Corrections below are in bold, and new corrections will be shown in red; page numbers shown are for the print volumes.

The short scale method of numeration is used in the CFA Program curriculum. A billion is $10^9$ and a trillion is $10^{12}$. This is in contrast to the long scale method where a billion is 1 million squared and a trillion is 1 million cubed. The short scale method of numeration is the prevalent method internationally and in the finance industry.

### Volume 2

**Reading 8**

- In the lesson “Uses of Options in Portfolio Management,” Scenario 3 and 4 immediately before Exhibit 39 (page 63 of print), should read as follows:

  Scenario 3: The Euro Stoxx 50 index has decreased and is trading at 3000. Dubois must pay €500 ($€3,500 - €3,000$) to settle the (short) three-month put option at expiration. The (long) put option with three months remaining to expiration is deep in the money and, assuming volatility is still unchanged and €15 of Time Value, it is worth €515 (given by Intrinsic Value of €500 + €15 of Time Value). If Dubois sells this put to a dealer, she will lose €39 (= €515 − €500 − €54) on the put calendar spread.

  Scenario 4: The Euro Stoxx 50 has decreased and is trading at 3000, and the implied volatility has significantly increased. Dubois must pay €500 ($€3,500 - €3,000$) to settle the (short) three-month put option at expiration. The (long) put option with three months remaining to expiration is deep in the money and, assuming volatility has increased and €30 of Time Value, it is worth €530 (given by Intrinsic Value of €500 + €30 of Time Value). If Dubois sells this put to a dealer, she will realize a loss of €24 (= €530 − €500 − €54) on the put calendar spread. Exhibit 39 adds the profit and loss diagram for the calendar spread at the time of the expiration of the three-month put, assuming that implied volatility of the six-month put has significantly increased.

**Reading 10**

- The first sentence of Practice Problem 34 (page 220 of print) should read, “Calculate the net cash flow (in euros) as of today to maintain the desired hedge.” The Solution (page 234 of print) should read:
When hedging one month ago, Delgado would have sold USD2,500,000 one month forward against the euro.

To calculate the net cash flow (in euros) today, the following steps are necessary:

1. Sell USD2,500,000 at the one-month forward rate stated in the forward contract. Selling US dollars against the euro means buying euros, which is the base currency in the USD/EUR forward rate. Therefore, the offer side of the market must be used to calculate the inflow in euros.

   All-in forward rate = 0.8914 + (30/10,000) = 0.8944
   USD2,500,000 / 0.8944 = EUR 2,795,169.95

2. Buy USD2,500,000 at the spot rate to offset the USD sold in Step 1 above. Buying the US dollar against the euro means selling euros, which is the base currency in the USD/EUR spot rate. Therefore, the bid side of the market must be used to calculate the inflow in euros.

   USD2,500,000 / 0.8875 = EUR2,816,901.41

3. Therefore, the net cash flow is equal to EUR 2,795,169.95– EUR2,816,901.41, which is equal to a net outflow of EUR21,731.46.

   To maintain the desired hedge, Delgado will then enter into a new forward contract to sell the USD2,650,000. There will be no additional cash flow today arising from the new forward contract.

---

**Reading 11**

- Equation 7 (page 259 of print) should read,

   \[ E(Δ\text{Price based on investor's view of yield spreads}) = (− \text{ModSpreadDur} × Δ\text{Spread}) + \left[\frac{1}{2} × \text{Convexity} × (Δ\text{Spread})^2\right] \]

- In Example 4, Exhibit 11 (page 260 of print), the current average bond price should be £97.11.

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**Volume 3**

**Reading 13**

- In Section 3.1 (page 14 of print), fifth sentence of the third paragraph should read, “The rolling yield return component of Equation 1 (sometimes referred to as “carry-rolldown”) incorporates not only coupon income (adjusted over time for any price difference from par) but also additional return from the passage of time and the investor’s ability to sell the shorter-maturity bond in the future at a higher price (lower yield-to-maturity due to the upward-sloping yield curve) at the end of the investment horizon.”
• Exhibit 24 (page 34 of print) should read as follows:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
<th>Targeted Return</th>
<th>Portfolio Duration Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long bond call option</td>
<td>Purchase right to take forward bond delivery</td>
<td>Max (Bond price at lower yield − Strike price, 0) − Call premium</td>
<td>Increase portfolio duration and convexity (up-front premium)</td>
</tr>
<tr>
<td>Long bond put option</td>
<td>Purchase right to deliver bond in the future</td>
<td>Max (Strike price − Bond price at higher yield, 0) − Put premium</td>
<td>Decrease portfolio duration and convexity (up-front premium)</td>
</tr>
<tr>
<td>Long payer swaption</td>
<td>Own the right to pay-fixed on an interest rate swap at a strike rate</td>
<td>Max (Strike rate − Swap rate, 0) − Swaption premium</td>
<td>Decrease in portfolio duration and convexity (up-front premium)</td>
</tr>
<tr>
<td>Long receiver swaption</td>
<td>Own the right to receive-fixed on an interest rate swap at a strike rate</td>
<td>Max (Swap rate − Strike rate, 0) − Swaption premium</td>
<td>Increase in portfolio duration and convexity (up-front premium)</td>
</tr>
<tr>
<td>Long call option on bond future</td>
<td>Own the right to take forward bond delivery at a strike price</td>
<td>Max (Bond futures price at lower yield − Strike price, 0) − Call premium</td>
<td>Increase in portfolio duration and convexity (up-front premium)</td>
</tr>
<tr>
<td>Long put option on bond future</td>
<td>Own the right to deliver bond in the future at a strike price</td>
<td>Max (Strike price − Bond futures price at higher yield, 0) − Put premium</td>
<td>Decrease in portfolio duration and convexity (up-front premium)</td>
</tr>
</tbody>
</table>

• In Example 15 (page 46 of print), the heading “Rolldown Return” after the table should read “Rolling Yield.”

• Practice Problem 21 (page 55 of print) should read:

An active investor enters a duration-neutral yield curve flattening trade that combines 2-year and 10-year Treasury positions. Under which of the following yield curve scenarios would you expect the investor to realize the greatest portfolio loss?

A Bear steepening

B Bull flattening

C Yields unchanged

The Solution (page 58 of print) should read:

C is correct. A duration-neutral flattening trade involves a short 2-year bond position and a long 10-year bond position, which have a “matched” duration or portfolio duration of
zero. This portfolio will realize a loss if the slope of the yield curve—that is, the difference between short-term and long-term yields—increases. The bear steepening in A involves a rise in the 10-year yield-to-maturity more than in the 5-year yield-to-maturity, causing a portfolio loss.

In the Solution to Practice Problem 6 (page 56 of print), the second sentence should read, “The bullet portfolio has the same convexity as the 4.5-year bond, or 22.1.”

Reading 14

In Example 4, the Solution to Question 2 (page 71 of print) should read,

For the yield spread measure, neither the 1.29% spread nor the 7-year government rate of 1.39% has changed, so an analyst considering only these two factors would expect the bank bond price to remain unchanged.

However, for the G-spread measure, the 20 bp increase in the 10-year government YTM causes the 8-year interpolated government YTM to change.

The 7-year and the 10-year bond weights for the interpolation are the same as for Question 1, \( w_7 = 66.7\% \) and \( w_{10} = 33.3\% \).

The new 8-year government rate is a weighted average of the 7-year bond rate and the 10-year bond rate using the weights in Step 1.

\[
r_{8yr} = w_7 \times r_{7yr} + w_{10} \times r_{10yr}
\]

\[
= (66.7\% \times 1.39\%) + (33.3\% \times 1.86\%) = 1.55\%
\]

The bank bond YTM has risen by \( 0.16\% \) to 2.73\% (\( =1.55\% + 1.29\% \)).

The bank bond price change can be estimated by multiplying the yield change by modified duration \( (-\text{ModDur} \times \Delta \text{Yield}) \) as in earlier lessons. This change can be calculated as \( -1.11\% \) \( (= -7.1 \times 0.16\%) \).

Note that we can confirm this using the Excel PV function \( (=\text{PV (rate, nper, pmt, FV, type)}) \) where “rate” is the interest rate per period \( (0.0268) \), “nper” is the number of periods \( (8) \), “pmt” is the periodic coupon \( (2.75) \), “FV” is future value \( (100) \), and “type” corresponds to payments made at the end of each period \( (0) \).

Initial bank bond price: 100.50 \( (=\text{PV (0.0268, 8, 2.75, 100, 0)}) \)

New bank bond price: \( 99.39 \) \( (=\text{PV (0.0284, 8, 2.75, 100, 0)}) \)

Price change: \( -1.11\% \) \( (= (99.39 - 100.50)/100.50) \)

In Example 20, the last sentence of the solution (page 104 of print) should read, ”We can also use the Excel PRICE function to directly calculate the new price of 88.75 and multiply the price change of \( -2.25 \) by the face value to get \$1,125,000.”

Equation 15 (page 106 of print) should read,

\[
\frac{\Delta(\text{CDS Price})}{\Delta(\text{CDS Spread})} = - (\Delta(\text{CDS Spread}) \times \text{EffSpreadDurCDS})
\]
• The first sentence of the Solution for Example 26 (page 113 of print) should read, “To estimate credit curve rolling yield returns, we must solve for the first two return components from Equation 1 (Coupon income +/- Roll-down return) and separate the impact of benchmark yield versus credit spread changes.”

• In the Solution to 2 in Example 26 (page 114 of print), the second calculation should read,

  “Price appreciation: $90,500 (= (101.118 − 100.937)/100.000 × $50 million)

  And the sentence that follows should read, “Because the yield spread curve is flat at 0.50%, the full $90,500 price change in the 10-year is benchmark yield curve roll down.”

  The last calculation should read,

  “Price appreciation: $434,500 (= (101.517 − 100.648)/100.000 × $50 million)

  And the sentence that follows should read, “Because the 0.07% decline in YTM is estimated to be equally attributable to benchmark yield and yield spread changes, each is assumed equal to $217,250.”

• The Solution to 3 in Example 26 (page 114 of print) should read, “Incremental income due to price appreciation is therefore $344,000 (= $434,500 − $90,500), of which $217,250 is attributable to credit spread changes.

In total, the incremental roll-down strategy generates $506,500 (= $344,000 + 162,500), of which $292,250 (= $217,250 + $75,000) is estimated to be due to credit spread curve roll down.”

• In Example 29 (page 117 of print), the Solution to 1, the first sentence should read, “The investor should sell protection on the CDX IG Index and buy protection on the CDX HY Index.” The second sentence of the second paragraph should read, “Because the investor is long protection CDX HY and short protection CDX IG, the net annual premium paid is $400,000 (= $10,000,000 × (−5.00% + 1.00%).”

• In Example 32 (page 121 of print), the last five paragraphs of the Solution should read as follows:

  Return on the equally weighted portfolio is equal to 3.30% (= (2.08% + 2.93% + 4.54% + 3.65%)/4). We can estimate the initial iTraxx-Xover price by subtracting the product of EffSpreadDurCDS and the difference between the standard coupon (5%) from the market premium of 400 bps as follows:

  Original iTraxx-Xover 5-year: 95.75 per $104.25, or 1.0425 (= 1 + (4.25 × 1.00%))

  If European high-yield spreads tighten by 25%, the iTraxx-Xover premium narrows by 100 bps to 300 bps, and the protection seller realizes a gain:

  New iTraxx-Xover 5-year: 91.50 per $108.5, or 1.085 (= 1 + (4.25 × 2.00%))

  We can calculate the percentage return on the iTraxx-Xover investment in euro terms by dividing the price change by the initial price to get 4.077 (= (1.085 − 1.0425)/1.0425).
For a United States–based investor, we must convert the euro return to US dollars as described in an earlier lesson:

\[ R_{DC} = (1 + R_{FC}) (1 + R_{FX}) - 1 \]

RDC and RFC are the domestic and foreign currency returns in percent, and RFX is the percentage change of the domestic versus foreign currency.

We solve for US dollar iTraxx-Xover returns as 5.818% (= (1 + 4.077%) × (1 + 1.00%) − 1). Given that iTraxx-Xover carries a weight equal to one-half of the US corporate bond portfolio, the strategy returns 6.21% (or 3.30% + 5.818%/2).

- Option C for Practice Problem 12 (page 134 of print) should read, “5.45%.”
- The Solution to Practice Problem 12 (page 141 of print) should read, “C is correct. Using Equation 10 (Spread0 – (EffSpreadDur × ΔSpread) – (POD × LGD)), the expected excess return on the bond is approximately 5.45% (=2.75% – (6 × –0.50%) – (0.75% × 40%)).

Volume 4

Reading 20

- The solution to Practice Problem 20 (page 199 of print) should be,

  The expected NAV of the fund at the end of the current year is €22,755,000, calculated as follows:

  First, the expected distribution at the end of the current year is calculated as
  
  \[ \text{Expected distribution} = \left[ \text{Prior-year NAV} \times (1 + \text{Growth rate}) \right] \times \left( \text{Distribution rate} \right). \]
  
  \[ \text{Expected distribution} = [(€25,000,000 \times 1.11) \times 18\%] = €4,995,000. \]

  Therefore, the expected NAV of the fund at the end of the current year is

  \[ \text{Expected NAV} = \left[ \frac{\text{Prior-year NAV} \times (1 + \text{Growth rate}) + \text{Capital contributions} - \text{Distributions}}{(1 + \text{Growth rate})} \right] \times (1 + \text{Growth rate}). \]

  \[ \text{Expected NAV} = [(€25,000,000 \times 1.11) + 0 - €4,995,000] \times 1.11 = €25,258,050. \]

Reading 21

- In Exhibits 3 and 4 (page 221 and 222 of print), the percentile columns (left-most column) should be flipped to read, “95th, 75th, 50th, 25th, 5th, Successful Trials”
Reading 22

- In the section immediately preceding Example 4 (page 286 of print), the equation should be,

\[
R_{PL} = \left( (1 + R_1) \cdots (1 + R_n) \left( 1 - \frac{\text{liquidation tax}}{\text{final value}} \right) \right)^{1/n} - 1
\]

And in Example 4 that follows, the last two sentences should read,

Therefore, the portfolio value net of the tax liability is 1.173:

\[
1.197(1 - 0.02) = 1.173,
\]

and the annualized post-liquidation return is 3.24%:

\[
1.173(1/5) - 1 = 3.24%.
\]

This compares to an annualized return for the non-taxable investor of 4.13%.

- In the Solution to Practice Problem 9 (page 356 of print), the bottom cell of the table, the final calculation should read, “Tax under HIFO = ($124 - $135) \times 0.25 \times 200 = −$550 (tax loss or benefit).”

Volume 5

Reading 25

- In the solution to Practice Problem 19 (page 186 of print), the sentence in the last cell of the table should read, “The portfolio managers at North Circle and Valley Ranch have different aversions to risk, with North Circle’s managers having lower risk aversion than the Valley Ranch managers.”
Reading 26

- Exhibit 7 (page 210 of print) should read:

<table>
<thead>
<tr>
<th>Duration Bucket</th>
<th>Sector</th>
<th>Duration Effect</th>
<th>Curvature Effect</th>
<th>Total Interest Rate Effect</th>
<th>Sector Allocation</th>
<th>Bond Allocation</th>
<th>Total Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short</td>
<td>Government</td>
<td>0.40%</td>
<td>0.12%</td>
<td>0.52%</td>
<td>0.04%</td>
<td>0.00%</td>
<td>0.04%</td>
</tr>
<tr>
<td></td>
<td>Corporate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>0.40%</td>
<td>0.12%</td>
<td>0.52%</td>
<td>0.04%</td>
<td>0.00%</td>
<td>0.56%</td>
</tr>
<tr>
<td>Mid</td>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corporate</td>
<td>−0.05%</td>
<td></td>
<td></td>
<td>0.00%</td>
<td>0.00%</td>
<td>−0.05%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>0.23%</td>
<td>0.03%</td>
<td>0.26%</td>
<td>−0.05%</td>
<td>0.00%</td>
<td>0.21%</td>
</tr>
<tr>
<td>Long</td>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corporate</td>
<td>−0.22%</td>
<td></td>
<td></td>
<td></td>
<td>0.13%</td>
<td>−0.09%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>−1.25%</td>
<td>0.37%</td>
<td>−0.88%</td>
<td>−0.22%</td>
<td>0.13%</td>
<td>−0.97%</td>
</tr>
</tbody>
</table>

Total

-0.62% 0.52% −0.10% −0.23% 0.13% −0.20%

Reading 29

- In the text between Practice Problems 3 and 4 (page 428 of print), the second sentence should read, “Susan Hunter informs Chapman that she currently has a life insurance policy of $200,000 and her husband has a life insurance policy of $300,000.”