If you find something in the curriculum that you think is in error, please submit full details via the form at https://cfa.is/Errata.

- The eBook for the 2020 curriculum is formatted for continuous flow, so the text will fit all screen sizes. Therefore, eBook page numbering—which is linked to section heads—does not match page numbering in the print curriculum.
- 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 1**
**Reading 3**
- In question 2 (page 195 of print), the last paragraph should be replaced with the following text: “C is incorrect. The research team develops their recommendations for management of all BankGlobal’s client accounts. These clients pay BankGlobal for its research. If other investors would like to access BankGlobal research, they can do so by becoming clients of the bank. The Guidance to Standard II(A) Material Nonpublic Information states: “information is material if it would significantly alter the total mix of information currently available about a security.” To be considered material there would need to be a clear indication that the general investing public relies on the information of BankGlobal. There is no indication in the material that BankGlobal recommendations are distributed to, or highly valued by, the general investing public.”

**Reading 6**
- In the third paragraph of section 4 (page 361 of print), the fourth sentence should refer to II.3 and II.4.

**Volume 2**
**Reading 8**
- In Exhibit 6 (page 89 of print), the ranges should be updated to read as follows:

<table>
<thead>
<tr>
<th>Bias Type: Cognitive</th>
<th>Bias Type: Emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Wealth Level/Low SLR</td>
<td>Modest Asset Allocation Change</td>
</tr>
<tr>
<td>Suggestion: +/- 0 to 5% Max Per Asset Class</td>
<td>Suggestion: +/- 0 to 10% Max Per Asset Class</td>
</tr>
</tbody>
</table>
Low Wealth Level/High SLR Close to the Rational Asset Allocation Modest Asset Allocation Change

Suggestion: $+/- 0$ to $2\%$
Max Per Asset Class

Suggestion: $+/- 0$ to $5\%$
Max Per Asset Class

In the second paragraph below Exhibit 6, fourth sentence should read as: “If an adjustment is needed a $+/- 2\%$ maximum asset class adjustment is suggested.”

Volume 3
Reading 12

- In the text at the beginning of Section 7 (page 43 of print), the following sentences should be removed: “The first dimension is covered in Section 5.1. The second dimension is the subject of Section 5.2.” The sentences should be replaced with: “Each of these are covered in the sections that follow.”
- The last sentence of the first paragraph of 7.2 (page 44 of print) “(Risk budgeting…” should be removed.
- In the fourth paragraph of 7.2, the phrase “discussed in Section 4.1” should be removed.

Reading 13

- In the paragraph below Exhibit 7 (page 77 of print), the first sentence should read: “Looking past the constrained allocations to human capital and UK residential real estate, the remaining allocations associated with Beel’s liquid financial assets do not include UK equities or UK fixed income.”
- In the paragraph below Exhibit 21 (page 99 of print), the last sentence should read: “For example, in Panel A (risk factors), the combined market, size, and valuation exposures mirror the pattern (allocations) in Panel B (asset classes) of combined large value and small value exposures.”
- In the paragraph under Exhibit 30 (page 109 of print), the third sentence should read as follows: “Bonds are positively correlated with changes in the present value of the frozen liability cash flows (because the liabilities indicate negative cash flows).”
- In Exhibit 36 (page 124 of print), the line for 95% in the last segment should have column E (not F) boxed.
- In the numbered list after Example 11 (page 125 of print), the last sentence should read: “Discounting their current expenses with the same assumption over the 25 years starting in Year 6 with a 6.1\% rate points to an initially required capital of US$6,275,000, representing 25.1\% of the Smiths’ wealth.”
- In Exhibit 37 (page 126 of print), for the last two rows of the table, column F should have 6,275 (for “In currency”) and 25.1\% (for As a % of total).

Reading 14

- In the paragraph before Exhibit 2 (page 178 of print), the third sentence should read as follows: “If the plan sponsor were to maintain the 70/30 asset mix, but shift to longer-duration bonds …”
Reading 15

- In the paragraph before Exhibit 8 (page 237 of print), the last sentence of the paragraph that begins on 236 should read as: “Gamma is greatest for a near-the-money option and become progressively …”
- In section 3.4 Writing Puts, in footnote 13 (page 245 of print), the first two sentences should read as: “This strategy is also called a fiduciary put. Note that for a European option the amount deposited would equal the present value of the exercise price.”
- In Section 4.2 Straddle (page 260 of print), the first sentence of the second paragraph should read as: “A straddle is an example of a directional play on the underlying volatility, expressing the view that volatility will either increase, for a long straddle, or decrease, for a short straddle, from its current level.”
- In Section 5 Implied Volatility and Volatility Skew (page 267 of print), the first sentence should read as: “An important factor in the current price of an option is the outlook for the future volatility of the underlying asset’s returns, the implied volatility.” The last sentence should read as: “Implied volatilities incorporate investors’ expectations about the future course of financial asset returns and the level of market uncertainty associated with them.”
- In Section 5, page 268, the first sentence of the second paragraph on that page should read as: “Implied volatility is often compared with realized volatility…and measures the range of past returns for the underlying asset.” The first sentence of the following paragraph should read as “Obviously, we cannot use the previous formula for realized volatility….the expected volatility of future returns of the underlying asset.”
- In Section 5, the paragraph after Exhibit 30 (print page 270), the third sentence should read: “Using OTM options, a combination of long (short) calls…”
- In the Summary (print page 288), in the twenty-second bullet point, the second sentence should read as: “A long (short)…but greater (lesser) return movements are expected in the future.” The twenty-third bullet point should read as: “Implied volatility is the expected volatility an underlying asset’s returns and is…”
- In the Solution to 1 in Example 5 (p. 251 of print), there is a correction in the following sentence: “This would cost her €0.0134/US$1 × US$1,237,624 = €16,584 or US$19,901 (= €16,584 × US$1.20/€1) upfront.”

Reading 16

- In Section 2.1, Example 1 (print pages 299 and 300), the arrows in the diagram from Firm to Swap Dealer should be reversed.

Correct first diagram in Example 1 (page 299):

```
Firm → £50,000 → Swap Dealer
  ↓  £125,000
   ↓  Bondholders
Firm → £25,000 → Swap Dealer
  ↓  £200,000
   ↓  Bondholders
```

Correct second diagram in Example 1 (page 300):

```
In Example 5, in the Solution to 1 (page 307 of print), the first formula should read as
\[ BPV_P = MDUR_P \times 0.01\% \times MV_P \]
In the paragraph after Example 7, mid-way through the paragraph (page 311 of print) the following sentence should read: “During such a period…(2) use a cross-currency swap to lend an equivalent amount…”
In the paragraph before Exhibit 2 (page 320 of print), the last sentence should read as: “Exhibit 2…at three different fixed points in time for all expires;…”
In Exhibit 2 (page 320 of print), the reading for Day 60 of July should be 18.50.
In practice problem 3 (print page 338), the second sentence should read: “He sells the relevant interest rate…”
In Solutions, for practice problem 3 (print page 340), the second sentence should read: “The CIO sells the relevant interest rate future contracts at 98.05. After six months…”
In the text referring to Exhibit 9, some colors are mentioned but the exhibit is monochrome. The last sentence in the paragraph that begins “To derive probabilities…” (p. 333 of print) should read as follows: “As shown in Exhibit 9, where the yellow dots represent forecasts of the federal funds rate by each FOMC member, implied market expectations (dotted line) can diverge significantly from the Fed’s forward guidance (solid line, the median of the yellow dots).”
In 4.1 (p. 326 of print), in Scenario A, €21.620 should be €21.560. In Scenario B, –€6,380 should be –€6,440 and €6,380 should be €6,440.

Reading 17
In Section 6.3.6 (pages 392-393 of print), the discussion on digital options is referring specifically to American-style digital options.

Volume 4
Reading 18
In the solution to end of reading question 10, the second sentence should say Exhibit 1.

Reading 19
In the numbered list before Example 9 (page 94 of print), list item 3 should read as follows: “The time period is then multiplied by the vertex’s proportionate share of the index. (The first cash flow at 6 months is equal to 1; the second cash flow at 12 months is equal to 2; the third cash flow at 18 months is equal to 3, etc.) Because each cash flow represents an effective zero-coupon payment in the corresponding period, the time period reflects the duration of the cash flow. For example, if the third vertex represents 3% of all cash flows, the third period’s contribution to duration might be 1.5 years x 3.0%, or 0.045.”
After Exhibit 16 (at the bottom of print page 83) the sentence should read “The payoffs for the purchased 3.50% receiver swaption are shown as the thin line in Exhibit 16.”
In Example 7, Solution to 2 should read “The plan manager’s likely view is that the 30-year swap rate will be less than 3.80%. Then the gains on the receive-fixed interest rate swap exceed those on the swaption collar (i.e., not profitable until the swap rate falls below 3.60%) and on the purchased receiver swaption (i.e., not profitable until the swap rate falls sufficiently below 3.60% to recover the premium paid) as
illustrated in Exhibit 16. Note that if the 30-year swap rate exceeds 3.80%, then the receive-fixed interest rate swap will begin losing immediately. Losses on the swaption collar will not begin until the rate rises above 4.25%, while losses on the purchased receiver swaption (at any swap rate above 3.60%) are limited to the premium paid. Notice that this rate view is also consistent with the concern about lower corporate bond yields and the relatively high hedging ratio."

**Reading 20**

- In Example 5, the calculation for CM yield change (page 185 of print) should equal –1.07%.

- Just before Exhibit 74 (page 208 of print), the text should read as follows: Every trade has some exposure to idiosyncratic movements at particular points or within particular segments of the curve. But for trades or portfolios spanning reasonably broad segments of the curve, most of the yield curve risk can be adequately captured by a small set of standard scenarios. Exhibit 74 shows yield curve movements labeled “shift” (non-parallel level change), “twist” (slope change), and “butterfly” (curvature change), which respectively account for (roughly) 82%, 12%, and 4% of weekly changes in US Treasury yields. Together, they account for 98% of the weekly changes in these yields. Each of the curves reflects a one standard deviation move of that type. [HYPERLINK "http://e.pub/benwdyykraerp4zkbnb.vbk/OEBPS/CFA1823-R12-24.xhtml#CFA1823-R-FN39" These three empirically derived movements correspond well with the more stylized movements emphasized in the earlier discussion of trading strategies.]

- **[Update:]** In Example 8 (pages 209 to 211 of print), questions 2, 3, and 4 and their solutions should be deleted. The solution to 1 should be modified as follows: "Although the portfolios all have the same effective duration, the impact of the shift factor is largest (in absolute value) for the Bullet and smallest for the Barbell. This result reflects the fact that actual shifts in the curve are not parallel. The larger rate increase at the intermediate maturities disproportionately impacts the Bullet portfolio. The flattening twist favors the Barbell as short rates rise and long rates decline—the gains at the long end more than offset losses on the short end. The butterfly also favors the Barbell, which is unaffected by the rise in rates at the intermediate maturities but profits from the decline in rates at the long and short ends of the curve."

- **[Update:]** In the information for questions 23-32 (page 223-225 of print), the paragraph before Exhibit 2, Exhibit 2, the paragraph before Exhibit 3, and Exhibit 3 should all be deleted. Questions 29-32 (page 226 of print) and their solutions (page 237-239 of print) should be deleted as well. Question numbers and solution numbers need to be updated accordingly, as it relates to removal of the previous questions and solutions.

- In the solution to practice problem 20 (page 234 of print), the formula should read as follows: "Predicted change = Portfolio par amount × partial PVBP × (–curve shift in bps)/100"

- In the solution to practice problem 27 (page 235 of print), the first sentence of the second paragraph should read as follows: "Because yields are projected to remain unchanged in the US, UK, Euro, and Greek markets, the 5-year Greek bonds will still be priced at par in six months and the US, UK, and Euro bonds will realize a negligible price appreciation when they have 4.5 years to maturity."
• In the paragraph below Exhibit 28 (page 166 of print), the second sentence should read: “The index has significant exposure to 20-year bonds that had been issued some time ago...”

• In the solution to practice problem 19 (page 233 of print), the sentence beginning “Money duration is equal” should contain the corrected calculation of “$17 million xx 19.69 = $334.73 million.” The following calculations should be as follows:

  1-year bond: $334.73 million/0.99 = $338.11 million or $338 million

  5-year bond: $334.73 million/4.74 = $70.62 million or $71 million

  10-year bond: $334.73 million/8.82 = $37.95 million or $38 million

• The glossary terms for Macaulay duration and modified duration (page 136 of print) should be updated to the following. **Macaulay duration:** Is analogous to the bond’s effective maturity, incorporating all the bond’s projected cash flows – both principal and interest. It is a weighted average of time to receive the bond’s promised payments. **Modified duration:** Is the Macaulay duration for a bond divided by one plus the yield to maturity of the bond. It provides an estimate of the percent price change in a bond for a given 1% change in the bond’s yield to maturity.

• In the Example 6 solution (page 201 of print), the first bullet should read: “…$100 million 30-year bonds...”

Reading 21

• In the solution to 1 in Example 2 (page 253 of print), the second calculation should have 66.7% instead of 55.7%: (66.7% x 7.00) + (33.3% x 9.88) = 7.96.

• In Example 2 (page 253 of print), the maturity date of the Citigroup bond should be 16 March 2024, instead of 16 June 2024.

• In section 4.1.4 (page 265 of print), the first bullet point, last sentence should read: “As another example, callable debt often has a larger z-spread than otherwise comparable non-callable debt.”

• The second paragraph after Exhibit 9 (page 271 of print) should be rewritten as follows: “In summary, using arithmetic weighting to assess a portfolio’s average credit quality is likely to overestimate its credit quality and underestimate its credit risk when the bonds in the portfolio span a broad range of the credit spectrum. To illustrate this point, consider a portfolio consisting of only Baa2/BBC bonds. It has a Moody’s rating factor of 360. Compare this to a portfolio consisting equally of Baa1/BBC+ and Baa3/BBC bonds.”
Using the arithmetic rating approach, this portfolio would also have a Moody’s rating factor of 360. Using the non-arithmetic weighting approach, however, results in a Moody’s rating factor of 435 = (50% × 260) + (50% × 610). While both portfolios have the same credit risk under the arithmetic approach, the non-arithmetic approach highlights the greater credit risk of the second portfolio.

- In the information for practice problems 10–15 (page 299 of print), Comment 1 should say “Callable debt has a smaller z-spread than comparable non-callable debt.”
- In Section 7.3 (page 292 of print), the last sentence in the first paragraph of 2. Exposure to Default Correlations should read: “As correlations increase, the value of equity tranches usually increases relative to the value of senior and mezzanine tranches.”

Reading 24
- In Example 8 (page 427), the top paragraph of the page contains two boxes with a little “x” in them. Instead of the first one, line 3, there should be the word "and" in the sentence. The second box with the little x, line 4, should not be there at all.

Reading 25
- In Section 5.1 (page 502 of print), the second bullet in the second list should read as indicated: “The portfolio must have a weighted average capitalization of no less than 75% of that of the index.”
- In Example 7 (page 514 of print), “Size coefficient” row of the table, the “First Five Years” column should be 0.30, and the “Last Five Years” column should be −0.10.
- In the information for questions 9-15, the last paragraph (page 536 of print) should read as follows: “Chen and Garcia then turn their attention to portfolio management approaches. Chen prefers an approach that emphasizes security-specific factors, engages in factor timing, and typically leads to portfolios that are generally more concentrated than those built using a systematic approach.”
- Practice problem 12 (page 537 of print) should read as indicated: “Based on Exhibit 1, the contribution of Asset 2 to Manager C’s portfolio variance is closest to”
- In the solution to practice problem 15 (page 541 of print), the second sentence should read as follows: “Chen prefers an approach that emphasizes security-specific factors, engages in factor timing, and typically leads to portfolios that are generally more concentrated than those built using a systematic approach.”
- Under Exhibit 6 (print page 479), the second sentence of the last paragraph of the page should read: “Although portfolios that have higher active risk tend to have higher Active Share (and vice versa), this is not always the case.”
- In Section 8.5 (page 527 of print), the second bullet in the costs column should say: “Shorting may amplify the active risk (but please note that it does not have to do so)”
- In Section 3.1.4, before first set of bullets (page 479 of print), The sentence “If a portfolio has an Active Share of 0.5, we can conclude that 50% of the allocation positions of this portfolio are identical to that of the benchmark and 50% are not.” should be replaced with “Active share is a measure of the differentiation of the holdings of a portfolio from the holdings of a chosen benchmark portfolio. It measures the proportion of a portfolio’s holdings that is different from the benchmark for that portfolio. The active share is 0 for a portfolio that matches the benchmark and 100% for a portfolio that shares no investments with those of the benchmark. The percentage
of portfolio assets deployed in the same way as the benchmark is equal to 100% minus the portfolio’s active share. For example, an active share of 80% implies that 20% of the portfolio capital was invested in a similar way as the index.”

Volume 5

Reading 27
- In Example 8 (page 151 of print), in the Solution to 1, final sentence should be, “The NAV at year-end 2022 is therefore…”
- In Exhibit 1 of Section 2 (p. 90 of print), “Risk Enhancing” at the bottom right of the exhibit should be “Return Enhancing”.
- In Example 9 (page 155 of print), in the Solution to 1, the third bullet under “Sources of immediate liquidity” should read: “$7,50 million in total (less than the $78 million liability)”
- In Section 7.1 (page 128 of print) under 7.1.2 Skewness and Fat Tails, the second paragraph contains a sentence with an error. It should read: “Excess kurtosis (i.e., a kurtosis parameter exceeding 3)…”

Reading 32
- In Section 3.2 (page 410 of print) under Late Retirement, the second sentence should read: “This uncertainty about longevity for a specific individual is known as longevity risk, which is the risk that an individual outlives his or her financial resources in retirement.”

Glossary
- The updated definition of Longevity risk is as follows: “The risk of outliving one’s financial resources.”

Volume 6

Reading 34
- The second sentence under the formula in section 5.1.2 (page 148 of print), should read as: “This expanded IS formulation…delay cost and trading cost.”
- In the solution to practice problem 8 (page 172 of print), the numerator of the fraction should be ($41.42 – $40.50).
- On p. 145, in the in-text question, 2. should say “a large, urgent sell of corporate bonds, and” and in the Solution, 2. should say “A large, urgent sell of corporate bonds would usually…RFQ process. Because of ….., the likelihood of finding a matching buyer is low.”
- In Section 3.1 (page 123 of print), the two “depository” mentions in the first sentence of the first paragraph under the bullet points should instead read “depositary.”
- In Section 5.2 (page 154 of print), the equation under “Cost in basis points (bps)” should include a mean symbol above the first P in the numerator:

\[ \text{Cost (bps)} = \text{Side} \times \frac{(F - P^*)}{P^*} \times 10,000 \text{ bps} \]
Reading 35

- In Section 3.1 in Example 4 (page 188 of print), the last sentence in Solution to 1 should read: “The below-benchmark beta of RMRF (-0.05_ combined with a positive return...”
- In Section 4.5, second set of bullets (p. 215 of print), the “manager’s ‘true’ active return is 24.5% – 24.0% = 0.5%” and the “manager’s ‘misfit’ active return is 24% – 25% = −0.5%”
- In Section 3.1 (page 180), the intro paragraph should change the text after the semicolon to instead read: “The Brinson–Fachler model is more widely used in performance attribution today, but we introduce the Brinson–Hood–Beebower (BHB) model first to lay an important foundation.” The remaining mentions of the Brinson model or attribution (pages 180-184) should be referred to as “BHB.” Lastly, the missing material on the section illustrating Brinson–Fachler will be added back to this section to help resolve questions related to Section 3.3.
- In Section 5.2 (page 225 of print), the formula under 5.2.6.2 Drawdown has a bracket in the wrong place and should be updated as follows: Maximum DD(m,t) = min([missing bracket V(m,t) – V(m,t*)]/V(m,t*), 0)
- In Section 3.1 (page 193 of print) below Exhibit 6 following “Shift:”, the text “given the increase in yield of +1%” should be removed from this paragraph.
- In Section 3.3.2, Example 7, Solution (page 202 of print), the table AAA Asset Management Fixed-Income Fund-of-Funds Attribution Analysis needs to be updated:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Allocation</td>
<td>Selection</td>
<td>Allocation</td>
</tr>
<tr>
<td>Product A</td>
<td>-0.05%</td>
<td>0.09%</td>
<td>-0.02%</td>
</tr>
<tr>
<td>Product B</td>
<td>-0.19%</td>
<td>0.02%</td>
<td>-0.07%</td>
</tr>
<tr>
<td>Total</td>
<td>-0.24%</td>
<td>0.11%</td>
<td>-0.09%</td>
</tr>
</tbody>
</table>

Reading 36

- In Section 4.3 (page 263 of print), the “symmetries” mentions in the Unique and Timely term sections should instead read “asymmetries.”

Reading 37

- In the fourth paragraph after Exhibit 4 (print page 299-300), the second sentence should read: “For QU, a 5% spending rate per year combined with long-term expected inflation for colleges and universities of 2-3% per year, translates into a 7-8% nominal return objective per year over the long-term.”

Reading 38

- In Example 1, the last bullet point (page 336 of print), there is a typo. It should read: “Capital available is now only €12,000 and €21,000, represented by the PV of vested retirement savings accounts for Jessica and Paul, respectively.”