Errata in
Term-Structure Models. A Graduate Course*

Damir Filipović
19 December 2016

• page 1, line 17: replace investment strategy by investment strategy with zero initial cost
• page 5, line 3: replace basis by basic
• page 8, line -5: replace $e^{0.04} - 1.04081$ by $e^{0.04} - 1.04$
• page 17, line -1: replace $(m_2 - m_1 - 1)^+ / 12$ by $m_2 - m_1 - 1 / 12$
• page 37, line 7: replace $19 \times 47$ by $19 \times 43$
• page 38, line 4: replace linear optimization by least-squares
• page 39, line -6: replace linear optimization by least-squares
• page 47, line 8: replace $\alpha_k$ by $a_k$
• page 49, line 15: replace optimization by least-squares
• page 50, Table 3.4, third row: replace sp by wp
• page 52, line -3: replace Principle by Principal
• page 61, line 8: replace $\int_0^t \rho'(s) ds$ by $\int_0^t \rho'(s) dW(s)$
• page 81, line 2: replace $(t_0, r_0) \in \mathbb{Z}$ by $(t_0, r_0) \in \mathbb{R}_+ \times \mathbb{Z}$
• page 84, Proposition 5.2: insert the initial sentence “Assume $M$ given in Lemma 5.1 is a true martingale.”

*I thank Shadi Akiki (EPFL), Kristian Buchardt (University of Copenhagen), Hans Bühlmann (ETH Zurich), Mathieu Cambou (EPFL), Zehra Eksi (Vienna Institute of Finance), Ayca Gonenc (EPFL), Ole Martin (University of Kiel), Manuel Mayer (Vienna Graduate School of Finance), Martin Keller-Ressel (TU Berlin), Antonis Papapantoleon (TU Berlin), Gregor Svindland (EPFL), Stefan Tappe (ETH Zurich), Ubbo Wiersema (University of Reading), and Sander Willems (EPFL) for contributing to this list.
• page 91, line -6: replace $\sum_{i=1}^{n}$ by $\sum_{i=1}^{d}$
• page 108, line 15: replace $P(t,T)$ by $P(u,T)$
• page 102, line -7: replace $dW(t)$ by $dW^{*}(t)$
• page 118, line 8: replace $F(t;T,Y) - F(t+\Delta t;T,Y)$ by $F(t+\Delta t;T,Y) - F(t;T,Y)$
• page 121, lines 6 and 7: replace $E_t(\mu \cdot W^{*})$ by $E_t(-\mu \cdot W^{*})$
• page 126, line -7: replace “one and only” by “at most”
• page 127, line -3: replace is by in
• page 144, line -4: replace $dM(t)$ by $\frac{dM(t)}{M(t)}$
• page 145, line 23: replace $K \times K^{d}$ by $K^{d}$
• page 147, line -1, and page 148, line 2: replace $\alpha(x)$ by $a(x)$
• page 153, line -12: replace (10.12) by (10.14)
• page 156, line -8: replace $E$ by $E_{Q^{T}}$
• page 161, line 7: replace
\[
\left(e^{-A(S-T)-B(S-T)^{\top}x-K}\right)^{+} = \frac{1}{2\pi} \int_{\mathbb{R}} e^{-(w+i\lambda)B(S-T)^{\top}x} \tilde{f}(w,\lambda) d\lambda
\]
by
\[
\left(e^{-A(S-T)-B(S-T)^{\top}x-K}\right)^{+} = \int_{\mathbb{R}} e^{-(w+i\lambda)B(S-T)^{\top}x} \tilde{f}(w,\lambda) d\lambda
\]
• page 162, line -3: replace $-\frac{w}{\beta^{2}}(e^{2\beta t} - 2e^{\beta t} + 2\beta)$ by $-\frac{w}{\beta^{2}}(e^{2\beta t} - 2e^{\beta t} + 1)$
• page 165, line -11: replace $w \to +\infty$ by $w \to -\infty$
• page 167, line 13: in view of Theorem 10.3(a) and Lemma 10.12(b)
• page 167, line -10: replace $S$ by $S$ after discounting
• page 170, line -11: replace $D$ by $\Lambda$
• page 180, line 14: replace “for $C(t) \equiv 0$” by “for $B(t) \equiv B$ and $C(t) \equiv 0$”
• page 181, line 18: delete below
• page 182, line 1: replace (10.50) by (10.49)
• page 189, line 7: replace $X(T)$ by $\frac{X(T)}{T-t}$
- page 190, line 10: replace $e^{-\frac{2\beta}{\sigma^2}}$ by $e^{-\frac{\beta x}{\sigma^2}}$

- page 203, line -9: replace $T_m$-bond discounted $T_m$-contingent claim by $T_m$-forward

- page 211, line -8: replace $\sqrt{\sum_{j=1}^{K} (\Pi(j) - \Pi) K(K-1)}$ by $\sqrt{\sum_{j=1}^{K} (\Pi(j) - \Pi)^2 K(K-1)}$

- page 218: replace Figure 11.3 by Figure 1

Figure 1: Revised Figure 11.3: the dashed lines are new.

- page 218, line 6 (below Figure 11.3): add to “based on the analytic approximation formula (11.14) for the implied swaption volatility” the sentences “computed as if the underlying swap had semianual coupon payments at $T_9 = 4.5, \ldots, T_{20} = 10$ and for the respective at-the-money strike rate. Alternative adjustments of the analytic approximation for swaptions with annual coupon payments are given in Brigo and Mercurio [27, Sect. 6.20].”

- page 218, line 14 (below Figure 11.3): replace “We also see that the approximation differs from the true values by [\ldots], respectively.” by “We also see that the approximation differs from the true values by order of less than 10 bp.”
• page 222, Exercise 11.7 (d): add to “Compute this swaption price using […] Black’s swaption pricing formula” the sentence “computed as if the underlying swap had semiannual coupon payments at $T_9 = 4.5, \ldots, T_{20} = 10$ and for the respective at-the-money strike rate.”