Errata for
Stochastic Calculus for Finance I:
The Binomial Asset Pricing Model
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Page XV, line 2. Insert the word "and" between "finance" and "is," so that the line becomes:

damental for quantitative finance and is essential for reading the later chapters.

Page XV, line 5. Replace *Early Exercise* with *American Derivative Securities*.

Page 5, lines 23–24. Replace the sentence, "Sometimes the bid-ask spread can be ignored because not too much trading is taking place," with the sentence, "Often the bid-ask spread can be ignored because it is small and the amount of trading required by the replicating portfolio also is small."

Page 12, equation (1.2.18). The argument ω_n in V_N should be ω_N, so that the equation becomes:

$$X_N(\omega_1\omega_2\dots\omega_N) = V_N(\omega_1\omega_2\dots\omega_N) \text{ for all } \omega_1\omega_2\dots\omega_N. \tag{1.2.18}$$

Page 40, line 17. Replace "then" with "than," so that the line becomes:

portfolio processes are riskier than others under the risk-neutral measure, they

Page 41, line 6 from bottom. Replace $\mathbb{E}_n$ with $\widetilde{\mathbb{E}}_n$ in two places, so that the equation becomes:

$$\frac{X_n}{(1+r)^n} = \widetilde{\mathbb{E}}_n\left[\frac{X_N}{(1+r)^N}\right] = \widetilde{\mathbb{E}}_n\left[\frac{V_N}{(1+r)^N}\right]. \tag{2.4.9}$$

Page 43, line 8. The superscript $(n-k)$ in the expression at the end of the line should be $(k-n)$, so that the expression becomes:

$$\widetilde{\mathbb{E}}_n\left[\frac{C_k}{(1+r)^{(k-n)}}\right].$$

Page 47, line 10 from bottom. There is a right parenthesis missing in the equation in this line. The equation should be $\mathbb{E}_n[f(S_{n+1})] = g(S_n)$.

Page 47, last line. The subscript N should be n in two places, so that the equation becomes:

$$\mathbb{E}_n\big[f(X,Y)\big](\omega_1\dots\omega_n) = g\big(X(\omega_1\dots\omega_n)\big). \qquad \square$$

Page 56, line 6. Replace E_n by $\mathbb{E}_n$, so that the equation becomes:

$$\mathbb{E}_n\big[f(I_{n+1})\big] = g(I_n).$$

Page 66, lines 3–5 from bottom. The subscript (in one case a superscript) shown on the last Z random variable in each of these lines is wrong. There is a second Z with an incorrect subscript in line 3 from the bottom. The equations should be

$$\begin{aligned} Z_2(HT) &= \tfrac{2}{3}Z_3(HTH) + \tfrac{1}{3}Z_3(HTT) = \tfrac{9}{8}, \\ Z_2(TH) &= \tfrac{2}{3}Z_3(THH) + \tfrac{1}{3}Z_3(THT) = \tfrac{9}{8}, \\ Z_2(TT) &= \tfrac{2}{3}Z_3(TTH) + \tfrac{1}{3}Z_3(TTT) = \tfrac{9}{4}. \end{aligned}$$

The first equation in this display, line 6 from the bottom, is correct.

Page 67, line 2 from bottom. Replace $E[ZY]$ with $\mathbb{E}[ZY]$.

Page 85, line 13 from bottom. Replace "Exercise 2.6(ii)" with "Exercise 2.9(ii)."

Page 86, line 18. Replace the equation $y = I(x)$ with $x = I(y)$.

Page 86, line 22. Replace (3.3.19) with (3.3.19)′.

Page 89, line 6. Change "to not" to "not to," so that the line becomes:

> date, or not to exercise at all, is called *American*. Because of this early exercise

Page 101, line 3 from bottom. Change sup to max, so the equation becomes:

$$V_N = \max_{\tau \in \mathcal{S}_N} \mathbb{I}_{\{\tau \le N\}} \frac{1}{(1+r)^{\tau - N}} G_\tau.$$

Page 102, line 5 from bottom. Replace "(exercise at time one in the case of HT)" to "(exercise at time two in the case of HT)."

Page 151, line 11 from bottom. Change positions to position, so that the line becomes

> coupon bond maturing at time $n+1$, multiplied by the position taken in this

Page 151, line 8 from bottom. Change position to positions, so that the line becomes:

> positions taken in these bonds at time n and held to $n+1$. The second factor

Page 152, line 5. Replace $\mathbb{E}_n$ by $\widetilde{\mathbb{E}}_n$ at two places in this line, so that the line becomes:

$$\widetilde{\mathbb{E}}_n[X_{n+1}] = \Delta_{n,n+1} + \sum_{m=n+2}^{N} \Delta_{n,m} \widetilde{\mathbb{E}}_n[B_{n+1,m}]$$

Page 152, line 7. Replace $\mathbb{E}_n$ by $\widetilde{\mathbb{E}}_n$ in this line, so that the line becomes:

$$= \Delta_{n,n+1} + \sum_{m=n+2}^{N} \frac{\Delta_{n,m}}{D_{n+1}} \widetilde{\mathbb{E}}_n[D_{n+1} B_{n+1,m}]$$

Page 153, line 8 from bottom. Before C_1 insert the text:

C_0 zero-coupon bonds maturing at time 0,

so that the line becomes:

we may regard a coupon-paying bond as a sum of C_0 zero-coupon bonds maturing at time 0, C_1 zero-coupon bonds

Page 175, line 12 from bottom. Change S_n to S_m, so that the line becomes:

futures price is $\mathrm{Fut}_{n,m} = \widetilde{\mathbb{E}}_n[S_m]$.