

Errata for *Lectures on Stochastic Programming*

Page 6. It is assumed in (1.15) that the cdf $H(\cdot)$ is continuous.

Page 9. In the first linear programming problem, the second part of the object function: the index of j is from 1 to m , instead of n .

Page 25, Ex. 1.10, the optimal value function $Q_t(W_t)$ is concave in W_t , instead of convex.

Page 40, In the fourth line of the statement of Theorem 2.11: replace $\mathfrak{D}(x, \xi(w))$ by $\mathfrak{D}(\bar{x}, \xi(w))$.

In the proof of the same theorem, above the equation (2.41) in the phrase “Using the characterization of the subdifferential of $\phi(\cdot)$ given in (2.8)”: (2.8) should be (2.34).

Right above (2.41), replace $\mathfrak{D}(x_0, \xi(w))$ by $\mathfrak{D}(\bar{x}, \xi(w))$.

Page 134, two lines below (4.75), in the formula for $\nabla_z x(z)$ (the gradient of $x(z)$ at z) the two subscripts x and z are switched. That is, the formula should be

$$\nabla_z x(z) = -\frac{\nabla_z g(x, z)}{\nabla_x g(x, z)}.$$

Theorem 4.56 on p. 115 should read:

Assume that P_Z has a continuous density $\theta(\cdot)$ and the functions

$t_i \mapsto \int_{-\infty}^{z_1} \dots \int_{-\infty}^{z_{i-1}} \int_{-\infty}^{z_{i+1}} \dots \int_{-\infty}^{z_s} \theta(t_1, \dots, t_i, \dots, t_s) dt_1 \dots dt_{i-1} dt_{i+1} \dots dt_s$ are continuous for all $z \in \mathbb{R}^s$. Then the distribution function F_Z is continuously differentiable.

Page 115, line 8 from below: substitute “continuity of the one-dimensional marginal function F_{Z_1} .” by “continuity assumptions.”

Page 152 in Exercise 4.9 two terms are missing in the function under the probability. The inequality should be

$$x_1^2 + x_2^2 + Yx_2 + x_2x_3 + Yx_3 + Y^2 + x_3^2 \leq Z$$

Page 153, Ex. 4.12 (b),(c). Replace $i = 1, \dots, m$ with $i = 1, \dots, n$.

Page 185, third line above section 5.3.2. Replace $\psi^*(z) = a|z| - a^2\sigma^2$ with $\psi^*(z) = a|z| - a^2\sigma^2/2$.

Page 264. In Proposition 6.7 it should be added the assumption that ρ is lower semicontinuous. This will imply that the corresponding level sets are closed and hence Baire’s lemma can be applied.

Page 286, line 2. Replace “As before, we use space $\mathcal{Z} = \mathcal{L}_p(\Omega, \mathcal{F}, P)$, where $P \dots$ ” with “As before, we use space $\mathcal{Z} = \mathcal{L}_p(\Omega, \mathcal{F}, P)$, $p \in [1, \infty)$, where $P \dots$ ” (the function $\varphi_\rho(t)$ can be discontinuous for $p = \infty$).

Page 299, line 6. Replace “ $\rho(\xi_1) > \rho(\xi_2)$ ” with “ $\rho(-\xi_1) > \rho(-\xi_2)$ ”.

Page 301, eq. (6.185). Replace Z with $Y \sim \mathcal{N}(0, \gamma^2)$.

page 302. In equation (6.191) replace the second line with $z + c[z - t]_+ + c(1 - \gamma)(t - z)$.

Page 304, eq. (6.205). Replace $\sum_{j=1}^N \mathfrak{F}'(P, \Delta(z) - P)$ with $\mathfrak{F}'(P, \Delta(z) - P)$.

Page 305, equation below (6.207). Replace $\mathfrak{F}(P + t(Q - P)) - \mathfrak{F}(p)$ with $\mathfrak{F}(P + t(Q - P))$.

Page 311, line 4 from the bottom. It should be $f_t : \mathbb{R}^{n_t} \times \Omega \rightarrow \mathbb{R}$.

Page 317. Replace eq. (6.258) with: “ $\mathbb{E}_{\mu_i}[Z|\mathcal{F}_1](\omega) = \int_{A_i} Z \zeta_i dP$ if $\omega \in A_i$, and we will set this to $-\infty$ if $\omega \notin A_i$ ”.

Page 331, line 7. Replace “ $\bar{H}(z) = \max\{\alpha^{-1}H^*(z), 1\}$ ” with “ $\bar{H}(z) = \min\{\alpha^{-1}H^*(z), 1\}$ ”.

Page 331, last line equation (6.329) – should be $\Pr\{\dots\} \geq 1 - \alpha$. The same in last line of equation (6.330).

Page 362, in lines 11-12 of the proof of Theorem 7.32 replace a with α , i.e., it should be $\int f d\mu \leq \alpha f(\omega)$, ...

Page 405. In Proposition 7.80 it should be $f : \mathbb{R}^m \times \Omega \rightarrow \bar{\mathbb{R}}$, i.e., $f(x, \omega)$ is an extended real valued function.