

Errata in the second edition of
Stochastic Finance: An Introduction in Discrete Time
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July 22, 2011

page 10, second display: replace $\frac{d\tilde{P}^*}{dP}$ by $\frac{d\tilde{P}^*}{dP^*}$

page 11, third display: add minus signs to the right-hand sides of the equations

page 17, line 5: the risk-free investment should be $(1 + \tilde{r})/(1 + r)$ instead of 1

page 20, last display in the proof of Theorem 1.31: replace $\pi_{\text{sup}}(C)$ by m_n

page 21, line 8 in the proof of Corollary 1.34: define ξ^0 by $\xi^0 := \pi \cdot \xi - \pi_{\text{inf}}(C)$

page 41, lines -8 and -13: replace $L^0(\omega, \mathcal{F}_0, P; \mathbb{R}^d)$ by $L^0(\Omega, \mathcal{F}_0, P; \mathbb{R}^d)$

page 41, line -9: let ζ_n be any fixed vector of length one when $|\xi_n| = 0$

page 56, in Example 2.26: take $U(\mu)$ as $\lim_k k^2 \mu(k)$ and let \mathcal{M} be those μ for which this limit exists in \mathbb{R}

page 77, lines 10 to 12: replace $h(b)$ by $h(b)\mu((-\infty, b])$ in lines 10 and 11. In line 12, we must thus add the term $h(b)(\mu((-\infty, b]) - \nu((-\infty, b]))$. This term tends to zero as $b \uparrow \infty$, because $h(b)$ decays at most linearly as $b \uparrow \infty$, and both μ and ν have first moments.

page 120, last display in Example 3.23: replace $\dots + \frac{\sigma^2}{\sigma^2}$ by $\dots + \frac{\tilde{\sigma}^2}{\sigma^2}$

page 157, last line in the proof of (c): replace $\lambda \geq 0$ by $\lambda > 0$

page 150, line 17: replace $\frac{E[\varphi]}{\varphi_0}$ by $\frac{\varphi_0}{E[\varphi]}$

page 163, line -1: swap \mathcal{A} and \mathcal{A}_p

page 170, third displayed eqn.: replace $\inf_{Q \in \tilde{\Lambda}_c}$ by $\inf_{Q \in \Lambda_c}$

page 182, (4.38): replace $q_\lambda^+(X)$ by $q_X^+(\lambda)$

page 185, first display in Example 4.56: replace x_0 by $-c$

page 188, line 1: By cash invariance, we may assume without loss of generality that $X > 0$

page 189, line 9: Remark ?? should be Example 4.13

page 193, line -7: By cash invariance, we may assume without loss of generality that $X \geq 0$

page 204, first line in Proposition 4.93: replace \mathbb{R}^d by \mathbb{R}

page 205, Theorem 4.95: Add the assumption that the cone generated by \mathcal{S} is closed (compare comment on Theorem 9.9 below)

page 207: replace the identity in (4.59) by $\{\bar{\rho} < 0\} \subseteq \{X^S + A \mid X^S \in \mathcal{A}^S, A \in \mathcal{A}\} \subseteq \bar{\mathcal{A}}$. In the following line replace $X \in \bar{\mathcal{A}}$ by $\bar{\rho}(X) < 0$. Three lines below (4.59) replace $X^S + A + \xi \cdot Y \geq X \in \mathcal{A}$ by $X^S + A + \xi \cdot Y \geq A \in \mathcal{A}$.

page 209, last line in the proof of Proposition 4.99: replace $E_{R^*}[Y]$ by $E_{R^*}[V]$

page 213, last two lines: replace $-\log x_0$ by $+\log x_0$

page 228, line -14: replace (b) by (5.8)

page 252, line -1: Write $(1 + r)$ instead of $(1 + r)^t$

page 257, lines -1 and -6: replace $E^*((S_T - \tilde{K})^+; S_T < B)$ by $E^*((S_T - \tilde{K})^+; S_T < \tilde{B})$, where $\tilde{B} := S_0^2/B$

page 258, line -10: replace $E^*((S_T - \tilde{K})^+; S_T < B)$ by $E^*((S_T - \tilde{K})^+; S_T < \tilde{B})$, where $\tilde{B} = S_0^2/B$

page 263, line -3: the right-hand side of the display must be divided by $\sqrt{2\pi}$

page 264, line 3: $\Phi(x) = (2\pi)^{-1/2} \int_{-\infty}^x \dots$

pages 274 and 275, Example 5.63: In the third line of the display in the middle of p. 274 and in the first display on p. 275, replace B by $\tilde{B} = S_0^2/B$. The display in the middle of p. 275 should be corrected as follows:

$$e^{-rT} \left(\mathbb{E}[(S_T - K)^+; S_T \geq B] + \left(\frac{B}{S_0}\right)^{\frac{2r}{\sigma^2}+1} \mathbb{E}[(S_T - \tilde{K})^+; S_T < \tilde{B}] \right).$$

page 286, lines -6: replace T by $T - 1$

page 291, line 12: the display should read $K/(1+b)^T \leq x^* < K$

page 295, line -1: replace $=$ by \supset . This does not effect the subsequent arguments since a priori $\Pi(H) \subseteq [1, 2)$, due to the definition of $\Pi(H)$.

page 297, line 4 of Section 6.4: replace (6.17) by (6.19)

page 325, line 3 in the proof of Lemma 7.24: replace $=$ by \geq

page 331, line 4 in the proof of Theorem 7.31: delete "both sides are equal"

page 353, Theorem 9.9: As was kindly pointed out to us by Konstantinos Kardaras and Sven Lickfeld, we need to add the assumption that for each t , $\hat{\mathcal{R}}_t \cap L^\infty(\Omega, \mathcal{F}_t, P; \mathbb{R}^d) \subset \mathcal{R}_t$, where $\hat{\mathcal{R}}_t$ is the L^0 -closure of \mathcal{R}_t . (which is automatically satisfied if \mathcal{R}_t is itself closed in L^0 . In turn, \mathcal{R}_t is closed in L^0 as soon as \mathcal{S}_t is itself a cone). This assumption is needed for the applicability of Lemma 9.12 in the proof of Lemma 9.13.

page 355, Lemma 9.13: Add the assumption that $\hat{\mathcal{R}}_t \cap L^\infty(\Omega, \mathcal{F}_t, P; \mathbb{R}^d) \subset \mathcal{R}_t$ (compare comment on Thm. 9.9 above).

page 355, line -11: replace \mathcal{F}_T by \mathcal{F}_t and replace $-L_+^0$ by $-L_+^\infty$ in the next line

page 362, line -3: Assume $\mathcal{P}_S \neq \emptyset$, which is stronger than the assumption that $\bar{\mathcal{S}}$ does not contain arbitrage opportunities (compare comment on Thm. 9.9 above).

page 371, Corollary 9.30: Add the assumption that $\hat{\mathcal{R}}_t \cap L^\infty(\Omega, \mathcal{F}_t, P; \mathbb{R}^d) \subset \mathcal{R}_t$ (compare comment on Thm. 9.9 above).

page 391, Proposition 10.34: Recall that we work in $d = 1$

page 392, line 11: replace \tilde{V}_t by \hat{V}_t

page 396, line -3: replace $+G_T(\xi^*)$ by $-G_T(\xi^*)$

page 398, line 6: replace $+G_T(\xi^*)$ by $-G_T(\xi^*)$

page 407, line 5 in the proof of Lemma A.15: replace $\varepsilon < 0$ by $\varepsilon > 0$

page 409, line 5 in the proof of Lemma A.21: replace $F(t)$ by $F_X(t)$

page 414, line 11: replace B^c by $B^c \cap \{X_1 = x_1, \dots, X_n = x_n\}$

page 425, Theorem A.48: add the assumption that \mathcal{L} contains the constants

Acknowledgement: We thank Aurélien Alfonsi, Günter Baigge, Julia Brettschneider, Patrick Cheridito, Samuel Drapeau, Maren Eckhoff, Karl-Theodor Eisele, Damir Filipovic, Timo Hirscher, Zicheng Hong, Kostas Kardaras, Thomas Knispel, Gesine Koch, Heinz König, Volker Krätschmer, Christoph Kühn, Michael Kupper, Mourad Lazgham, Sven Lickfeld, Mareike Massow, Irina Penner, Ernst Presman, Michael Scheutzow, Melvin Sim, Alla Slynko, Stephan Sturm, Gregor Svindland, Long Teng, Florian Werner, Wiebke Wittmüß, and Lei Wu. Special thanks are due to Yuliya Mishura and Georgiy Shevchenko, our translators for the Russian edition.