

Typographical errors found so far in Corbae, Stinchcombe, and Zeeman's *An Introduction to Mathematical Analysis for Economic Theory and Econometrics*

p. 7, there is an error that can be fixed in either of two ways:

First, “Another proof of Theorem 1.3.1” could be changed to “Another proof of Theorem 1.3.2.3” and then change all unions to intersections and vice versa in equations (1.2) and (1.3).

Second, change the right-hand side of (1.2) to $1_A + 1_B \cdot 1_C - 1_A \cdot 1_B \cdot 1_C$ and change the right-hand side of (1.3) to $[(1_A + 1_B) - 1_A \cdot 1_B] \cdot [(1_A + 1_C) - 1_A \cdot 1_C]$, and then expand these to show that they are equal. (This error arose because there are two distributive laws, and which one was being treated seems to have gotten lost in the ozone.)

p. 19, the left part of Figure 2.2.4, the part of the set C which is in A should also be shaded.

p. 20, the bottom part of Figure 2.2.6, the part of the set C which is in A but not in B should also be shaded.

p. 34, Theorem 2.6.4, part 5, the inclusion should be reversed, that is, “ $f(E\Delta F) \subset f(E)\Delta f(F)$ ” should be that is, “ $f(E\Delta F) \supset f(E)\Delta f(F)$ ”.

p. 41, the line just above Exercise 2.7.10, “ $x \succ x$ if $x \succsim y$ and $\neg(y \succsim x)$ ” should be “ $x \succ y$ if $x \succsim y$ and $\neg(y \succsim x)$ ”.

p. 82, Exercise 3.3.31, “Show that the extension $f : \mathbb{R} \rightarrow \mathbb{R}$ by $f([x_n]) = [f(x_n)]$ ” should be “Show that the extension $f : \mathbb{R} \rightarrow \mathbb{R}$ defined by $f([x_n]) = [f(x_n)]$ ”. Also, “ $f(x_n) \sim f(y_n)$ ” should be “ $f(x_n) \sim_{\mathcal{C}} f(y_n)$ ”.

p. 87, second to bottom line, in footnote 4, “ pi ” should be replaced by π .

p. 88, Exercise 3.5.3 should be replaced more or less entirely with the following:

Exercise 3.5.3 Define $s_N = \sum_{n=0}^N \frac{1}{n!}$ where, as above, $0! := 1$, $1! := 1$, and $n! := n \cdot (n-1) \cdots 1$ for $n \geq 2$.

1. Give an M such that for all $m \geq M$, $\frac{1/(m+1)!}{1/m!} < \frac{1}{2}$.
2. Show that s_N is a Cauchy sequence. (We denote its limit by e .)
3. For $x \in \mathbb{R}$, define $r_N = \sum_{n=0}^N \frac{x^n}{n!}$. Show that for any x , there exists an M such that for all $m \geq M$, $\frac{|x/(m+1)!|}{|x/m!|} < \frac{1}{2}$.
4. Show that r_N is a Cauchy sequence. (We denote its limit by e^x .)

p. 100, fourth line from the top and the bottom line, “for any $n \in \mathbb{N}$, $\lim_{x \rightarrow \infty} x^n e^x = 0$ ” should be “for any $n \in \mathbb{N}$, $\lim_{x \rightarrow \infty} x^n / e^x = 0$ ”.

p. 116-7, Exercise 4.3.6, “Show that for all $\mathbf{x}, \mathbf{y} \in \mathbb{R}^\ell$, the following are equivalent:” should be “Show that for all $\mathbf{x}, \mathbf{y} \in \mathbb{R}^\ell$ and $r \geq 0$, the following are equivalent:”

p. 120, Lemma 4.4.2, the “ ℓ^2 ” should be “ ℓ ”.

p. 122-123, Example 4.4.11, “ $A = \mathbf{a} + M$ is a contraction mapping iff $|\alpha| < 1$ and $|\beta| < 1$ ” should be “ $A = \mathbf{a} + M$ is a contraction mapping if $|\alpha| < 1$ and $|\beta| < 1$ ”.

p. 123, Exercise 4.4.13, “Give conditions on M guaranteeing that this is a contraction mapping” should be “Give conditions on M guaranteeing that M applied twice is a contraction mapping”.

p. 126, at the end of the first line of $(4) \Leftrightarrow (5)$, “ini” should be “in”.

p. 179, Theorem 5.1.27, “then $\sum_i |\beta_i|^2 \leq \|\mathbf{x}\|$ ” should be “then $\sum_i |\beta_i|^2 \leq \|\mathbf{x}\|^2$ ” (as at the end of the first paragraph of the proof below).

p. 200, Example 5.6.4, “ $\text{epi}(\min\{f, g\}) = \text{epi}(f) \cap \text{epi}(g)$ ” should be “ $\text{sub}(\min\{f, g\}) = \text{sub}(f) \cap \text{sub}(g)$ ”.

p. 219, line directly above displayed equation (5.8), “ $L = 2$ ” should be “ $\ell = 2$ ”.