigendum aims to draw attention to the mistake in order to avoid confusion.

DOI of original article: http://dx.doi.org/10.1016/0304-4076(89)90089-4.

E-mail address: melanie.krause@wiwi.uni-frankfurt.de.

[1] The author is grateful to Barry Arnold and José Villaseñor for their helpful correspondence.

0304-4076/$ – see front matter
doi:10.1016/j.jeconom.2013.01.001