

# Interest Theory Errata

(Updated on 8/15/2018)

## Chapter 8

Page 116. The first line of Key Concept 8.10 should refer to an annuity-due, not an annuity-immediate. The first portion of corrected first line is, "The present value at time 0 of an increasing perpetuity-**due** that pays  $P_0$  at time 0, ..."

## Chapter 9

Page 129. In the middle of page 129, the bullet points do not appear. The corrected version appears below:

... confuse them. The example uses the second bullet point below:

- $v$  is the discount factor for one time unit,  $v = \frac{1}{1+i}$
- $v$  is used when integrating by parts.

## Chapter 11

Page 158. Choice B of Question 11.05 should be 1,558, not 1,557.

## Chapter 14

Pages 205-209, 211-213, and 218-222. The summations of the present values of the cash flows should include any cash flows occurring at time 0. Therefore, the expression  $>$  should be replaced by  $\geq$  in the summations. For example, the expression in Key Concept 14.01 should be:

$$MacD = -\frac{P'(r)}{P(r)} = \frac{\sum_{t \geq 0} [t \times PV_0(CF_t)]}{\sum_{t \geq 0} PV_0(CF_t)}$$

Page 209. The derivation of the Macaulay duration of a par bond, which appears at the top of page 209, contains an error. The corrected version is shown below:

$$\begin{aligned} MacD &= \frac{\sum_{t \geq 0} [t \times PV_0(CF_t)]}{\sum_{t \geq 0} PV_0(CF_t)} = \frac{\frac{Coup}{m} \times (Ia)_{\overline{nm}|} \frac{y^{(m)}}{m} + nRv^n}{m \times Coup \times a_{\overline{n}|}^{(m)} + Rv^n} \\ &= \frac{F \times \frac{y^{(m)}}{m^2} \times (Ia)_{\overline{nm}|} \frac{y^{(m)}}{m} + nFv^n}{F} = \frac{y^{(m)}}{m^2} \times (Ia)_{\overline{nm}|} \frac{y^{(m)}}{m} + nv^n \\ &= \frac{y^{(m)}}{m^2} \times \frac{\ddot{a}_{\overline{nm}|} \frac{y^{(m)}}{m} - nmv^n}{\frac{y^{(m)}}{m}} + nv^n = \frac{1}{m} \times \left[ \ddot{a}_{\overline{nm}|} \frac{y^{(m)}}{m} - nmv^n \right] + nv^n \\ &= \frac{1}{m} \times \ddot{a}_{\overline{nm}|} \frac{y^{(m)}}{m} = \ddot{a}_{\overline{n}|}^{(m)} \end{aligned}$$

## Chapter 16

On page 266, in Example 16.15, the subscripts and exponents in the final portion of the solution are incorrect, causing the numeric solution to be incorrect as well. The corrected version is:

The annual effective forward rate is:

$$f_{10} = \frac{(1 + s_{11})^{10}}{(1 + s_{10})^{10}} - 1 = \frac{1.1052^{11}}{1.0938^{10}} - 1 = 0.2255$$

The forward rate, compounded twice per year, is:

$$(1.2255^{0.5} - 1) \times 2 = \mathbf{0.2141}$$

## Chapter 17

On page 288, in Question 17.10, the sentence preceding the second table should refer to the spot rates, not the swap rates. The corrected version is, "The new **spot** rates are shown in the table below:"