Review

68%

30
Out of 44 points

1:33
Avg Time Per Question

1:08:24
Time for this Attempt

Your Answers:

Vignette

Janet Kuspa is an Australia-based manager of globally diversified portfolios.
One year ago, Kuspa hedged the currency risk of a Australian dollar (AUD) 50,000,000 long position by selling AUD one year forward at an all-in forward price of 0.7530 USD/AUD (0.7530 USD per 1 AUD). Now, nine months before the forward's settlement date, Kuspa marks the forward position to market based on the data in Exhibit 1 (MRR is the market reference rate).

Exhibit 1

	Exchange Rate Data (USD/AUD)	
Maturity	**Bid**	**Offer**
Spot	0.7233	0.7234
9 months (forward points)	+7	+8
	Other Data	
Interest Rate	**US**	**Australia**
MRR (annual rate)	0.28%	0.10%

A few days later, Kuspa evaluates a carry trade strategy that involves borrowing AUD for one year and converting it to USD to earn the US MRR. She calculates the expected 1-year all-in percentage return of this strategy, based on the following:

- The 1-year MRR is 0.31% for the USD
- The 1-year MRR is 0.09% for the AUD
- The current mid-market USD/AUD spot rate is 0.7235
- Kuspa's prediction is that the USD/AUD spot rate will be 0.7243 at the end of one year.

Kuspa next evaluates three countries with floating exchange rates, as summarized in Exhibit 2. She uses the Mundell-Fleming model to forecast the short-term monetary and fiscal policy impacts on each of their domestic currencies.

Exhibit 2

Economic Characteristic	Country A	Country B	Country C
Capital mobility	High	Low	Low
Monetary policy	Expansionary	Expansionary	Restrictive
Fiscal policy	Restrictive	Restrictive	Restrictive

Finally, Kuspa analyzes the risks related to the currencies of three emerging market countries, summarized in Exhibit 3. These countries have recently experienced increased global investor interest and significant foreign capital inflows. Kuspa uses the information in Exhibit 3 to evaluate the potential negative effects of these inflows.

Exhibit 3

Risk Characteristic	Country D	Country E	Country F
Equity market returns (5-year compound annual growth rate)	20%	7%	19%
External debt (% of GDP)	120%	60%	300%
Foreign exchange reserves (% average daily foreign exchange turnover in domestic currency)	27%	30%	30%

1 Multiple Choice 1 / 1 point

The mark-to-market value (in USD) of the USD/AUD forward position is *closest* to:

✓ A. 1,436,982.

Answer Feedback: Correct because it is the solution to (USD 1,440,000)/[1 + (0.28%)(0.750)], the net cash inflow discounted by the 9-month US market reference rate (MRR). Marking Client A's forward position to market involves calculating the payoff of the forward transaction that offsets the original (hedging) transaction, then netting its cashflow at settlement against the original forward contract's cashflow to determine the net cashflow, which is then present-valued using the client's domestic MRR. The offsetting transaction involves *buying* AUD 50 million nine months forward as the original transaction involved *selling* AUD forward to hedge a long AUD exposure. Because AUD is the base currency in the USD/AUD quote, buying AUD forward means paying the offer for both the spot rate and the forward points. Thus, the all-in 9-month forward rate used in the offsetting trade is 0.7234 + 0.0008 = 0.7242. At settlement, the client will receive (AUD 50,000,000)(0.7530 USD/AUD) = USD 37,650,000 from the original contract. The client will pay (AUD 50,000,000)(0.7242 USD/AUD) = USD 36,210,000 in the offsetting transaction, resulting in a net cash inflow of USD 37,650,000 − USD 36,210,000 = USD 1,440,000. This is an inflow because the original transaction involved selling AUD forward and the AUD then depreciated against the USD. The mark-to-market value of the original position is USD 1,440,000 discounted at 1 plus the US MRR of 0.28% multiplied by 0.75 (= 270/360) based on nine months to settlement and the standard 360 day-count convention. In summary, (USD 1,440,000)/[1 + (0.28%)(0.750)] = (USD 1,440,000)/(1.0021) = USD 1,436,982.

B. 1,440,000.

Answer Feedback: Incorrect because it is the undiscounted net cash inflow. 50,000,000 × (0.753 – 0.7234) = 1,440,000

C. 1,446,961.

Answer Feedback: Incorrect because it is based on the bid quotes rather than the offer quotes in Exhibit 1. Using bids, the all-in forward price is 0.7233 + 0.0007 = 0.7240, the offsetting transaction using this incorrect rate is (AUD 50,000,000)(0.7240 USD/AUD) = USD 36,200,000, resulting in a net cash inflow of USD 37,650,000 − USD 36,200,000 = USD 1,450,000 which, in present value terms, is (USD 1,450,000)/[1 + (0.28%)(0.750)] = USD 1,446,961.

2 Multiple Choice 0 / 1 point

Based on the Mundell-Fleming model, which country is *most likely* to experience appreciation of its domestic currency in the short term?

✗ A. Country A

Answer Feedback: Incorrect because with floating exchange rates and high capital mobility, a domestic currency will appreciate given a restrictive domestic monetary policy and/or an expansionary fiscal policy. Similarly, a domestic currency will depreciate given an expansionary domestic monetary policy and/or a restrictive fiscal policy. In this explanatory table C↓ means the currency depreciates.

Characteristic	Country A
Cross-border capital mobility	High
Monetary policy	Expansionary ⇒ C↓
Fiscal policy	Restrictive ⇒ C↓
Net effect:	⇒C↓

B. Country B

Answer Feedback: Incorrect because with low capital mobility the effect of an expansionary monetary policy combined with a restrictive fiscal policy is indeterminate. With low capital mobility, an expansionary monetary policy increases spending and imports, increasing trade deficits, and is bearish for the exchange rate. A restrictive fiscal policy would tend to have the opposite effect on spending, trade deficit, and the exchange rate, so the overall effect is indeterminate.

Characteristic	Country B
Cross-border capital mobility	Low
Monetary policy	Expansionary ⇒ C ↓
Fiscal policy	Restrictive ⇒ C↑
Net effect:	⇒C effect indeterminate

✓ C. Country C

Answer Feedback: Correct because given low capital mobility, restrictive monetary and fiscal policies in a country lead to appreciation of the country's domestic currency. When capital mobility is low, the combination of restrictive monetary and fiscal policy will be bullish for a currency.

Characteristic	Country C
Cross-border capital mobility	Low
Monetary policy	Restrictive ⇒ C↑
Fiscal policy	Restrictive ⇒ C↑
Net effect:	⇒C↑

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3 Multiple Choice 1 / 1 point

The expected all-in return of Kuspa's carry trade strategy (in AUD terms) is *closest* to:

A. 0.10%.

Answer Feedback: Correct because it is the solution to [(AUD 1)(0.7235 USD/AUD)(1.0031)/0.7243 USD/AUD – AUD 1.0009 = 0.0010 or 0.10%. At a spot rate of 0.7235 USD/AUD, 1 AUD (borrowed at 0.09%) buys USD 0.7235. The one-year future value of USD 0.7235, at the US MRR of 0.31%, is (USD 0.7235) × (1.0031) = USD 0.7257. The reciprocal of Kuspa's predicted value of 0.7243 USD/AUD = 1.3806 AUD/USD is used to convert USD 0.7257 back into AUD at the end of one year. The calculation is (USD 0.7257)(1.3806 AUD/USD) = AUD 1.0019. The 1 AUD borrowed amounts to AUD 1.0009 at the end of the year and must be paid back. The all-in return therefore amounts to AUD 1.0019 – AUD 1.0009 = AUD 0.0010, or an all-return of 0.10%. Note: If full precision (no rounding to four decimal places in FX quotes) is used in calculations, the result is 0.11% but the choice 0.10% remains the correct answer.

B. 0.19%.

Answer Feedback: Incorrect because the 0.09% cost of borrowing AUD, the funding currency, needs to be subtracted from 0.19%.

C. 0.22%.

Answer Feedback: Incorrect because it is the MRR interest rate differential, 0.31% – 0.09% = 0.22%, and does not incorporate exchange rates into the computation of the all-in return.

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4 Multiple Choice 1 / 1 point

Based on Kuspa's risk analysis, which emerging market country is *least* exposed to the potential negative effects of the foreign capital inflows?

A. Country D

Answer Feedback: Incorrect because compared to Country E (1) Country D's higher asset price growth (20% 5-year compound growth rate versus 7% for Country E) means Country D is more likely to enter or be in an asset bubble related to foreign capital chasing high returns; and (2) Country D's level of external debt as a % of GDP is twice as large as Country E's, indicating a greater risk of the potential bad effects of running large current account deficits (e.g., deteriorating terms of trade may be associated with currency crises).

B. Country E

Answer Feedback: Correct because (1) Country E's moderate asset price growth (7% compound growth vs. 20% for Country D and 19% for Country E) means Country E is less likely to be part of an asset price bubble related to foreign capital chasing high returns; (2) its level of external debt is half that of Country D and one-fifth that of Country F. External debt as % of GDP is related to current account deficits (If a country runs a large and persistent current account deficit over time, eventually it will experience an untenable rise in debt owed to foreign investors). This is relevant because:

- Current account deficits relate directly to the "terms of trade" (= exports/imports) currency crisis warning sign # 7. Country D and Country F are more likely to raise this alarm.
- External debt has been associated with currency crises (for example, Iceland's Currency Crisis of 2008); and (3) Foreign exchange reserves at 30% of average daily FX turnover of the domestic currency are slightly larger than for EM D and equal to that of Country F. For emerging markets, with smaller FX trading volume, intervention in FX markets can be an effective tool to influence exchange rates. A strong position means that currency intervention is an alternative tool to capital controls for managing the potential risks of foreign capital inflows. This tool is less available for Country D than for Country E and Country F.

In summary, Country E is superior to Country D on all three factors and superior to Country F on the first two factors and equal on factor 3.

C. Country F

Answer Feedback: Incorrect because its 19% compound asset price growth and 300% ratio of external debt to GDP are factors increasing the likelihood that Country F may impose capital controls compared to Country E, while its level of foreign exchange reserves (matching Country E's) gives Country F no preference over Country E.

Vignette

Margaret Smith is a consultant specializing in private company valuations. She evaluates Lytham Corporation, a small, family-owned company whose CEO is a member of the controlling family. Smith wants to normalize Lytham's reported operating income to compare it with public companies in the same industry. She notes the following items:

- The current annual salary of Lytham's CEO is $600,000. The annual salary of a similarly qualified CEO of a comparable public company is $1,000,000.
- Lytham owns a luxury apartment in Singapore that is used by the CEO for both business and personal travel. The apartment would be sold if Lytham were a public company. The annual operating costs for the property are $200,000 per year and the annual depreciation expense is $200,000.
- Lytham pays 15% of its net income in dividends to its owners. Smith believes the payout ratio would be closer to 50% if Lytham were a public company.

Smith calculates the required return on equity for Lytham using the expanded CAPM and the information in Exhibit 1. Smith determines that the appropriate industry risk premium is zero.

Exhibit 1

Beta	1.3
Risk-free rate	6%
Equity risk premium	4%

Small-cap risk premium	3%
Company-specific risk premium	1%

Calcyte is a publicly traded company with an equity value of $9,043 million. Smith conducts a valuation of Calcyte for a private buyout client who is interested in purchasing a controlling stake. She determines the relevant discount for lack of control to be 23% and the relevant discount for lack of marketability to be 20%.
Smith also values Ramabo Corporation, a privately held company with annual revenues of $10 million. Smith identifies comparable public companies and calculates an average EV/Sales multiple for each of Ramabo's three business segments. She uses these multiples and the revenue generated by each segment in Exhibit 2 to calculate Ramabo's EV based on the guideline public company method.

Exhibit 2

	Revenue (in $ Millions)	EV/Sales
Segment A	6	3.3
Segment B	3	1.2
Segment C	1	4.9

5 Multiple Choice 0 / 1 point

The required adjustments to normalize Lytham's earnings will result in:

× A. a reduction in reported operating income.

Answer Feedback: Incorrect because there should be no change to Lytham's reported operating income after the adjustments.

✓ B. no change in reported operating income.

Answer Feedback: Correct because ongoing distortions requiring adjustment often result from revenues or expenses which may be considered related-party transactions.The first item relates to a below-market CEO salary, and income should be adjusted by increasing selling, general, and administrative (SG&A) expenses by $400,000 (= $1,000,000 – $600,000) to reflect the expected salary expense under professional management at a market rate of compensation. This has the effect of decreasing operating income by $400,000 because it is an operating expense.The second item related to the apartment available for the personal use of the CEO requires adjustments that reflect its sale should the company become public. SG&A expenses should be reduced by $200,000 for the operating expense, thus increasing operating income by the same amount. Annual depreciation expense should also be reduced by $200,000, given that the sold asset no longer incurs depreciation. The total impact for the apartment is an increase in operating income of $400,000.The third item related to dividends paid to owners should have no effect on operating income because dividends paid are not a component of operating income.The net impact to operating income is an increase of $400,000 for the CEO salary and a decrease of $400,000 for the apartment, resulting in no change to reported operating income after the adjustments.

C. an increase in reported operating income.

Answer Feedback: Incorrect because there should be no change to Lytham's reported operating income after the adjustments.

6 Multiple Choice 1 / 1 point

The required return on equity for Lytham using the expanded CAPM is *closest* to:

A. 14.0%.

Answer Feedback: Incorrect because the calculation of the expanded CAPM omits beta:r_e
= 6.0% + 4.0% + 3.0% + 1.0%
= 14.0%

✓ B. 15.2%.

Answer Feedback: Correct because the calculation properly uses the expanded CAPM.r_e = r_f + Beta × Equity risk premium + Small-cap risk premium + Company-specific risk premium
= 6.0% + (1.30 × 4.0%) + 3.0% + 1.0%
= 6.0% + 5.2% + 3.0% + 1.0%
= 15.2%

C. 16.4%.

Answer Feedback: Incorrect because the calculation of the expanded CAPM applies beta to the small-cap risk premium and the company-specific risk premium, in addition to the equity risk premium:r_e = 6.0% + 1.30 × (4.0% + 3.0% + 1.0%)
= 6.0% + 10.4%
= 16.4%

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7 Multiple Choice 1 / 1 point

After applying the appropriate discounts or premiums, the value of Calcyte's equity (in $ millions) to the private buyout client should be *closest* to:

A. 8,898.

Answer Feedback: Incorrect because the control premium is not adjusted when calculating the estimated equity value.Value of equity to the client after adjusting for control premium and DLOM= Equity value × (1 + Control premium) × (1 – DLOM)
= $9,043 million × (1 + 0.23) × (1 – 0.20)
≈ $8,898 million

✓ B. 9,395.

Answer Feedback: Correct because the market equity value needs to be adjusted to add a control premium. Also, since the valuation is being conducted from the perspective of a private buyer, a discount for lack of marketability is appropriate since the firm will not be publicly traded.The discount for lack of marketability (DLOM) is given as 20%, but the discount for lack of control of 23% needs to be converted to a control premium. The conversion is:Discount for lack of control = 1 – [1/(1 + Control premium)]
1/(1 + Control premium) = 1 – Discount for lack of control
(1 + Control premium) = 1/(1 – Discount for lack of control)
Control premium = [1/(1 – Discount for lack of control)] – 1
Control premium = [1/(1 – 0.23)] – 1
Control premium ≈ 0.2987 or 29.87%Value of equity to the client after adjusting for control premium and DLOM= Equity value × (1 + Control premium) × (1 – DLOM)
= $9,043 million × (1 + 0.2987) × (1 – 0.2000)
≈ $9,395 million

C. 11,744.

Answer Feedback: Incorrect because the discount for lack of marketability is not applied when calculating the estimated equity value.Value of equity to the client after adjusting for control premium= Equity value × (1 + Control premium)
= $9,043 million × (1 + 0.2987)
≈ $11,744 million

8 Multiple Choice 1 / 1 point

Using the guideline public company method, Ramabo's EV (in $ millions) is *closest* to:

A. 28.3.

Answer Feedback: Correct because Ramabo's EV using the guideline public company method is properly calculated as follows:EV = Revenue × Composite EV/SalesRevenue is given in the case as $10 million, but the composite EV/Sales multiple based on the revenue generated by each segment needs to be calculated first:Composite EV/Sales = (6/10) × 3.3 + (3/10) × 1.2 + (1/10) × 4.9= 1.98 + 0.36 + 0.49= 2.83EV = $10 million × 2.83= $28.3 million

B. 31.3.

Answer Feedback: Incorrect because Ramabo's EV is calculated using the guideline public company method and a simple average composite EV/Sales multiple as follows:EV = Revenue × Composite EV/SalesRevenue is given in the case as $10 million, and the composite EV/Sales multiple is calculated as:Composite EV/Sales = (3.3 + 1.2 + 4.9)/3= 9.4/3≈ 3.1333EV = $10 million × 3.1333≈ $31.3 million

C. 33.0.

Answer Feedback: Incorrect because Ramabo's EV is calculated using the guideline public company method and the EV/Sales multiple of the largest segment (Segment A) as follows:EV = Revenue × EV/Sales= $10 million × 3.3= $33.0 million

Vignette

Fazly Ahmad is an equity analyst researching Rose Mass Rapid Limited (RMRL), a Canadian transport operator. RMRL reports under IFRS and has a 31 December year end. Ahmad compares RMRL to one of its competitors, Orchid Mass Transit Inc., which reports under US GAAP and also has a 31 December year end.
On 1 January of the current year, RMRL purchased a 30% interest in Begonia Bus Inc.'s outstanding common equity for $12,000,000. The excess purchase price was $2,150,000. Half of the excess was attributable to Begonia's plant and equipment, and the other half was attributable to land. Begonia depreciates its plant and equipment using the straight-line method with a remaining useful life of 10 years and zero residual value. RMRL has the ability to exercise significant influence over Begonia. Ahmad expects Begonia to report net income of $1,500,000 for the current year and not pay any dividends. Ahmad assumes Begonia does not have any intercompany transactions with RMRL. He then estimates the carrying value of RMRL's investment in Begonia at the end of the current year.
During the current year, RMRL acquired 80% of the outstanding shares of Petunia Transit Co. in exchange for common shares of RMRL. At the time of the acquisition, RMRL accounted for the acquisition using the partial goodwill method (Method 1). Also during the current year, Orchid acquired a controlling interest in another company and accounted for the acquisition

using the full goodwill method (Method 2). Ahmad considers whether differences in the accounting treatment of these acquisitions could affect certain financial metrics. Ahmad reviews the trend in RMRL's balance-sheet-based and cash-flow-based accruals ratios, as well as the trend in the Beneish *M*-scores and Altman *Z*-scores over the past two years, using the data in Exhibit 1.

Exhibit 1

	Most Recent Year	Two Years Ago
Balance-sheet-based accruals ratio	4.3%	0.6%
Cash-flow-based accruals ratio	1.7%	−2.5%
Beneish *M*-score	−1.94	−1.43
Altman *Z*-score	1.54	1.85

9 Multiple Choice 1 / 1 point

The estimated carrying value for RMRL's investment in Begonia at the end of the current year should be:

✓ A. $12,342,500.

Answer Feedback: Correct because RMRL has significant influence over Begonia and should account for Begonia as an investment in associate using the equity method. The excess purchase price must be allocated and then amortized periodically. The investor must directly record these adjustment effects by reducing the carrying amount of the investment on its balance sheet and by reducing the investee's profit recognized on its income statement. There are 12 months of amortization that must be recognized in the current year. The annual amortization of excess purchase price attributable to plant and equipment = 0.5 × $2,150,000/10 = $1,075,000/10 = $107,500. Note that land is not amortized. The estimated carrying value of the investment in Begonia at the end of the current year is: = Purchase price + RMRL's share of Begonia's net income − Annual amortization of the excess purchase price of plant and equipment = $12,000,000 + (30% × $1,500,000) − $107,500 = $12,342,500.

B. $12,450,000.

Answer Feedback: Incorrect because this calculation does not account for the annual amortization of the excess purchase price attributable to Begonia's plant and equipment: = $12,000,00 + (30% × $1,500,000) = $12,450,000

C. $13,392,500.

Answer Feedback: Incorrect because this calculation includes 100% of Begonia's net income instead of RMRL's 30% share of Begonia's net income: = $12,000,000 + $1,500,000 − $107,500 = $13,392,500

10 Multiple Choice 1 / 1 point

Compared to Method 2, RMRL's consolidated book value per share under Method 1 would be:

A. lower.

Answer Feedback: Correct because the full goodwill method (Method 2) will result in higher stockholder's equity than the partial goodwill method (Method 1). Since the total number of shares outstanding is the same in either method, the book value per share is higher using the full goodwill method (Method 2). The difference between the two methods is the carrying value of the non-controlling interest in stockholders' equity. This is higher under the full goodwill method (Method 2) than under the partial goodwill method (Method 1).

B. the same.

Answer Feedback: Incorrect because the carrying value of the non-controlling interest, and thus total equity and book value per share, is different between the partial goodwill method (Method 1) and the full goodwill method (Method 2).

C. higher.

Answer Feedback: Incorrect because the full goodwill method (Method 2) will result in higher stockholders' equity than the partial goodwill method (Method 1). Thus, the book value per share is higher, rather than lower, using the full goodwill method (Method 2).

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11 Multiple Choice 0 / 1 point

With respect to RMRL's accruals ratios, Ahmad should conclude that

A. both the balance-sheet-based accruals ratio and the cash-flow-based accruals ratio have improved.

Answer Feedback: Incorrect because the absolute value of the balance-sheet-based accruals ratio increased, reflecting a deterioration in the ratio.

B. the balance-sheet-based accruals ratio has deteriorated, but the cash-flow-based accruals ratio has improved.

Answer Feedback: Correct because the absolute value of the balance-sheet-based accruals ratio increased, whereas the absolute value of the cash-flow-based accruals ratio decreased. This means that the balance-sheet-based accruals ratio has deteriorated, and the cash-flow-based accruals ratio has improved. Both ratios are measures of financial reporting quality.

C. the balance-sheet-based accruals ratio has improved, but the cash-flow-based accruals ratio has deteriorated.

Answer Feedback: Incorrect because the absolute value of the balance-sheet-based accruals ratio increased, whereas the absolute value of the cash-flow-based accruals ratio decreased. Thus, the balance-sheet-based accruals ratio has deteriorated, while the cash-flow-based accruals ratio has improved.

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12 Multiple Choice 1 / 1 point

Based on the trends in the Beneish *M*-scores and Altman *Z*-scores, Ahmad should conclude that:

A. both the probability of earnings manipulation and the probability of bankruptcy have decreased.

Answer Feedback: Incorrect because, although both scores have decreased, the probability of bankruptcy has increased since the *Z*-score is now lower.

✓ B. the probability of earnings manipulation has decreased and the probability of bankruptcy has increased.

Answer Feedback: Correct because a lower Beneish *M*-score indicates a lower likelihood of earnings manipulation and the interpretation of the *Z*-score is that a higher *Z*-score is better. The *Z*-score has decreased in the most recent year compared to the prior year, accordingly the probability of bankruptcy has increased. As for the *M*-score, it has also decreased from the prior year to the most recent year, therefore the probability of earnings manipulation has decreased. Higher *M*-scores (i.e., less negative numbers) indicate an increased probability of earnings manipulation.

C. the probability of earnings manipulation has increased and the probability of bankruptcy has decreased.

Answer Feedback: Incorrect because the probability of earnings manipulation has decreased since the *M*-score has become more negative. The *Z*-score has decreased, indicating that the probability of bankruptcy has increased.

Vignette

John Smith, an advisor at Godel Securities, is meeting with one of his clients, Client A, to provide advice on fixed income investments. Client A currently has investments in Country 1 and Country 2. Smith first analyzes the fixed income market in Country 1. In Exhibit 1, he gathers spot rates (with annual compounding) for government zero-coupon bonds, as well as swap spreads, for maturities of one, two, and three years. He uses that information to construct a forward curve.

Exhibit 1

Maturity (years)	1	2	3
Government spot rate	3%	5%	8%
Swap spread	0.20%	0.25%	0.40%

Smith tells Client A that there are a number of theories that attempt to explain the shape of the yield curve. While the computation of forward rates is straightforward, Smith states that he believes forward rates are upwardly biased predictors of future spot rates.

In Country 2, there is uncertainty about how the government will manage inflation. Smith evaluates the effect on Client A's portfolio from changes in the yields on 1-year, 3-year and 10-year securities. Selected key rate durations for the portfolio as well as Smith's expected change in interest rates at each key rate are shown in Exhibit 2.

Exhibit 2

Security	Key Rate Duration	Expected Key Rate Change
1-year	0.50	1.00%
3-year	0.75	0.75%
10-year	2.50	–0.25%

Smith computes the percentage change in the value of the portfolio. He observes that the average change in the three rates is 0.50%.

Smith also advises Client A on an actively managed corporate bond portfolio in Country 2 using the swap spread as a measure of risk. Smith discusses the implied credit and liquidity risk with Client A using the 5-year swap rate as an example. The 5-year government and

corresponding fixed swap rate at selected times over the last 12 months is presented in Exhibit 3.

Exhibit 3

Period	Government Bond Yield (%)	Fixed Swap Rate (%)
1 month ago	7.48	8.28
6 months ago	8.51	8.86
12 months ago	8.55	8.84

13 Multiple Choice 1 / 1 point

For Country 1, the forward rate for a 2-year zero-coupon bond issued in one year is *closest* to:

A. 6.5%.

Answer Feedback: Incorrect because it is the geometric average of $z_2 = 5\%$ and $z_3 = 8\%$ which are the zero rates for year 2 and year 3. That is $(1.05)(1.08)^{0.50} - 1 = 6.48\%$ or 6.5%.

✓ B. 10.6%.

Answer Feedback: Correct because the 2-year forward rate ($f_{1,2}$) is calculated as follows:$(1 + z_3)^3 = (1+ z_1)^1(1 + f_{1,2})^2$, where z_i is the zero rate for maturity *i*. $(1.08)^3 = (1.03)^1(1 + f_{1,2})^2(1 + f_{1,2})^2 = 1.2230f_{1,2} = (1.2230)^{0.5} - 1 = 0.1059$ or 10.6%.

C. 14.3%.

Answer Feedback: Incorrect because it is the 1-year forward rate beginning in year 2 as follows:$(1 + z_3)^3 = (1+ z_2)^2(1 + f2,1)^1 1.08^3 = 1.05^2(1 + f2,1)^1(1 + f2,1)^1 = 1.14259f_{2,1} = 0.14259$ or 14.3%.

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14 Multiple Choice 1 / 1 point

Which of the following term structure theories of interest rates is *most* consistent with Smith's beliefs?

A. Preferred habitat

Answer Feedback: Incorrect because preferred habit is a theory where lenders/borrowers will deviate from their strong preferences for certain segments of the yield curve to earn additional returns (if large enough). In this theory it is expectations and institutional factors that influence the shape of the yield curve. In the vignette, Smith states that forward rates are upwardly biased predictors of future spot rates. This statement does not describe the preferred habitat model.

✓ B. Liquidity preference

Answer Feedback: Correct because Smith's belief is that forward rates are an upwardly biased predictor of future spot rates. With an upward sloping yield curve it would be liquidity premiums that could explain this shape.

C. Unbiased expectations

Answer Feedback: Incorrect because unbiased expectations implies that expected rates will rise with an upward sloping yield curve. Smith's belief is that forward rates are upwardly biased.

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15 Multiple Choice 1 / 1 point

Based on Smith's expected change in Country 2's interest rates, the percentage change in the value of Client A's portfolio is *closest* to:

A. −1.88%.

Answer Feedback: Incorrect because it uses the average of the change in yields times the overall effective duration as follows: Average change in yields is: (1% + 0.75% − 0.25%)/3 = 0.50%. %ΔValue Portfolio = −Effective Duration × 0.50%, where effective duration is 3.75. %ΔValue Portfolio = −3.75 × 0.50% = −1.875%.

B. −1.69%.

Answer Feedback: Incorrect because it treats the last change (i.e., change in z_{10}) as a positive value as follows: %ΔValue Portfolio = −0.50 × 1% − 0.75 × 0.75% − 2.50 × 0.25% = −1.6875% ≈ −1.69%.

✓ C. −0.44%.

Answer Feedback: Correct because the percentage change is computed using the three key rate durations as follows (where z_i is the zero yield maturity *i*). Key rates for 1, 3 and 10-years are: 0.50, 0.75 and 2.50. The change in zero yields for 1, 3 and 10-years are: 1%, 0.75%, and −0.25%. %ΔValue Portfolio = $-\text{KeyDur}_1 \times \Delta z_1 - \text{KeyDur}_3 \times \Delta z_3 - \text{KeyDur}_{10} \times \Delta z_{10}$ %ΔValue Portfolio = −0.50 × 1% − 0.75 × 0.75% − 2.50 × −0.25% = −0.4375% ≈ −0.44%.

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16 Multiple Choice 1 / 1 point

Country 2's government bond yields and swap rates *best* support a conclusion that the economy is experiencing:

✓ A. a recession.

Answer Feedback: Correct because the swap spread (swap rate − government bond rate) gives us an idea of the credit and liquidity risk in Country 2. This spread typically has greater values during recessions and lower values during expansions. From Exhibit 3 we have the following showing that the spread is getting larger relative to its value 12 months ago:1 month ago: 8.28 − 7.48 = 0.806 months ago: 8.86 − 8.51 = 0.3512 months ago: 8.84 − 8.55 = 0.29.

B. no change.

Answer Feedback: Incorrect because there is a trend in the swap spread that suggests a change in economic activity.

C. an expansion.

Answer Feedback: Incorrect because the swap spread (swap rate – government bond rate) gives us an idea of the credit and liquidity risk in Country 2 and this spread typically has greater values during recessions/contractions and lower values during expansions. From Exhibit 3 we have the following showing that the spread is getting larger relative to its value 12 months ago:1 month ago: 8.28 – 7.48 = 0.806 months ago: 8.86 – 8.51 = 0.3512 months ago: 8.84 – 8.55 = 0.29.

Vignette

James Ryan is a portfolio manager who is reviewing the risk exposure of his stock and bond portfolios, and evaluating new trading strategies.
When analyzing his current stock portfolio, Ryan determines that the monthly 5% VaR is $10.6 million.
Ryan's current bond portfolio has a value of $260 million. He uses the parametric method to estimate the daily 5% VaR based on a daily expected return of 0.0218% and a daily standard deviation of returns of 0.8246%. He assumes that portfolio returns follow a normal distribution and that a 5% VaR is 1.65 standard deviations below the expected value.
Ryan considers the implications of adding bonds with embedded options to his current bond portfolio. He is concerned that adding these bonds will cause portfolio performance to deviate significantly from the benchmark. Given this concern, he wants to use an extension of VaR that will measure the extent of this deviation.
Ryan is in the process of backtesting a new multifactor portfolio strategy. For his investment universe of liquid securities, he assesses the performance of a large number of different strategies that use a wide range of factors and rebalancing periods.
After completing his backtesting, Ryan identifies three factor strategies that are all expected to generate a similar mean return and standard deviation. He uses the metrics in Exhibit 1 to evaluate which strategy would provide the most attractive statistical properties for his risk-averse clients.

Exhibit 1

	Strategy X	Strategy Y	Strategy Z
Skewness	–0.9	2.4	2.4
Kurtosis	12.7	20.3	12.7
Maximum drawdown	35.3%	31.4%	30.2%

17 Multiple Choice 1 / 1 point

Which of the following statements is correct regarding Ryan's current stock portfolio?

A. There is a 5% chance of losing $10.6 million over one month

Answer Feedback: Incorrect because VaR does not give the likelihood of losing a specific amount. Instead, value at risk is the minimum loss that would be expected a certain percentage of the time over a certain period of time given the assumed market conditions. In this case, the monthly 5% VaR is $10.6 million, so $10.6 million would be the minimum expected loss over one month 5% of the time.

B. The maximum monthly loss will be $10.6 million with 5% probability

Answer Feedback: Incorrect because value at risk is the minimum loss that would be expected a certain percentage of the time over a certain period of time given the assumed market conditions. In this case, the monthly 5% VaR is $10.6 million, so $10.6 million would be the minimum, not maximum, expected loss over one month 5% of the time.

✓ C. Monthly losses of at least $10.6 million are expected 5% of the time

Answer Feedback: Correct because value at risk is the minimum loss that would be expected a certain percentage of the time over a certain period of time given the assumed market conditions. In this case, the monthly 5% VaR is $10.6 million, so a monthly loss of at least that amount would be expected to occur 5% of the time.

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18 Multiple Choice 1 / 1 point

Using the parametric method, the daily 5% VaR (in $ millions) for Ryan's current bond portfolio is *closest* to:

A. 2.09.

Answer Feedback: Incorrect because the first step of the calculation of the daily 5% parametric VaR is missed as follows:Step 1: Subtract the daily standard deviation from the daily expected return: 0.000218 – 0.008246 = –0.008028Step 2: Take the absolute value of the result in Step 1: 0.008028Step 3: Multiply the result in Step 2 by the value of the portfolio: VaR = 0.008028 × $260,000,000 = $2,087,280 ≈ $2.09 million

✓ B. 3.48.

Answer Feedback: Correct because the daily 5% parametric VaR is calculated as follows:Step 1: Multiply the daily standard deviation by 1.65: 1.65 × 0.008246 = 0.0136059Step 2: Subtract the result in Step 1 from the daily expected return: 0.000218 – 0.0136059 = –0.0133879Step 3: Take the absolute value of the result in Step 2: 0.0133879Step 4: Multiply the result in Step 3 by the value of the portfolio: VaR = 0.0133879 × $260,000,000 = $3,480,854 ≈ $3.48 million

C. 3.54.

Answer Feedback: Incorrect because the VaR is mistakenly calculated by multiplying the value of the portfolio by 1.65 times the standard deviation of the portfolio.VaR = $260,000,000 × 1.65 × 0.008246 = $3,537,534 ≈ $3.54 million

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19 Multiple Choice 1 / 1 point

Given his concern about the impact of adding bonds with embedded options to his current bond portfolio, which of the following extensions of VaR should Ryan use?

✓ A. Relative VaR

Answer Feedback: Correct because Ryan is concerned about the performance of his portfolio deviating from its benchmark if he adds bonds with embedded options and ex ante tracking error, also known as relative VaR, is a measure of the degree to which the performance of a given investment portfolio might deviate from its benchmark.

B. Conditional VaR

Answer Feedback: Incorrect because Ryan is concerned about the performance of his portfolio deviating from its benchmark if he adds bonds with embedded options, however, conditional VaR would not enable him to address this concern. Conditional VaR is the average loss conditional on exceeding the VaR cutoff, which answers the question 'How much can I expect to lose if VaR is exceeded?'

C. Incremental VaR

Answer Feedback: Incorrect because Ryan is concerned about the performance of his portfolio deviating from its benchmark if he adds bonds with embedded options, however, incremental VaR would not enable him to address this concern. Incremental VaR allows the user to know how the portfolio VaR will change if a position size is changed relative to the remaining positions.

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20 Multiple Choice 1 / 1 point

Which of the following strategies would provide the *most* attractive statistical properties for Ryan's risk-averse clients?

A. Strategy X

Answer Feedback: Incorrect because Strategy X would be less attractive to risk-averse investors on the basis that, while it has the joint-lowest kurtosis (probability of extreme negative surprises), it has negative skewness (higher probability of negative returns) and a larger maximum drawdown (greater downside risk) than Strategy Z.

B. Strategy Y

Answer Feedback: Incorrect because Strategy Y would be less attractive to risk-averse investors on the basis that, while it has positive skewness (higher probability of positive returns), it also has higher kurtosis (higher probability of extreme negative surprises) and a larger maximum drawdown (greater downside risk) than Strategy Z.

✓ C. Strategy Z

Answer Feedback: Correct because the strategies have similar expected return and standard deviation, therefore Ryan's risk-averse clients would be most attracted to strategies with positive skewness (higher probability of positive returns), lower kurtosis (lower probability of extreme negative surprises), and smaller maximum drawdown (less downside risk). Strategy Z has the lowest downside risk, the joint-lowest kurtosis, and the joint-highest positive skewness, so it would be most attractive to risk-averse investors.

Vignette

Anita Daani, a research analyst, is evaluating the financial institutions in her coverage universe. She begins with an analysis of KTR Insurance, a property and casualty (P&C) insurance company. KTR reports under IFRS with a fiscal year end of 31 December. The company has two employee compensation plans:
Plan A - a defined benefit pension plan
Plan B - a share-based compensation plan which grants restricted stock units (RSUs)
For the most recent year, Daani calculates the amount recognized by KTR as an operating expense in its income statement related to Plan A. She observes that Plan A had a current service cost of $10 million and a past service cost of $2 million for the most recent year.

Daani next assesses the dilutive effect of the share-based compensation plan on KTR's financial statements. She uses the treasury stock method and the data for the most recent year for Plan B in Exhibit 1. Daani assumes that KTR has no other potentially dilutive securities outstanding besides the RSUs granted under Plan B.

Exhibit 1

Basic shares outstanding at end of year	2,700 million
Number of unvested RSUs at end of year	150 million
Average unrecognized share-based compensation expense	$840 million
Average share price during the most recent year	$7

On 1 January of the current year, KTR grants 2 million new RSUs to employees under Plan B. The share price on the grant date was $8 and the vesting period is 4 years. Daani calculates the effect of the new RSU grants under Plan B on KTR's financial statements for the current year.

Daani next analyzes KTR's competitive position in the P&C insurance industry. She uses data in Exhibit 2 to compare KTR and its peers in their efficiency of obtaining new premiums.

Exhibit 2

	KTR	Peer Company 1	Peer Company 2
Loss and loss adjustment expense ratio	59.5%	65.4%	61.9%
Underwriting expense ratio	38.1%	30.7%	33.2%
Combined ratio	97.6%	96.1%	95.1%

21 Multiple Choice 0 / 1 point

For the most recent year, KTR's operating expense (in $ millions) related to Plan A was:

A. 8.

Answer Feedback: Incorrect because this is the difference in the current and the past service cost. Operating expense on the income statement ($ million) = Current service cost – Past service cost = 10 – 2 = 8

✗ B. 10.

Answer Feedback: Incorrect because this is only the current service cost with the past service cost omitted. Under IFRS, service cost has two sub-components: current and past service costs. Service costs are recognized as an operating expense on the income statement. This would be the correct answer if KTR reported under US GAAP, as under US GAAP, past service costs are reported in OCI in the period in which the change giving rise to the cost occurs. In subsequent periods, past service costs are amortized to the income statement over the average service lives of the affected employees.

✓ C. 12.

Answer Feedback: Correct because under IFRS service cost has two sub-components: current and past and service costs are recognized as an operating expense on the income statement. Operating expense on the income statement ($ million) = Current service cost + Past service cost = 10 + 2 = 12

22 Multiple Choice 1 / 1 point

Using the treasury stock method, KTR's number of diluted shares outstanding at the end of the most recent year (in millions) is *closest* to:

✓ A. 2,730.

Answer Feedback: Correct because diluted shares outstanding using treasury stock method is calculated as shown below:

Basic shares outstanding	2,700 million
Plus: Unvested RSUs	150 million
Minus: Assumed repurchases = Average unrecognized share-based compensation expense/ Average stock price	$840 million/ $7 = 120 million
Diluted shares outstanding	2,730 million

The above calculation is based on: Diluted shares outstanding is computed using the treasury stock method, where unvested RSUs are added to basic shares outstanding, net of assumed repurchases which is based on the average unrecognized share-based compensation expense and average prevailing market price for the shares. Basic shares outstanding Plus: Shares issued from conversion or exercise of share-based awards Minus: (Assumed proceeds from conversion or exercise of the share-based awards / Average share price for the reporting period) = Diluted shares outstanding. and the treasury stock method adds a 'net' amount of potentially dilutive securities like unvested RSUs to basic shares outstanding.

B. 2,850.

Answer Feedback: Incorrect because assumed repurchases are ignored rather than being deducted

Basic shares outstanding	2,700 million
Plus: Unvested RSUs	150 million
Diluted shares outstanding	2,850 million

C. 2,970.

Answer Feedback: Incorrect because diluted shares outstanding is wrongly calculated by adding assumed repurchases rather than deducting

Basic shares outstanding	2,700 million
Plus: Unvested RSUs	150 million
Plus: Assumed repurchases = Average unrecognized share based compensation expense/ Average stock price	$840 million/ $7 = 120 million
Diluted shares outstanding	2,970 million

23 Multiple Choice 1 / 1 point

In KTR's current year financial statements, which of the following would result from its new RSU grants under Plan B?

A. $4 million increase in compensation expense

Answer Feedback: Correct because the annual share-based compensation expense can be calculated by taking the product of the RSUs granted and the grant-date share prices, further multiplied by the fraction of awards that vest each period. For the current financial year: RSUs granted = 2 million Grant date share price = $8 Fraction of awards that vest each period = 2 million/ 4 years vesting period = 0.5 million Annual share based compensation expense = 0.5 million × $8 = $4 million Therefore the impact of the RSUs granted during the current year will lead to an increase in income statement compensation expense by $4 million.

B. $4 million increase in cash flow from financing activities

Answer Feedback: Incorrect because there is no impact on the statement of cash flows because of the vesting of RSUs, which is a non-cash transaction. As a non-cash transaction, share-based compensation does not impact cash flows.

C. $16 million increase in share-based compensation reserve

Answer Feedback: Incorrect because the share-based compensation reserve will increase by $4 million in the current financial year (first year of vesting) not $16 million (this is the cumulative increase in reserve over the 4 years of vesting). The general approach is to measure the fair value of the share-based award at the grant date, recognize it as an expense over the vesting period with the offsetting entry to equity, and transfer the entries from one equity account to another at settlement.

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24 Multiple Choice 1 / 1 point

Which P&C insurance company is the *most* efficient at obtaining new premiums?

A. KTR

Answer Feedback: Incorrect because KTR has the highest and not the lowest underwriting expense ratio. KTR has the lowest loss and loss adjustment expense ratio, which indicates the efficiency of underwriting process, rather than the efficiency of obtaining new premium. *Loss and loss adjustment expense ratio = (Loss expense + Loss adjustment expense)/Net premiums earned.* This ratio indicates the degree of success an underwriter has achieved in estimating the risks insured. The lower the ratio, the greater the success.

B. Peer Company 1

Answer Feedback: Correct because Peer Company 1 has the lowest underwriting expense ratio. *Underwriting expense ratio = Underwriting expense/Net premiums written.* This ratio measures the efficiency of money spent in obtaining new premiums. A lower ratio indicates higher success.

C. Peer Company 2

Answer Feedback: Incorrect because Peer Company 2 does not have the lowest underwriting expense ratio. Peer Company 2 has the lowest combined ratio, which indicates the overall efficiency rather than the efficiency of obtaining new premium. *Combined ratio = Loss and loss adjustment expense ratio + Underwriting expense ratio.* This ratio indicates the overall efficiency of an underwriting operation. A combined ratio of less than 100 is considered efficient.

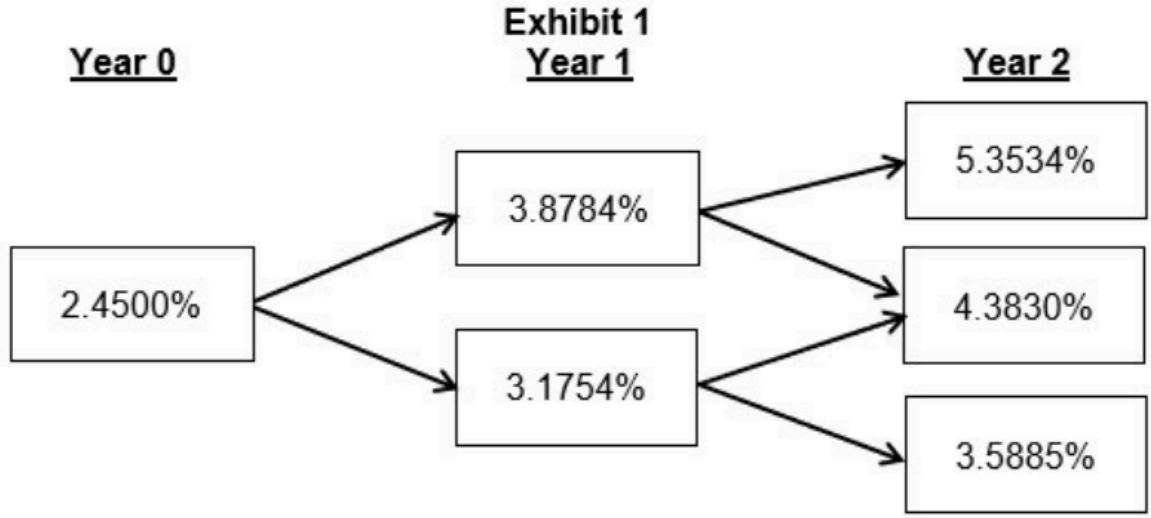
Vignette

Susanne Blythe is a fixed income analyst with an institutional fixed-income manager. She evaluates bonds for potential inclusion in the firm's portfolio.

Blythe is calibrating the binomial tree shown in Exhibit 1 to be consistent with observable prices of default-free bonds. In the tree, interest rate volatility is assumed to be 10% and branching from each node to a high state or a low state occurs with equal probability. She uses the tree to calculate the value of a default-free 3-year bond with a 3.5% annual coupon that is priced at par ($100).

Blythe has determined that the 1-year forward rates at Year 0 and Year 1 are correct. In the next iteration of the calibration process, she needs to determine if the 1-year forward rates at Year 2 must be adjusted for the bond's calculated value to equal its market price.

Exhibit 1



▶ Expand / Collapse Extended Description

Blythe evaluates three bonds just issued by Y Corporation. All three bonds have identical characteristics except for optionality, as shown in Exhibit 2.

Exhibit 2

Bond	Maturity	Annual Coupon	Type of Bond
Bond 1	3 years	4.5%	Option-free
Bond 2	3 years	4.5%	Putable at 100 one year and two years from now
Bond 3	3 years	4.5%	Callable at 102 one year and two years from now

Blythe also evaluates a convertible bond issued by Z Corporation with the characteristics provided in Exhibit 3.

Exhibit 3

Maturity	5 years
Issue price of convertible bond	$1,000 (at par)
Current convertible bond price	$1,091
Initial conversion price	$25.00 per share
Share price at issuance	$17.40
Current share price	$18.50

Blythe computes the market conversion premium ratio to compare the Z Corporation bond to other convertible bonds.

25 Multiple Choice 0 / 1 point

When completing the next iteration of the calibration process for the binomial tree, Blythe should:

✗ A. decrease the 1-year forward rates at Year 2.

Answer Feedback: Incorrect because the value of the bond using the current binomial tree is 100.1684, which is above the market price of 100. Therefore, the forward rates at Year 2 need to be increased, not decreased, to lower the value of the bond and properly calibrate the binomial tree to the market price.

B. leave the 1-year forward rates at Year 2 unchanged.

Answer Feedback: Incorrect because the value of the bond using the current binomial tree is 100.1684, which is above the market price of 100. Therefore, the forward rates at Year 2 need to be increased to lower the value of the bond and properly calibrate the binomial tree to the market price.

✓ C. increase the 1-year forward rates at Year 2.

Answer Feedback: Correct because the value of the bond using the current binomial tree is 100.1684, which is above the market price of 100. Therefore, the forward rates at Year 2 need to be adjusted upward to lower the value of the bond and properly calibrate the binomial tree to the market price. The calculation is as follows: Value at Node 3-1 = 98.2408 = (3.5 + 100) / 1.053534 Value at Node 3-2 = 99.1541 = (3.5 + 100) / 1.043830 Value at Node 3-3 = 99.9146 = (3.5 + 100) / 1.035885 Value at Node 2-1 = 98.3818 = [3.5 + (0.5 × 98.2408 + 0.5 × 99.1541)] / 1.038784 Value at Node 2-2 = 99.8633 = [3.5 + (0.5 × 99.1541 + 0.5 × 99.9146)] / 1.031754 Value at Node 1-1 = 100.1684 = [3.5 + (0.5 × 98.3818 + 0.5 × 99.8633)] / 1.024500

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26 Multiple Choice 1 / 1 point

Which of the bonds issued by Y Corporation *most likely* has the highest value?

A. Bond 1

Answer Feedback: Incorrect because Bond 2 should have a higher valuation than Bond 1 due to Bond 2's embedded put option. The value of the put option increases the value of the putable bond relative to the value of the straight bond. Value of putable bond = Value of straight bond + Value of investor put option.

✓ B. Bond 2

Answer Feedback: Correct because Bond 2 should have a higher valuation than Bond 1 (the straight bond) due to Bond 2's embedded put option. The value of the put option increases the value of the putable bond relative to the value of the straight bond. Value of putable bond = Value of straight bond + Value of investor put option. Further, Bond 1 should have a higher value than Bond 3 due to Bond 3's embedded call option. The value of the call option decreases the value of the callable bond relative to the value of the straight bond: Value of callable bond = Value of straight bond − Value of issuer call option. Hence, Bond 2's value > Bond 1's value > Bond 3's value. The fact that the put strike price of 100 is lower than the call strike price of 102 does not affect the relative valuations of these bonds. From an investor's perspective, an embedded put option adds value while an embedded call decreases value.

C. Bond 3

Answer Feedback: Incorrect because Bond 2 should have a higher valuation than Bond 3 due to Bond 2's embedded put option and Bond 3's embedded call option. The value of the put option increases the value of the putable bond relative to the value of the straight bond. The value of the call option decreases the value of the callable bond relative to the value of the straight bond. Value of putable bond = Value of straight bond + Value of investor put option Value of callable bond = Value of straight bond – Value of issuer call option Hence, Bond 2's value > Bond 1's value > Bond 3's value.

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27 Multiple Choice 0 / 1 point

Which of the bonds issued by Y Corporation is *most likely* to exhibit negative convexity?

A. Bond 1

Answer Feedback: Incorrect because Bond 1 is an option-free bond and an option-free bond exhibits low positive convexity.

× B. Bond 2

Answer Feedback: Incorrect because Bond 2 is a putable bond and putable bonds always have positive convexity.

✓ C. Bond 3

Answer Feedback: Correct because Bond 3 (the callable bond) is most likely to exhibit negative convexity. When interest rates are high and the value of the call option is low, the callable and straight bond experience very similar effects from changes in interest rates. They both have positive convexity. However, the effective convexity of the callable bond turns negative when the call option is near the money which indicates that the upside for a callable bond is much smaller than the downside. The reason is because when interest rates decline, the price of the callable bond is capped by the price of the call option if it is near the exercise date. Conversely, putable bonds always have positive convexity.

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28 Multiple Choice 1 / 1 point

The current market conversion premium ratio for Z Corporation's convertible bond is *closest* to:

A. 43.7%.

Answer Feedback: Incorrect because this is the calculation for the market conversion premium ratio at the time of issuance. Initial conversion premium per share = Initial conversion price – Share price at issuance = 25.00 – 17.40 = 7.60 Initial conversion premium ratio = Initial conversion premium per share / Share price at issuance = 7.60 / 17.40 = 43.7%

✓ B. 47.4%.

Answer Feedback: Correct because the current market conversion price and the current share price were used in the calculations, which are as follows: Conversion ratio = Issue price of bond / Initial conversion price = 1,000 / 25 = 40 Market conversion price = Convertible bond price / Conversion ratio = 1,091 / 40 = 27.275 Market conversion premium per share = Market conversion price – Current share price = 27.275 – 18.50 = 8.775 Market conversion premium ratio = Market conversion premium per share / Current share price = 8.775 / 18.50 = 47.4%

C. 56.8%.

Answer Feedback: Incorrect because this calculation compares the market conversion price to the share price at issuance instead of the current share price. Conversion ratio = Issue price of bond / Initial conversion price = 1,000 / 25 = 40 Market conversion price = Convertible bond price / Conversion ratio = 1,091 / 40 = 27.275 Market conversion premium per share = Market conversion price – Share price at issuance = 27.275 – 17.40 = 9.875 Market conversion premium ratio = Market conversion premium per share / Share price at issuance = 9.875 / 17.40 = 56.8%

Vignette

Sebastian Traver is a financial analyst at Feldcroft Inc., a large, US-based construction company specializing in commercial and residential projects. He is reviewing the company's asset financing options and evaluating potential growth opportunities.

Feldcroft is considering the purchase of a new corporate helicopter to access remote construction sites. Traver evaluates a proposal for a 10-year lease with payments of $125,000 at the end of each month. The helicopter has a fair value of $15 million and Feldcroft would incur a direct cost of $750,000 at the beginning of the lease. The residual value of the helicopter at the end of the lease is expected to be $8,700,000. Feldcroft has an unsecured incremental borrowing rate of 8%.

Feldcroft has operations in Country A, an emerging market that represents 10% of the company's revenue. To estimate the equity risk premium that should be used in calculating Feldcroft's cost of equity, Traver uses the country spread model with no adjustment for the relative volatility of Country A equity and bond returns. The current US equity risk premium is 5.94% and 10-year US Treasury bonds yield 3.50%. Country A recently issued a 10-year bond denominated in local currency that yields 7.55% and a 10-year bond denominated in US dollars that yields 5.15%.

Feldcroft is considering acquiring a construction company that has sales of $7.00 per share. To estimate a fair takeover value for this target company, Traver uses comparable transaction analysis with equal weights on three transactions, as shown in Exhibit 1. He notes that Feldcroft's current price-to-sales (P/S) ratio is 1.35 and that transactions in the construction industry take place at an average takeover premium of 8%.

Exhibit 1

Variable	Acquired Company 1	Acquired Company 2	Acquired Company 3
Sales per share	$6.30	$12.98	$9.01
P/S ratio at acquisition price	1.78	1.84	1.63

Finally, Traver prepares a pro forma income statement reflecting the acquisition of the target construction company. He assumes the acquisition would generate cost synergies and be funded with new debt, which would include refinancing the target company's existing debt. After separating depreciation and amortization from operating expenses, Traver models selected pro forma income statement balances as follows:

- Interest expense: Add interest expense from the new debt issuance to the target company's current interest expense
- Operating expenses: Add cost synergies to and subtract cost dis-synergies from combined operating expenses

- Depreciation and amortization expense: Add amortization of acquired intangible assets to combined depreciation and amortization expense

29 Multiple Choice 0 / 1 point

The implied annual interest cost of the helicopter lease is *closest* to:

✓ A. 6.30%.

Answer Feedback: Correct because the implied interest cost of the lease equates the initial cash outflow to the present value of the net cash flows beyond the initial year. Using a calculator, the implied interest cost is calculated as follows: Payment (PMT) = $125,000 Present value (PV) = −$15,750,000 ($15 million fair value plus $750,000 direct costs) Number of payments (N) = 120 (10 years × 12 monthly payments) Future value (FV) = $8,700,000 Solve for interest rate (i) = 0.5249% per month Implied annual interest rate = 0.5249% × 12 = 6.299% ≈ 6.30%

✗ B. 7.10%.

Answer Feedback: Incorrect because this response does not include Feldcroft's direct costs as part of the cash flows of the lease. Using a calculator, the implied interest cost is calculated as follows: Payment (PMT) = $125,000 Present value (PV) = −$15,000,000 Number of payments (N) = 120 (10 years × 12 monthly payments) Future value (FV) = $8,700,000 Solve for interest rate (i) = 0.5921% per month Implied annual interest rate = 0.5921% × 12 = 7.1049% ≈ 7.10%

C. 8.00%.

Answer Feedback: Incorrect because this response assumes the lease cost will be based on Feldcroft's unsecured incremental borrowing rate. However, the implied interest cost of the lease is based on the cash flows of the lease itself and is calculated independently from the unsecured incremental borrowing rate.

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30 Multiple Choice 0 / 1 point

Based on the country spread model, the equity risk premium that should be used in calculating Feldcroft's cost of equity is *closest* to:

✓ A. 6.11%.

Answer Feedback: Correct because, under the country spread model, Feldcroft's equity risk premium (ERP) is based on the ERP of the US plus a country risk premium adjusted for the level of Feldcroft's exposure to Country A. ERP = ERP for a developed market + (λ × Country risk premium) where, λ is the level of Feldcroft's exposure to Country A Country risk premium = Yield on Country A bonds (denominated in USD) − Yield on US bonds (denominated in USD) Therefore, ERP = 5.94% + [10% × (5.15% − 3.50%)] ERP = 6.105% ≈ 6.11%

B. 6.35%.

Answer Feedback: Incorrect because this response uses Country A's 10-year bond denominated in local currency instead of the USD-denominated 10-year bond. This response incorrectly calculates the equity risk premium as: ERP = 5.94% + [10% × (7.55% − 3.50%)] ERP = 6.345% ≈ 6.35%

C. 7.59%.

Answer Feedback: Incorrect because this response does not adjust Feldcroft's equity risk premium (ERP) for the level of exposure to Country A. This response incorrectly calculates the equity risk premium as: ERP = 5.94% + (5.15% – 3.50%) ERP = 7.59%

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31 Multiple Choice 1 / 1 point

Based on comparable transaction analysis, the fair takeover value per share of the target construction company is *closest* to:

A. $9.45.

Answer Feedback: Incorrect because this response applies Feldcroft's P/S ratio of 1.35 instead of the mean P/S ratio of the comparable transactions (1.75). Given the target company's sales per share of $7.00: Fair takeover value per share = Sales per share × Feldcroft's P/S ratio = $7.00 × 1.35 = $9.45

B. $12.25.

Answer Feedback: Correct because comparable transaction analysis is closely related to comparable company analysis, except that the analyst uses valuation multiples from historical acquisitions of similar targets. It is not necessary to separately estimate a takeover premium. The takeover premium is embedded in the comparable transaction multiples. Given the target company's sales per share of $7.00: Fair takeover value per share = Sales per share × Mean P/S of comparable transactions Mean P/S of comparable transactions = (1.78 + 1.84 + 1.63) / 3 = 1.75 Fair takeover value per share = $7.00 × 1.75 = $12.25

C. $13.23.

Answer Feedback: Incorrect because this response adds the 8% average takeover premium in the construction industry, which is double-counting as the premium is already embedded in the comparable transaction multiples. Given the target company's sales per share of $7.00: Fair takeover value per share = Sales per share × Mean P/S of comparable transactions × (1 + Average industry takeover premium) Mean P/S of comparable transactions = (1.78 + 1.84 + 1.63) / 3 = 1.75 Fair takeover value per share = $7.00 × 1.75 × (1 + 8%) = $13.23

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32 Multiple Choice 0 / 1 point

Which of the following balances on the pro forma income statement does Traver *most likely* model correctly?

A. Interest expense

Answer Feedback: Incorrect because Traver double counts interest expense on the target's pre-acquisition debt, which would be refinanced as part of the new debt issuance associated with the acquisition. In addition, to the extent Feldcroft has any pre-acquisition debt (which is not stated in the vignette), Traver also omits interest expense related to that debt. 1. Start with current acquirer interest expense. 2. Add increased interest from new debt issuance and revised interest rate.

B. Operating expenses

Answer Feedback: Incorrect because cost synergies should be subtracted from, not added to, operating expenses, and cost dis-synergies should be added to, not subtracted from, operating expenses. 1. Combine acquirer and target operating expenses. 2. Subtract cost synergies or add the cost of incompatible activities (dis-synergies).

C. Depreciation and amortization expense

Answer Feedback: Correct because these are the appropriate steps to determine pro forma depreciation and amortization. 1. Combine acquirer and target depreciation and amortization. 2. Add amortization of acquired intangible assets.

Vignette

Megan Helmer is an analyst at Acuity Investments. She uses machine learning to build a model that categorizes companies according to whether their predicted ROE is low or high. The model uses multiple features to explain the variations in ROE. The model produces low error rates using training data, but much higher error rates using out-of-sample data. Helmer also builds a logistic regression model to predict the 1-year probability of default for junk bond issuers. She collects data for 70 issuers over the past five years and identifies those that defaulted within the subsequent year (DEFAULT = 1) and those that did not default (DEFAULT = 0). She uses two independent variables in the logistic regression model: the ratio of debt to total capital (LEVERAGE) and the interest coverage ratio (COVERAGE). The coefficients of the regression are shown in Exhibit 1. Using this model, Helmer then estimates the probability of default by ACME, an issuer with LEVERAGE of 0.8 and COVERAGE of 0.9.

Exhibit 1

	Coefficient
Intercept	−20.0
LEVERAGE	65.5
COVERAGE	−35.0

Next, Helmer builds a linear regression model for manufacturing companies (Model 1) to forecast the impact of inflation caused by supply chain disruptions on profit margin. She uses five years of quarterly data for 100 companies and the following model specification:
Model 1: $\text{MARGIN}_t = b_0 + b_1\text{INPUT}_t + b_2\text{LOGISTICS}_t + \varepsilon_t$,
where MARGIN is profit margin, INPUT is raw material cost inflation, and LOGISTICS is freight cost inflation.
Helmer assesses possible violations of regression assumptions in Model 1 and makes the following observations:

- Observation 1: There are significant deviations of the residuals from the diagonal in the Q-Q plot.
- Observation 2: The null hypothesis of the Breusch−Pagan test is rejected.

33 Multiple Choice 0 / 1 point

Helmer's ROE prediction model *most likely* suffers from:

A. overfitting and base error.

Answer Feedback: Incorrect because base error is due to randomness in the data, which impacts both training data and out-of-sample data. Variance error captures how much the model's results change in response to new data from validation and test samples. Unstable models pick up noise and produce high variance, causing overfitting and high out-of-sample error. Hence, high out-of-sample error (variance error) in the model is caused by overfitting to the training data.

B. underfitting and bias error.

Answer Feedback: Incorrect because bias error captures the degree to which a model fits the training data. Algorithms with erroneous assumptions produce high bias with poor approximation, causing underfitting and high in-sample error. The case states that the model performs well on training or in-sample data, so there is no evidence of bias error or underfitting.

C. overfitting and variance error.

Answer Feedback: Correct because Helmer's model is good at correctly classifying using the training data, but it does not perform well using new data. Low or no in-sample error but large out-of-sample error are indicative of poor generalization. Variance error captures how much the model's results change in response to new data from validation and test samples. Unstable models pick up noise and produce high variance, causing overfitting and high out-of-sample error. Hence, high out-of-sample error (variance error) in the model is caused by overfitting to the training data.

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34 Multiple Choice 0 / 1 point

Based on the logistic regression model, the probability that ACME defaults within the next year is *closest* to:

A. 29%.

Answer Feedback: Incorrect because the negative sign is omitted when calculating the event probability. The event probability is incorrectly calculated as: $P = 1/(1 + \exp(b_0 + b_1 \times \text{LEVERAGE} + b_2 \times \text{COVERAGE}))$. Based on the coefficient estimates in Exhibit 1 and the value of the independent variables for ACME: $P = 1/(1 + \exp(-20 + 65.5 \times 0.8 - 35 \times 0.9)) = 1/(1 + \exp(0.9)) = 0.2891$ or 29%

B. 71%.

Answer Feedback: Correct because a logistic regression model uses a log-odds transformation: $\ln(P/(1 - P)) = b_0 + b_1 \times \text{LEVERAGE} + b_2 \times \text{COVERAGE}$, where b_0 is the intercept, b_1 and b_2 are the slope parameters. The event probability is then calculated as: $P = 1/(1 + \exp(-(b_0 + b_1 \times \text{LEVERAGE} + b_2 \times \text{COVERAGE})))$. Based on the coefficient estimates in Exhibit 1 and the value of the independent variables for ACME: $P = 1/(1 + \exp(-(-20 + 65.5 \times 0.8 - 35 \times 0.9))) = 1/(1 + \exp(-0.9)) = 0.7109$ or 71%

C. 90%.

Answer Feedback: Incorrect because the regression is treated as a linear regression instead of a logistic regression and the probability of default is incorrectly calculated as: $P = b_0 + b_1 \times \text{LEVERAGE} + b_2 \times \text{COVERAGE}$ $P = -20 + 65.5 \times 0.8 - 35 \times 0.9 = 0.9$ or 90% In case the intercept is missed in calculating the event probability in the logistic regression model, the default probability is 100%, which is closest to 90%. The event probability is incorrectly calculated as: $P = 1/(1 + \exp(-(b_1 \times \text{LEVERAGE} + b_2 \times \text{COVERAGE})))$. Based on the coefficient estimates in Exhibit 1 and the value of the independent variables for ACME: $P = 1/(1 + \exp(-(65.5 \times 0.8 - 35 \times 0.9))) = 1/(1 + \exp(-20.9)) = 1.0000$ or 100%

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35 Multiple Choice 1 / 1 point

Observation 1 indicates a violation of which regression assumption?

A. Normality

Answer Feedback: Correct because a Q-Q plot is used to visualize the distribution of a variable by comparing it to a normal distribution (the diagonal). In the case of regression, we can use a Q-Q plot to compare the model's standardized residuals to a theoretical standard normal distribution. If the residuals are normally distributed, they should align along the diagonal. Significant deviations of the residuals from the diagonal of the Q-Q plot, as per Observation 1, indicate that the residuals are not normally distributed.

B. Homoskedasticity

Answer Feedback: Incorrect because a Q-Q plot is used to visualize the distribution of a variable by comparing it to a normal distribution (the diagonal). Significant deviations of the residuals from the diagonal of the Q-Q plot, as per Observation 1, indicate that the residuals are not normally distributed, but it does not mean that there is heteroskedasticity. Homoskedasticity could be visually explored with a scatterplot between dependent and independent variables included in the regression.

C. Independence of explanatory variables

Answer Feedback: Incorrect because a Q-Q plot is used to visualize the distribution of a variable by comparing it to a normal distribution (the diagonal). The Q-Q plot cannot be used to identify non-linear relationships between the dependent variable (Y) and the independent variables (X_j). Significant deviations of the residuals from the diagonal of the Q-Q plot, as per Observation 1, indicate that the residuals are not normally distributed, but this does not mean that there is interdependence of explanatory variables or multicollinearity. A pairwise scatterplot of the independent variables is used to detect this relationship.

36 Multiple Choice 1 / 1 point

With respect to the tests for violations of regression assumptions, Observation 2 indicates that:

A. no corrective action is necessary.

Answer Feedback: Incorrect because the null hypothesis for the Breusch–Pagan test is that there is no conditional heteroskedasticity. Since the hypothesis is rejected, it indicates that the residuals are conditionally heteroskedastic. This is a violation of the assumptions of linear regression, which needs to be corrected.

B. a larger sample size should be used.

Answer Feedback: Incorrect because the null hypothesis for the Breusch–Pagan test is that there is no conditional heteroskedasticity. Since the hypothesis is rejected, it indicates that the residuals are conditionally heteroskedastic. Increasing the sample size does not fix the existing conditional heteroskedasticity. This is instead a possible solution in the presence of multicollinearity.

✓ C. robust standard errors should be calculated.

Answer Feedback: Correct because the null hypothesis for the Breusch–Pagan test is that there is no conditional heteroskedasticity. Since the hypothesis is rejected, it indicates that the residuals are conditionally heteroskedastic. The easiest method to correct for the effects of conditional heteroskedasticity in linear regression is to compute robust standard errors, which adjust the standard errors of the regression's estimated coefficients to account for the heteroskedasticity.

Vignette

Sarah Lambert is an investment advisor meeting with one of her clients, Edward Banner. Banner is considering adding real estate and commodities to his portfolio.

Real Estate

Lambert researches REIT A, a hotel REIT, and notes that recent property market transaction volumes have been high. In addition, REIT A has recorded a number of one-time gains and charges. Lambert considers the potential impact these issues could have on different valuation approaches.

Lambert next reviews REIT B, an industrial REIT. She performs a price-to-adjusted funds from operations (P/AFFO) calculation based on the full-year financial information (in thousands) contained in Exhibit 1. The current share price is $74.65.

Exhibit 1

Funds from operations	$465,419
(Gains)/Losses from sale of depreciable real estate	$22,613
Non-cash (straight-line) rent adjustment	$14,705
Recurring maintenance-type capital expenditures and leasing commissions	$33,297
Shares outstanding	100,000

Lambert carries out further analysis on the wider economy and forecasts that job creation, retail sales growth, and consumer credit will all be stronger than expected. Based on these forecasts, she recommends hotel REITs over industrial REITs.

Commodities

Lambert then recommends an investment in the Gemini Commodity Futures Fund. According to Gemini's prospectus, the fund always takes a long position in the natural gas futures contract with the shortest maturity. At the contract maturity date, Gemini sells the existing contract and buys the new contract with the shortest maturity. In Exhibit 2, Lambert gathers prior-year price information from the natural gas futures market for two of Gemini's trade dates. All prices are in $ per million British thermal units as of the date listed.

Exhibit 2

Trade Date	Spot Price	June Futures Price	July Futures Price	August Futures Price
28 May	2.546	2.489	2.418	1.957
26 June	2.546	2.546	2.338	1.795

37 Multiple Choice 0 / 1 point

The issues Lambert is considering regarding REIT A would pose a disadvantage for which of the following valuation models?

× A. Net asset value

Answer Feedback: Incorrect because NAVPS (net asset value per share) can be reasonably estimated when there are ample market transactions to provide property comparables.

✓ B. P/AFFO multiple

Answer Feedback: Correct because an increased level of one-time items such as gains and accounting charges, as well as new revenue recognition rules, has affected the income statement, thus making P/FFO and P/AFFO more difficult to compute and complicating comparisons between companies.

C. Dividend discount model

Answer Feedback: Incorrect because REITs return a significant portion of their income to their investors as required by law and, as a result, tend to pay high dividends. Thus, dividend discount or discounted cash flow models for valuation are also applicable. One-time charges and gains have a limited effect on dividend payouts.

38 Multiple Choice 0 / 1 point

The P/AFFO multiple for REIT B is *closest* to:

× A. 16.6.

Answer Feedback: Incorrect because only Non-cash (straight-line) rent adjustment is subtracted from FFO, and not recurring maintenance-type capital expenditures and leasing commissions. Incorrect AFFO = FFO – Non-cash (straight-line) rent adjustment = $465,419 – $14,705 = $450,714. Incorrect AFFO/share = $450,714/100,000 = $4.51 per share. Incorrect Price/AFFO = $74.65/$4.51 = 16.56x = 16.6x.

✓ B. 17.9.

Answer Feedback: Correct because AFFO is calculated as: AFFO = FFO – Non-cash (straight-line) rent adjustment – Recurring maintenance-type capital expenditures and leasing commissions = $465,419 – $14,705 – $33,297 = $417,417. AFFO/share = $417,417/100,000 = $4.17 per share. Price/AFFO = $74.65/$4.17 = 17.88x = 17.9x.

C. 18.9.

Answer Feedback: Incorrect because (Gains)/Losses from sale of depreciable real estate are incorrectly subtracted from FFO to derive AFFO. This double counts (Gains)/Losses from sale of depreciable real estate since they have already been removed when calculating FFO. Incorrect AFFO = FFO – (Gains)/Losses from sale of depreciable real estate – Non-cash (straight-line) rent adjustment – Recurring maintenance-type capital expenditures and leasing commissions = $465,419 – $22,613 – $14,705 – $33,297 = $394,804. Incorrect AFFO/share = $394,804/100,000 = $3.95 per share. Incorrect Price/AFFO = $74.65/$3.95 = 18.91x = 18.9x.

39 Multiple Choice 1 / 1 point

Which of Lambert's forecasts about the wider economy *best* supports her recommended REIT property type?

A. Job creation

Answer Feedback: Incorrect because job creation is a factor for both hotel and industrial REITs, thus not supporting a preference for one over the other.

✓ B. Consumer credit

Answer Feedback: Correct because consumer credit is a factor for hotel REITs but not for industrial REITs, thus supporting Lambert's recommendation.

C. Retail sales growth

Answer Feedback: Incorrect because retail sales growth is a factor for industrial REITs but not for hotel REITs and is thus contrary to Lambert's recommendation.

40 Multiple Choice 1 / 1 point

The roll return on Gemini's natural gas futures contract on the 26 June trade date was:

A. negative.

Answer Feedback: Incorrect because the roll return is positive when the numerator is correctly calculated as Near-term futures contract closing price - Farther-term futures contract closing price. The roll return is only negative if the numerator calculation is incorrectly reversed and becomes Farther-term futures contract price - Near-term futures contract price = $2.338 − $2.546 = −$0.208 < 0.

B. zero.

Answer Feedback: Incorrect because the roll return would equal zero only if the June and July futures prices were equal on 26 June, which is not the case since the June futures price is $2.546 and the July futures price is $2.338.

✓ C. positive.

Answer Feedback: Correct because Roll return = [(Near-term futures contract closing price − Farther-term futures contract closing price) / Near-term futures contract closing price] × Percentage of the position in the futures contract being rolled.$2.546 − $2.338 = $0.208 > 0. All the other factors in the formula are positive, so the roll return is positive.

Vignette

Irina Benoit, CFA, is a senior research analyst at StockCo, an investment management firm. Multiple rumors have been circulating about a merger of StockCo with another firm. Benoit knows from internal senior management meetings that the merger will take place next year. As a result, Benoit has decided to leave StockCo and start her own investment management firm, Benoit Capital Traders (BCT). StockCo did not require Benoit to sign a non-compete agreement. During a family dinner, Benoit announces that she intends to start BCT after leaving StockCo. Benoit asks her brother to close his existing account at StockCo and bring his money to BCT once the new firm is operational. A week before Benoit leaves StockCo, she sends a message to a friend on her mobile phone: "Goodbye StockCo—I'm glad I won't be here for the merger!"
Upon starting BCT, Benoit adopts the Standards with her firm and writes a compliance manual. She adds the following three procedures to BCT's compliance manual.

- Procedure 1: Analysts may accept gifts in the form of business-related entertainment to a maximum value listed by the compliance office.
- Procedure 2: For all analysts, the purchase of a company's stock through a private placement is capped at a maximum per private placement as listed by the compliance office.
- Procedure 3: When attending meetings at an issuer's headquarters, analysts are allowed to accept modest commercial transportation and hotel accommodation paid by the issuer.

During the first month of BCT's operations, Benoit creates a list of StockCo clients from memory to solicit their business. Benoit then uses an external marketing company to send each prospective client either a card or a coffee mug. She provides this marketing company with a list of clients with their approximate portfolio values. Benoit requests that the company send the coffee mugs to only those clients with portfolios larger than $1 million. During Benoit's employment at StockCo, she had access to the firm's internal data system that contains confidential personal information about StockCo's clients. The

database and its access are managed by Benoit's former department manager at StockCo, Mike Lee, CFA. Lee neglected to remove Benoit's access from the server and, as a result, Benoit discovers that she still has access to the system. Benoit checks the names on the client list that she created from memory against the list in StockCo's internal data system and confirms that her list is complete and accurate. She then contacts Lee to request him to cancel her access.

Three months later, Benoit hires and starts supervising two new analysts, Robert Kiprotich and Yoko Tanaka. Kiprotich's first assignment is to write a report on a cryptocurrency. After writing the report, Kiprotich uses BCT's social media page to promote the report. He starts by using an online generative artificial intelligence (AI) program to summarize his report and credits the generative AI program as the source of his summary. At the end of the summary, Kiprotich states that investors should not be concerned about the transaction costs of switching their investments because the higher returns from the cryptocurrency will more than offset the costs. He then posts the summary online, along with a link to the report. A week later, someone comments on the social media post, pointing out an error in the report. Kiprotich leaves the report unchanged since he intends to post a new report at the end of the week in which he will also correct the unintentional error.

41 Multiple Choice 1 / 1 point

When leaving StockCo, Benoit violates the Standards in her actions related to:

- A. her friend only.

  Answer Feedback: Incorrect because Benoit's actions related to both her friend and her brother violate Standard IV(A) Loyalty.

- B. her brother only.

  Answer Feedback: Incorrect because Benoit's actions related to both her friend and her brother violate Standard IV(A) Loyalty.

- C. both her friend and her brother.

Answer Feedback: Correct because both of Benoit's actions violate Standard IV(A) Loyalty.

- Her friend: Standard IV(A) Loyalty states that members must not cause harm to their employer. Standard IV(A) requires Benoit to protect the interests of StockCo by refraining from any conduct that would injure the firm. The Standard specifies that members must not divulge confidential information. Although there are rumors about the merger, Benoit knows from senior management meetings that the merger will take place next year. She is therefore divulging confidential information to her friend. Benoit is in violation of Standard IV(A) for disclosing confidential firm information through his personal blog.
- Her brother: Standard IV(A) Loyalty states that members must act for the benefit of their employer and not deprive their employer of the advantage of their skills and abilities and must not cause harm to their employer. The Standard prohibits Benoit from solicitation of the employer's clients prior to cessation of employment. A member or candidate who is contemplating seeking other employment must not contact existing clients or potential clients prior to leaving his or her employer for purposes of soliciting their business for the new employer. In this case, Benoit's brother is a client and Benoit most likely causes harm to StockCo by causing her brother to close his existing account and bringing his money to BCT.

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42 Multiple Choice 0 / 1 point

Which procedure in the BCT compliance manual is **not** consistent with the Standards?

A. Procedure 1

Answer Feedback: Incorrect because Procedure 1 is consistent with Standard I(B) Independence and Objectivity, which does not preclude customary, ordinary business-related entertainment as long as its purpose is not to influence or reward members or candidates. Firms should consider a strict value limit for acceptable gifts that is based on the local or regional customs and should address whether the limit is per gift or an aggregate annual value. BCT's procedure is that analysts may accept gifts in the form of business-related entertainment and a maximum annual value is listed by the compliance office.

B. Procedure 2

Answer Feedback: Incorrect because Procedure 2 is consistent with Standard I(B) Independence and Objectivity. A policy which specifies that purchases of a company's stock through a private placement are capped at a maximum per purchase as listed by the compliance office is an example of a formal policy related to employee purchases of equity or equity-related IPOs. The Standard states that firms should develop formal policies related to employee purchases of equity or equity-related IPOs. Strict limits should be imposed on investment personnel acquiring securities in private placements.

C. Procedure 3

Answer Feedback: Correct because Procedure 3 is not consistent with Standard I(B) Independence and Objectivity. Allowing analysts to accept modest commercial transportation and hotel accommodation paid by the issuer when attending meetings at an issuer's headquarters is not consistent with Standard I(B). The recommended procedures for Standard I(B) state: When attending meetings at an issuer's headquarters, members and candidates should pay for commercial transportation and hotel charges. No corporate issuer should reimburse members or candidates for air transportation.

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43 Multiple Choice 1 / 1 point

Who violates the Standard relating to confidentiality during Benoit's first month at BCT?

A. Lee only

Answer Feedback: Incorrect because both Lee's and Benoit's actions violate Standard III(E) Preservation of Confidentiality.

B. Benoit only

Answer Feedback: Incorrect because both Lee's and Benoit's actions violate Standard III(E) Preservation of Confidentiality.

C. Both Lee and Benoit

Answer Feedback: Correct because both Lee and Benoit violate Standard III(E) Preservation of Confidentiality with their actions.

- Lee: Standard III(E) Preservation of Confidentiality requires that client information must be kept confidential and shared only under specific circumstances. If a client of StockCo expressly authorizes StockCo to disclose information to Benoit, StockCo may follow the terms of the authorization and provide the information to Benoit. However, nothing in the case indicates that Benoit's access to personal information about StockCo's clients is done with their knowledge. Because Benoit is no longer employed by StockCo, it would be improper for her to have access to confidential client information. Lee violates the Standard as he is responsible for managing access to the database. This is because the Standard specifies that members and candidates need to understand and follow their firm's electronic information communication and storage procedures. The firm has indicated that the personal client information is confidential and, since Benoit is no longer employed by StockCo, Lee should have removed Benoit's access to the database.
- Benoit: Standard III(E) Preservation of Confidentiality does not prevent Benoit from using an external marketing company to provide cards or gifts for prospective clients. The Standard does not specify that external companies cannot be used for this specific task. However, the external company is given access to the portfolio value of clients by Benoit. That detail is a violation of Standard III(E), which requires that client information must be kept confidential and shared only under specific circumstances. Note that Benoit also likely violates the Standard in this case since she should not check her own list against StockCo's internal data system after leaving StockCo.

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44 Multiple Choice 1 / 1 point

Regarding BCT's social media page, which of the following is consistent with the Standards?

- (●) A. The use of the AI program

  Answer Feedback: Correct because Standard I(C) Misrepresentation states that Kiprotich must not knowingly make any misrepresentation related to investment analysis, recommendations, or actions. The Standard states that Kiprotich must not copy (or represent as their own) original ideas or material without permission and must acknowledge and identify the source of ideas or material that is not their own. Using and crediting the online generative AI program to summarize his report is not a violation.

- ( ) B. The treatment of the error in the research report

Answer Feedback: Incorrect because Standard I(C) Misrepresentation states that Kiprotich must not knowingly make any misrepresentation related to investment analysis, recommendations, or actions. Kiprotich should not knowingly misrepresent information of a security in electronic communications. Knowingly means that Kiprotich either knows or should have known that the misrepresentation was being made. Actions undertaken through social media that knowingly misrepresent investment recommendations or professional activities are considered a violation of Standard I(C). Kiprotich does not correct (i.e., resolve) the error in the report posted on the social media page when he becomes aware of it. He therefore implicitly endorses and approves the content of the report. That is effectively a communication made by Kiprotich and he is therefore responsible for the inaccurate content. Once the error is discovered, Kiprotich must take steps to cease distribution of the incorrect material and correct the error by informing those who have received the erroneous information.

C. The statement regarding transaction costs and returns

Answer Feedback: Incorrect because Standard I(C) Misrepresentation states that Kiprotich must not knowingly make any misrepresentation related to investment analysis, recommendations, or actions. Standard I(C) prohibits Kiprotich from guaranteeing clients any specific return on volatile investments. Stating that investors will recover their transaction costs with higher investment returns from cryptocurrencies is a guarantee offered by Kiprotich. If Kiprotich were to rephrase the statement to include a qualifying statement, such as in my opinion, investors may earn, it would not be in violation of the Standards.

Retake