

**Christian Kleiber and Samuel Kotz:
Statistical Size Distributions in Economics and Actuarial Sciences**

ERRATA

General: The numbering of the figures is *chapter.figure* throughout the text, but the legends of the figures themselves only contain chapter numbers in Chapters 2 and 7, not in Chapters 3–6.

p. ix: should state “October 2002”.

p. 14, eq. (1.15): φ should be θ .

p. 112. (4.6) should be $E(X) = \exp(\mu + \sigma^2/2)$.

p. 115: (4.16) should be $L(u) = \Phi[\Phi^{-1}(u) - \sigma]$ (not $\sigma^2!$). (thanks to Tobias Schoch)

p. 118, eqns (4.25) and (4.26): replace $\sum_{i=1}^n$ by $\sum_{j=1}^n$

p. 121, 2nd equation (no number): should be

$$L = \frac{I_X(\sigma) - I_N(\sigma)}{I_X(\sigma)} = 1 - \frac{\sigma^2}{2n} I_N(\sigma)$$

p. 124, line -7: $(2\pi)^{n/2}$ should be $(2\pi)^{k/2}$

p. 124, line -1: $r^\top \Sigma \mu$ should be $r^\top \Sigma r$

p. 125, line 2: σ_{ii}^2 should be σ_{ii}

p. 152, line 14. Inequalities should be $a \geq \frac{1}{2}$ and $a < \frac{1}{2}$, respectively.

p. 206, line 7: The formula for the Theil index is incorrect. (thanks to Florent Bresson)

There are at least 3 published versions of this formula:

McDonald, J.B. (1981). Some issues associated with the measurement of income inequality. *Statistical Distributions in Scientific Work*, 6, 161–179.

Schader, M. and Schmid, F. (1988). Zur Messung der Einkommenskonzentration aus gruppierten Daten. *Jahrbücher für Nationalökonomie und Statistik*, 204/5, 437–453.

Schmittlein, D.C. (1983). Some sampling properties of a model for income distribution. *Journal of Business and Economic Statistics*, 1, 147–153.

Only the version of Schader and Schmid (1988) is correct:

Rearranging gives

$$T(X) = E \left[\frac{X}{E(X)} \log \left(\frac{X}{E(X)} \right) \right] = \frac{E(X \log X)}{E(X)} - \log E(X)$$

Now

$$E(X) = \frac{bB(1 + 1/a, q - 1/a)}{B(1, q)} = \frac{b\Gamma(1 + 1/a)\Gamma(q - 1/a)}{\Gamma(q)}$$

and, specializing from Prudnikov et al. (1986, p. 489, formula 7),

$$E(X \log X) = \frac{q}{a} B \left(1 + \frac{1}{a}, q - \frac{1}{a} \right) \left[\psi \left(1 + \frac{1}{a} \right) - \psi \left(q - \frac{1}{a} \right) \right]$$

This yields, noting that b is irrelevant and that $B(1, q) = 1/q$,

$$T(X) = \frac{1}{a} \left[\psi \left(1 + \frac{1}{a} \right) - \psi \left(q - \frac{1}{a} \right) \right] - \log q - \log B \left(1 + \frac{1}{a}, q - \frac{1}{a} \right)$$

- p. 220, line 11: This should have been $x_0 = b\{[(1 - 1/\alpha)^{1/p} - 1]\}^{-1/a}$. (thanks to Pablo Mitnik)
- p. 222, lines 3-4: replace “does not do appreciably improve” by “does not appreciably improve”.
- p. 265, line 9: reference should be
Lorenz, Max Otto. In: *National Encyclopedia of American Biography*, Vol. 47 (1965), Clifton, NJ: J.T. White, p. 490.
- p. 280, line 6: Chotikapanich (1994) should be Chotikapanich (1993).
- p. 310, line -5: hyphenation (German) should be *National-ökonomie*.
- p. 311, line 12: replace “concentration measure” by “concentration index”.
- p. 311, line 14: replace “le cruve dil” by “le curve di”.
- p. 312, line 27: “distribution” (singular).
- p. 313, line 21: “on” should be “On”.