

Question #1 of 60

A) Standard III(D) - Performance Presentation.

Explanation

Vakil obtained permission from Blue Lotus to use the past performance and, therefore, is not violating the Standard IV(A): Duties to Employer: Loyalty. By not crediting the entire team in the management of Xeta fund, Vakil violated Standard III(D): Performance Presentation.

For Further Reference:

Study Session 1, LOS 2.a, b

SchweserNotes: Book 1 p.5

CFA Program Curriculum: Vol.1 p.21

Question #2 of 60

B) Standard II(A) - Integrity of Capital Markets: Material Nonpublic Information.

Explanation

By taking the models without permission from his past employer, Vakil violated Standard IV(A) - Duties to Employer: Loyalty. Vakil also failed to disclose using his past employer's model, violating Standard I(C) - Professionalism: Misrepresentation. The models are proprietary but do not constitute material nonpublic information (insider information).

For Further Reference:

Study Session 1, LOS 2.a, b

SchweserNotes: Book 1 p.5

CFA Program Curriculum: Vol.1 p.21

Question #3 of 60

A) Standard IV(A) - Duties to Employer: Loyalty.

Explanation

By discussing his research with Dutt, including recommending a specific stock, Vakil violated his duty to his employer by disclosing sensitive business information to outsiders. However, the information is not material nonpublic information and, thus, is not a violation under Standard II(A) - Integrity of Capital Markets: Material Nonpublic Information.

For Further Reference:

Study Session 1, LOS 2.a, b

SchweserNotes: Book 1 p.5

CFA Program Curriculum: Vol.1 p.21

Question #4 of 60

B) Standard II(A) - Material and Nonpublic Information by investing in the retail ETF but not by investing in Sandhirst stock.

Explanation

By transacting in Sandhirst stock, Dutt did not rely on any material nonpublic information and, therefore, is not in violation of Standard II(A) - Material and Nonpublic Information. However, her investment in the retail ETF relies on material nonpublic information about Frapco.

For Further Reference:

Study Session 1, LOS 2.a, b
SchweserNotes: Book 1 p.5
CFA Program Curriculum: Vol.1 p.21

Question #5 of 60

- A) a violation of Standard II(A) - Material and Nonpublic Information even though she attributed the recommendation to publicly available information.

Explanation

Trading for oneself or causing others to trade based on material nonpublic information is a violation under Standard II(A) - Material and Nonpublic Information.

For Further Reference:

Study Session 1, LOS 2.a, b
SchweserNotes: Book 1 p.5
CFA Program Curriculum: Vol.1 p.21

Question #6 of 60

- B) Standard III(D) Duties to Clients: Suitability.

Explanation

Because the Snead hedge funds may not be suitable for all clients, Vakil violated Standard III(D) Duties to Clients: Suitability. No clients were treated unfairly and there was no market manipulation.

For Further Reference:

Study Session 1, LOS 2.a, b
SchweserNotes: Book 1 p.5
CFA Program Curriculum: Vol.1 p.21

Question #7 of 60

- B) Only the slope for R_M is statistically significant.

Explanation

The p-value is the probability that the null hypothesis, H_0 : slope = zero, is true. The decision rule is to reject the null hypothesis if the p-value is less than the significance level (i.e., there is only a very small chance that the null hypothesis is correct). The p-value for the R_M slope is less than the significance level, and the p-value for the VMG slope is greater than the significance level. Therefore, the R_M slope is statistically significant (reject the null hypothesis that the R_M slope equals zero) and the VMG slope is not statistically significant (cannot reject the null hypothesis that the VMG slope equals zero).

For Further Reference:

Study Session 3, LOS 10.a
SchweserNotes: Book 1 p.138
CFA Program Curriculum: Vol.1 p.318

Question #8 of 60

- A) Regression sum of squares exceeds the error sum of squares.

Explanation

The equation for the R^2 equals the regression sum of squares divided by the total sum of squares. The total sum of squares equals the regression sum of squares plus the error sum of squares. Therefore, the R^2 equals:

$$R^2 = \frac{\text{regression sum of squares}}{\text{regression sum of squares} + \text{error sum of squares}}$$

The problem states that the R^2 equals 0.80. Because the R^2 exceeds 50%, the regression sum of squares must exceed the error sum of squares.

For Further Reference:

Study Session 3, LOS 10.g

SchweserNotes: Book 1 p.146

CFA Program Curriculum: Vol.1 p.331

Question #9 of 60

A) close to 0.

Explanation

Conditional heteroskedasticity refers to regression errors whose variance is not constant. If there is conditional heteroskedasticity, the variance changes as function of the independent variables. The squared residual (i.e., residual is the estimated error) is used to proxy the error variance. A low R^2 in equation (2) indicates that the slopes in equation (2) are very close to zero, indicating that the error variance is unaffected by the independent variables. For instance, if all the slopes in equation (2) equal zero, then the error variance equals the intercept (a_0 , which is constant over time).

For Further Reference:

Study Session 3, LOS 10.k

SchweserNotes: Book 1 p.158

CFA Program Curriculum: Vol.1 p.338

Question #10 of 60

C) multicollinearity.

Explanation

According to Recommendation 1 provided by Lockhart, the inflation change variable is highly correlated with the Wilshire index returns (one of the independent variables). If Sawyer includes the inflation change variable along with the Wilshire index returns, the regression will be plagued by multicollinearity (the inclusion of correlated independent variables). Multicollinearity causes the standard errors for the regression parameter estimates to be biased upward, which, in turn, causes the t -statistics to be biased downward (deflated).

For Further Reference:

Study Session 3, LOS 10.l

SchweserNotes: Book 1 p.165

CFA Program Curriculum: Vol.1 p.349

Question #11 of 60

C) functional form model misspecification.

Explanation

According to Recommendation 2, the data should not be pooled across all 36 months. The sample clearly is split into two parts: pre-Reg FD and post-Reg FD. Sawyer should run separate regressions for each subperiod, or should employ dummy variables to control for the structural shift related to the passage of Reg FD. In either case, by pooling across the two very different sample periods, Sawyer's regression is an example of a misspecified functional form.

For Further Reference:

Study Session 3, LOS 10.m

SchweserNotes: Book 1 p.168

CFA Program Curriculum: Vol.1 p.353

Question #12 of 60

B) Claim 2 only.

Explanation

Sawyer is incorrect with respect to Claim 1 and is correct with respect to Claim 2. If the omitted variables are correlated with the included variables, then the omitted variable regression parameter estimates [i.e., from equation (1)] will be biased and inconsistent. Desirable properties, on the other hand, are unbiasedness and consistency. An estimator is unbiased if the expected value of the estimate equals the true population value. An estimator is consistent if the estimate approaches the true population value as the sample size increases. The existence of omitted variables (that are correlated with the included variables) destroys both of these desirable properties.

For Further Reference:

Study Session 3, LOS 10.m

SchweserNotes: Book 1 p.168

CFA Program Curriculum: Vol.1 p.353

Question #13 of 60

C) -56.9%.

Explanation

Because YTC operates independently and makes its own financing decisions, the local currency (AUD) should be the functional currency. When the local currency is the functional currency, the subsidiary's financial statements are consolidated with the parent's financial statements using the current rate method. Under the current rate method, all of the income statement items are translated using the average rate for the year. To calculate the percent change in net income, we must translate these items for 2016 and 2015 and then calculate the rate of change.

2015 translated net income = $25 / 1.30 = 19.23$

2016 translated net income = $12 / 1.45 = 8.28$

growth in net income = $(8.28 / 19.23) - 1 = -56.94\%$

For Further Reference:

Study Session 5, LOS 18.d

SchweserNotes: Book 2 p.63

CFA Program Curriculum: Vol.2 p.134

Question #14 of 60

B) currency (AUD) appreciation.

Explanation

Under the temporal method, the nonmonetary assets and liabilities are remeasured at historical rates. Thus, only the monetary assets and liabilities are exposed to changing exchange rates. Therefore, under the temporal method, exposure is defined as the subsidiary's net monetary asset or net monetary liability position. A firm has net monetary assets if its monetary assets exceed its monetary liabilities. If the monetary liabilities exceed the monetary assets, the firm has a net monetary liability exposure.

Since very few assets are considered to be monetary (mainly cash and receivables), most firms have net monetary liability exposures. If the parent has a net monetary liability exposure when the foreign currency (AUD) is appreciating, the result is a loss. Conversely, a net monetary liability exposure coupled with a depreciating currency will result in a gain.

For Further Reference:

Study Session 5, LOS 18.d

SchweserNotes: Book 2 p.63

CFA Program Curriculum: Vol.2 p.134

Question #15 of 60

B) Current rate method.

Explanation

total asset turnover = revenue / total assets

Note that no calculations are necessary to answer this question. Revenues are translated using the same average exchange rate in the temporal and current rate methods. The only difference in the total asset turnover ratio must therefore be in the denominator (i.e., total assets). Under the current rate method, assets are translated using the current rate. Under the temporal method, monetary assets are translated using the current rate, and nonmonetary assets are translated using the historical rate. Because the historical rate is lower than the current rate, the nonmonetary assets (and therefore total assets) will have a higher value under the temporal method. A higher asset value means a lower total asset turnover ratio under the temporal method. The calculation of the total asset turnover ratio using both methods is provided for reference below:

	<i>Temporal</i>	<i>Current Rate</i>
Cash	$20 / 1.50 = 13.33$	$20 / 1.50 = 13.33$
Accounts receivable	$460 / 1.50 = 306.67$	$460 / 1.50 = 306.67$
Inventories	$30 / 1.20 = 25.00$	$30 / 1.50 = 20.00$
Prepaid expenses	$25 / 1.20 = 20.83$	$25 / 1.50 = 16.67$
Fixed assets	$400 / 1.20 = 333.33$	$400 / 1.50 = 266.67$
Total assets	699.16	623.34
Revenues	$870 / 1.45 = 600.00$	$870 / 1.45 = 600.00$
Total asset turnover	$600.00 / 699.16 = 0.86$	$600.00 / 623.34 = 0.96$

For Further Reference:

Study Session 5, LOS 18.d

SchweserNotes: Book 2 p.63

CFA Program Curriculum: Vol.2 p.134

Question #16 of 60

A) 1.85% lower than the local currency revenue growth rate.

Explanation

AUD revenue growth rate = $(870 / 765)^{1/2} - 1 = 6.64\%$

Revenues are translated at average rate:

2014 USD revenues = $765 / 1.40 = 546.43$; 2016 USD revenues = $870 / 1.45 = 600$

USD revenue growth rate = $(600 / 546.43)^{1/2} - 1 = 4.79\%$

The USD revenue growth rate is 1.85% lower than the local currency (AUD) revenue growth rate.

For Further Reference:

Study Session 5, LOS 18.i

SchweserNotes: Book 2 p.85

CFA Program Curriculum: Vol.2 p.172

Question #17 of 60

C) gross profit margin would be lower using the current rate method.

Explanation

Under both the current rate and temporal methods, the revenues for the Ukrainian subsidiary would be translated using the average rate. Cost of goods sold (COGS) would be translated using the historical rate for the temporal method and the average rate for the current rate method. Note that because local currency prices are expected to be constant in Ukraine, there will be no difference between LIFO and FIFO since all beginning, purchased, sold, and ending inventory will have the same cost. When a currency is depreciating, the COGS based on historical cost (temporal method) will be higher than COGS translated at the average rate (current rate method) since the average rate will incorporate the historical exchange rate and the most recent (depreciated) exchange rate, decreasing the COGS. For instance, if COGS in the local currency is 10 and the historical and average exchange rates are 1 and 1.5 (local currency per reporting currency), then COGS under the temporal method will be 10 and under the current rate method will be 6.67. Since translated sales are the same under both methods, gross profit and the gross profit margin will be higher under the current rate method.

For Further Reference:

Study Session 5, LOS 18.f

SchweserNotes: Book 2 p.77

CFA Program Curriculum: Vol.2 p.153

Question #18 of 60

C) WMC can reduce potential translation losses from the Indian subsidiary by issuing debt denominated in U.S. currency and purchasing fixed assets for the subsidiary.

Explanation

U.S. accounting standards define a hyperinflationary economy as one in which the 3-year cumulative inflation rate exceeds 100%. The Indian economy can be characterized as hyperinflationary. The inflation rate over the past three years can be calculated as follows:

year 1 inflation = $[(1 + 0.3464) / (1 + 0.020)] - 1 = 32\%$

year 2 inflation = $[(1 + 0.2915) / (1 + 0.025)] - 1 = 26\%$

year 3 inflation = $[(1 + 0.2566) / (1 + 0.030)] - 1 = 22\%$

cumulative 3-year inflation = $(1.32)(1.26)(1.22) - 1 = 103\%$

U.S. accounting standards allow the use of the temporal method, with the functional currency being the parent's reporting currency, when a foreign subsidiary is operating in a hyperinflationary environment. IFRS accounting standards allow the parent to translate an inflation-adjusted value of the nonmonetary assets and liabilities of the foreign subsidiary at the current inflation rate, removing most of the effects of high inflation on the value of the nonmonetary assets and liabilities in the reporting currency. In a hyperinflationary environment, the parent company can reduce translation losses by reducing its net monetary assets or increasing its net monetary liabilities. In order to do this, the parent should issue debt denominated in the subsidiary's local currency and invest the proceeds in fixed assets for the subsidiary to use in its operations.

For Further Reference:

Study Session 5, LOS 18.g

SchweserNotes: Book 2 p.81

CFA Program Curriculum: Vol.2 p.140

Question #19 of 60

B) The pooling of interests method combines historic book values and fair values.

Explanation

Historically, two accounting methods have been used for business combinations: (1) the purchase method and (2) the pooling-of-interests method. However, over the last few years, the pooling method has been eliminated from U.S. GAAP and IFRS. Now, the acquisition method is required.

The pooling-of-interests method, also known as uniting-of-interests method under IFRS, combined the ownership interests of the two firms and viewed the participants as equals-neither firm acquired the other. The assets and liabilities of the two firms were simply combined. Key attributes of the pooling method include the following:

- The two firms are combined using historical book values.
- Operating results for prior periods are restated as though the two firms were always combined.
- Ownership interests continue, and former accounting bases are maintained.

Note that fair values played no role in accounting for a business combination using the pooling method-the actual price paid was suppressed from the balance sheet and income statement.

For Further Reference:

Study Session 5, LOS 16.c

SchweserNotes: Book 2 p.24

CFA Program Curriculum: Vol.2 p.35

Question #20 of 60

A) Only Renner's comment that unused tax losses will immediately translate into higher net income is correct.

Explanation

If the target of a merger has unused tax losses accumulated, the merged company can use the tax losses to immediately lower its tax liability, thus increasing its net income (Correct). The Internet operation of The Daily is insignificant compared to the overall merger value. Any improvement in the cost structure of the Internet operation will not have a significant impact on

overall earnings. In addition, the high-growth characteristics of the Internet segment would not warrant a cost restructuring of the operations. (Incorrect)

For Further Reference:

Study Session 8, LOS 26.b

SchweserNotes: Book 2 p.276

CFA Program Curriculum: Vol.3 p.256

Question #21 of 60

B) \$9,503.2 million.

Explanation

First, we must separate the synergistic value from the combined value of the firm as follows:

$$V_{AT} = V_A + V_T + S - C$$

where:

V_{AT} = the combined value of the firm

V_A = the value of the acquirer before the merger

V_T = the value of the target before the merger

S = the synergistic value from the merger

C = the cash paid to the target

Rearranging the formula, the synergistic value can be isolated as follows:

$$\begin{aligned} S &= V_{AT} - V_A - V_T + C \\ &= 17,500 - (68 \times 117.6) - (35 \times 213.1) + (45 \times 213.1) \\ &= 17,500 - 7,996.8 - 7,458.5 + 9,589.5 \\ &= \$11,634.2 \text{ million} \end{aligned}$$

Next, calculate the acquirer's gain as follows:

$$\text{acquirer's gain} = S - (P_T - V_T)$$

where:

S = the synergistic value from the merger

P_T = the price paid for the target

V_T = the value of the target before the merger

$$\begin{aligned} \text{acquirer's gain} &= 11,634.2 - [(45 \times 213.1) - (35 \times 213.1)] \\ &= 11,634.2 - (9,589.5 - 7,458.5) \\ &= \$9,503.2 \text{ million} \end{aligned}$$

For Further Reference:

Study Session 8, LOS 26.k

SchweserNotes: Book 2 p.302

CFA Program Curriculum: Vol.3 p.288

Question #22 of 60

B) \$150 per share.

Explanation

total shares = 63.0 + 117.6 = 180.6 million

$$V_{AT} = 7,996.8 + 7,458.5 + 11,634.2 - 0 = 27,089.5$$

new share price = $27,089.5 / 180.6 = 150.0$

For Further Reference:

Study Session 8, LOS 26.k, l

SchweserNotes: Book 2 p.302, 306

CFA Program Curriculum: Vol.3 p.288, 289

Question #23 of 60

B) File suit against Voyager for antitrust violations.

Explanation

The legal action based on antitrust is the only choice given that is a post-offer defense. Staggered boards, restricted voting rights, and poison puts are all pre-offer defenses that would not be possible after the tender offer has been made.

For Further Reference:

Study Session 8, LOS 26.f

SchweserNotes: Book 2 p.284

CFA Program Curriculum: Vol.3 p.267

Question #24 of 60

A) Bear hug.

Explanation

A hostile merger occurs when the management of a merger target is opposed to the proposed merger. In such a situation, the acquiring company may initiate a bear hug in which the merger proposal is delivered directly to the board of directors of the target company. Voyager has initiated a bear hug in the hopes of gaining board support for the proposed merger before management can react to the proposal. If the bear hug is unsuccessful, the acquirer may appeal directly to the target's shareholders through a tender offer in which the acquirer offers to buy shares directly from shareholders or through a proxy fight in which a proxy solicitation is used to convince shareholders to elect a board of directors chosen by the acquirer. The board of directors would then replace the target's management and allow the merger to move forward. A white knight is a takeover defense, not a type of merger.

For Further Reference:

Study Session 8, LOS 26.e

SchweserNotes: Book 2 p.281

CFA Program Curriculum: Vol.3 p.262

Question #25 of 60

A) Yes.

Explanation

The required rate of return for Aussie Shipping is:

$$r = R_F + \beta_i[E(R_M) - R_F] = 5.2\% + 1.20(4.5\%) = 10.6\%$$

The estimated intrinsic value using the Gordon growth model is:

$$V_0 = \frac{D_0(1+g)}{r-g} = \frac{2.20 \times (1.05)}{0.106 - 0.05} = \frac{2.31}{0.056} = \text{AUD } 41.25$$

The intrinsic value exceeds the market price of AUD 33.50, so the firm should buy.

For Further Reference:

Study Session 10, LOS 30.c

SchweserNotes: Book 3 p.68

CFA Program Curriculum: Vol.4 p.208

Question #26 of 60**C)** No. The value is £121.67.**Explanation**

The values of the next three dividends are:

$$D_1 = 4.00(1.40) = 5.60$$

$$D_2 = 4.00(1.40)^2 = 7.84$$

$$D_3 = 4.00(1.40)^2(1.06) = 8.3104$$

The terminal value of the stock (at the beginning of the final constant growth phase) is:

$$V_2 = \frac{D_3}{r - g} = \frac{8.3104}{0.12 - 0.06} = 138.507$$

The present value of the first two dividends plus the terminal value of the stock is:

$$V_0 = \frac{5.60}{1.12} + \frac{7.84}{1.12^2} + \frac{138.507}{1.12^2}$$

$$V_0 = 5.00 + 6.25 + 110.42 = £121.67$$

For Further Reference:

Study Session 10, LOS 30.I

SchweserNotes: Book 3 p.80

CFA Program Curriculum: Vol.4 p.224

Question #27 of 60**C)** No. The rate of return is closer to 14%.**Explanation**

The first three dividends remain at:

$$D_1 = 4.00(1.40) = 5.60$$

$$D_2 = 4.00(1.40)^2 = 7.84$$

$$D_3 = 4.00(1.40)^2(1.06) = 8.3104$$

You need to find a rate of return that gives a value closest to £90. Trial and error is a sound approach to finding the answer, and the test wise candidate should use the values given as multiple-choice answers. Basically substitute 12%, 13%, or 14% into the valuation equation:

$$V_0 = \frac{5.60}{1 + r} + \frac{7.84}{(1 + r)^2} + \frac{8.3104 / (r - 0.06)}{(1 + r)^2}$$

$$\text{For } r = 12\%, V_0 = £121.67$$

$$\text{For } r = 13\%, V_0 = £104.11$$

For $r = 14\%$, $V_0 = £90.96$

The answer, to three decimal places, is 14.085%.

For Further Reference:

Study Session 10, LOS 30.I, m

SchweserNotes: Book 3 p.80, 85

CFA Program Curriculum: Vol.4 p.224, 237

Question #28 of 60

- C) No. PVGO is the difference between the price and the value of assets in place. The value of assets in place is estimated by dividing earnings per share by the required rate of return.

Explanation

PVGO is the part of a stock's total value that comes from future growth opportunities. It is estimated as $V_0 = E_1/r + PVGO$, where E_1/r is the no-growth value per share. Note that earnings are divided by r , not dividends. The reason for this is that a no-growth firm should distribute all of its earnings as dividends.

For Further Reference:

Study Session 10, LOS 30.e

SchweserNotes: Book 3 p.70

CFA Program Curriculum: Vol.4 p.218

Question #29 of 60

- B) additional debt capital may be raised, keeping the capital structure constant."

Explanation

Sustainable growth is growth that can be achieved by retaining some earnings and keeping the capital structure (debt to equity) constant.

For Further Reference:

Study Session 11, LOS 32.o

SchweserNotes: Book 3 p.179

CFA Program Curriculum: Vol.4 p.417

Question #30 of 60

- A) Phrase 1.

Explanation

Given the assumptions of a constant growth model, the justified forward P/E is smaller than the justified trailing P/E. The equations for the two concepts are:

$$\text{forward P/E: } \frac{P_0}{E_1} = \frac{D_1 / E_1}{r - g} = \frac{1 - b}{r - g}$$

$$\text{trailing P/E: } \frac{P_0}{E_0} = \frac{D_0 (1 + g) / E_1}{r - g} = \frac{(1 - b)(1 + g)}{r - g}$$

The trailing P/E will equal the forward P/E times $(1+g)$.

The other two phrases from the investment banker are correct.

For Further Reference:

Study Session 10, LOS 30.f

Question #31 of 60

C) an increase in residual income due to higher ROE.

Explanation

A decrease in the value of available-for-sale securities that bypasses the income statement would artificially increase net income and, consequently, ROE. Book value is unaffected as the decrease is accounted for in the OCI section of shareholders' equity.

For Further Reference:

Study Session 11, LOS 33.k
SchweserNotes: Book 3 p.216
CFA Program Curriculum: Vol.4 p.483

Question #32 of 60

C) 15%.

Explanation

$$WACC = \left(\frac{MVD}{MVD + MVCE} \right) \times [r_d(1 - \text{tax rate})] + \left(\frac{MVCE}{MVD + MVCE} \right) r$$

r_d = debt coupon given as 7.0%

tax rate = 40% (given in Exhibit 1)

r = equity cost = 0.15 (given in Exhibit 2)

MVD = market value of debt = book value of debt for YD = 12

MVCE = market value of common equity = $\$15.50 \times 18.6 = \288.3

$$WACC = \left(\frac{12}{12 + 288.3} \right) \times [0.07(1 - 0.40)] + \left(\frac{288.3}{12 + 288.3} \right) \times 0.15 = 0.146$$

For Further Reference:

Study Session 6, LOS 20.a
SchweserNotes: Book 2 p.126
CFA Program Curriculum: Vol.2 p.271

Study Session 9, LOS 28.g
SchweserNotes: Book 3 p.27
CFA Program Curriculum: Vol.4 p.88

Question #33 of 60

B) \$18 million.

Explanation

$$\text{\$WACC} = WACC \times \text{capital} = 0.12 \times 200 = 24$$

$$\text{EVA} = \text{NOPAT} - \text{\$WACC} = 42 - 24 = 18$$

For Further Reference:

Study Session 11, LOS 33.a

SchweserNotes: Book 3 p.200

CFA Program Curriculum: Vol.4 p.460

Question #34 of 60**B)** \$10.00 per share.**Explanation**

$$V_0 = B_0 + [(ROE - r) \times B_0] / (r - g)$$

book value = equity / total shares

book value = 131 / 18.6 = 7.04 (from Exhibit 1)

r = cost of equity = 0.15 (given in Exhibit 2)

ROE = 0.17 (given in Exhibit 2)

g = 0.10 (given in Exhibit 2)

$$V_0 = 7.04 + [(0.17 - 0.15) \times 7.04] / (0.15 - 0.10) = 9.86$$

For Further Reference:

Study Session 11, LOS 33.f

SchweserNotes: Book 3 p.207

CFA Program Curriculum: Vol.4 p.474

Question #35 of 60**A)** Low dividend payout.**Explanation**

It is difficult for a company to maintain a high ROE because of competition. The persistence factor will be lower for those companies. A company that has a low dividend payout has greater growth opportunities than a company with a high dividend payout. The greater growth opportunities should support a higher persistence factor.

For Further Reference:

Study Session 11, LOS 33.h

SchweserNotes: Book 3 p.209

CFA Program Curriculum: Vol.4 p.475

Question #36 of 60**C)** Both Statements 1 and 2 are correct.**Explanation**

Statement 1 is correct. The multistage residual income model uses continuing residual income to denote the long-run residual income. Based on reversion to the mean, and increasing competition for YD, continuing residual income would be expected to decline to zero over time. Statement 2 is correct. Based on the residual income model formula, $V_0 = B_0 + (ROE - r) \times B_0 / (r - g)$. If $ROE = r$, then $V_0 = B_0$.

For Further Reference:

Study Session 11, LOS 33.d, j

Question #37 of 60

C) adjustment to the probabilities to account for risk of the cash flows.

Explanation

The present value of expected loss measure in credit analysis uses risk-neutral probabilities in calculating expected value of loss. The adjustment to probabilities to account for the risk of the cash flows is the risk premium.

For Further Reference:

Study Session 13, LOS 38.a
SchweserNotes: Book 4, p.87
CFA Program Curriculum: Vol.5 p.185

Question #38 of 60

B) selling a European put option on the assets of the company.

Explanation

Under the structural model's debt option analogy, owning a company's debt is economically equivalent to owning a riskless bond that pays K dollars at time T, plus simultaneously selling a European put option on the assets of the company with maturity T and strike price K.

For Further Reference:

Study Session 13, LOS 38.d
SchweserNotes: Book 4, p.90
CFA Program Curriculum: Vol.5 p.193

Question #39 of 60

C) The value of the company's assets at maturity of the debt has a normal distribution.

Explanation

The relevant assumption is that the value of the assets (at maturity) has a *lognormal* distribution.

For Further Reference:

Study Session 13, LOS 38.f
SchweserNotes: Book 4, p.94
CFA Program Curriculum: Vol.5 p.210

Question #40 of 60

A) \$6.96.

Explanation

<i>Time to Cash Flow</i>	<i>Cash Flow</i>	<i>Risk-Free Spot Rate</i>	<i>Credit Spread (%)</i>	<i>Total Yield (%)</i>	<i>PV (risk-free rate)</i>	<i>PV (total yield)</i>
0.5	20	1.50%	0.20%	1.70%	19.85	19.83
1	20	1.75%	0.25%	2.00%	19.65	19.60
1.5	20	2.00%	0.30%	2.30%	19.41	19.32
2	1020	2.25%	0.35%	2.60%	975.12	968.32

	Total	\$1034.03	\$1027.07
Present value of expected loss = PV(risk-free rate) - PV (total yield)			

$$= 1,034.03 - 1,027.07 = \$6.96$$

For Further Reference:

Study Session 13, LOS 38.h

SchweserNotes: Book 4, p.96

CFA Program Curriculum: Vol.5 p.214

Question #41 of 60

C) Sovereign bond ABS

Explanation

Evaluating credit risk for an ABS should include the probability of loss because the probability of default does not apply. When there are defaults within the collateral pool of an ABS, the losses are absorbed according to the waterfall provisions in the ABS structure. The probability of default applies to sovereign debt.

For Further Reference:

Study Session 13, LOS 38.i

SchweserNotes: Book 4 p.97

CFA Program Curriculum: Vol.5 p.218

Question #42 of 60

A) The swap-rate curve is preferred because swap curves are comparable across countries since they reflect similar levels of credit risk.

Explanation

Market participants typically prefer to use the swap-rate curve as a benchmark (rather than a government bond yield curve) for the following reasons:

- The availability of swaps and the equilibrium pricing are driven only by the interaction of supply and demand. It is not affected by technical market factors that can affect government bond yields.
- The swap market is not regulated by any government, which makes swap rates across different countries more comparable.
- Swap curves across countries are also more comparable than sovereign bond yield curves because swap curves reflect similar levels of credit risk, while sovereign bond yield curves also reflect credit risk unique to each country's government bonds.
- The swap curve typically has yield quotes at 11 maturities between 2 and 30 years. The U.S. government bond yield curve typically only has on-the-run issues trading at four maturities between 2 and 30 years.

For Further Reference:

Study Session 12, LOS 35.f

SchweserNotes: Book 4, p.11

CFA Program Curriculum: Vol.5 p.24

Question #43 of 60

A) \$2.61.

Explanation

First, calculate the conversion ratio:

$$\text{conversion ratio} = \frac{\text{par value}}{\text{conversion price}} = \frac{1,000}{55.56} = 18$$

Now, calculate market conversion price:

$$\text{market conversion price} = \frac{\text{market bond price}}{\text{conversion ratio}} = \frac{947}{18} = 52.61$$

Finally, calculate the market conversion premium per share as the difference between the market conversion price and the market price of the stock:

$$\text{market conversion premium} = 52.61 - 50.00 = 2.61$$

For Further Reference:

Study Session 13, LOS 37.n

SchweserNotes: Book 4 p.67

CFA Program Curriculum: Vol.5 p.163

Question #44 of 60

B) \$917.

Explanation

Minimum value of a convertible = Max (straight value, conversion value)

Straight value = \$917 (given)

Conversion value = $18 \times \$50 = \900

Minimum value of the convertible = \$917

For Further Reference:

Study Session 13, LOS 37.n

SchweserNotes: Book 4 p.67

CFA Program Curriculum: Vol.5 p.163

Question #45 of 60

C) 7-year, 8% coupon bond extendible for five years at the same coupon rate.

Explanation

The 7-year, 7.25% convertible bond has a market price of \$947 (given) and, therefore, does not qualify (as it is below par). A similar option-free bond would be worth less (given in the case as \$917). A similar callable bond would be worth even less. This value is not given but would be below \$917 and, therefore, below par. A 7-year bond extendible by five years would be valued the same as an equivalent 12-year putable bond with an European put option that is exercisable in seven years. The value of the putable bond is given as \$1,052; this bond meets the criteria.

For Further Reference:

Study Session 13, LOS 37.a

SchweserNotes: Book 4 p.54

CFA Program Curriculum: Vol.5 p.110

Question #46 of 60

A) Short-term and long-term interest rates are expected to remain the same.

Explanation

If interest rates are not expected to change then the straight value of the bond will not change (ignoring the change in value resulting from the passage of time). If the straight value does not change, then downside risk is indeed limited to the difference between the price paid for the bond and the straight value. If, however, interest rates rise as the price of the common stock falls, the conversion value will fall and the straight value will fall, exposing the holder of the convertible bond to more downside risk.

For Further Reference:

Study Session 13, LOS 37.p

SchweserNotes: Book 4 p.70

CFA Program Curriculum: Vol.5 p.163

Question #47 of 60

C) The OAS of the callable, putable and convertible bond should be equal to 48bps.

Explanation

OAS, or option-adjusted spread, is the constant spread that is added to each node in an interest rate tree to force the model value to equal the market price of the bond. OAS might be more appropriately called the "option-removed spread" (i.e., the spread added after the option feature is removed). Because the option feature is removed via adjustment to cash flows, bonds with similar credit and liquidity risk should have similar OAS.

For Further Reference:

Study Session 13, LOS 37.g

SchweserNotes: Book 4 p.59

CFA Program Curriculum: Vol.5 p.134

Question #48 of 60

C) incorrect with regard to both securities.

Explanation

Decreasing volatility of common stock prices would devalue any options related to the stock. The convertible bond contains an embedded call option on the stock, which would experience a decrease in value. Increasing interest rate volatility would increase the value of options related to interest rates. MediSoft's convertible bond is also callable and the value of the call on the bond would increase. The total value of the convertible bond is as follows: convertible bond value = straight value + call on stock - call on bond. The combined effect of the changes in the values of the options is a decrease in the value of the convertible bond. Thus the statement regarding the volatility effects on MediSoft's convertible bonds is incorrect. The value of the putable bond can be summarized as follows: putable bond value = option-free value + put on bond. The increase in put option value resulting from the increase in interest rate volatility would increase the value of the putable bond. Therefore, the statement regarding the volatility effects on MediSoft's putable bonds is also incorrect.

For Further Reference:

Study Session 13, LOS 37.o

Question #49 of 60

B) 6.8%.

Explanation

Walker is entering into a 6 × 8 forward rate agreement (FRA), which represents a 2-month (60-day) loan that will begin six months (180 days) from now. The relevant LIBOR rates for this contract are 180-day and 240-day LIBOR. To calculate the contract rate on the 6 × 8 FRA, first un-annualize the 180- and 240-day rates as follows:

$$R_{180} = 0.0452 \left(\frac{180}{360} \right) = 0.0226 \qquad R_{240} = 0.0511 \left(\frac{240}{360} \right) = 0.0341$$

Next, calculate the rate on the 6 × 8 FRA as follows (note we are using the 180-day and 240-day LIBOR rates to find the 60-day rate that lies between them):

$$FRA_{6 \times 8} = \left(\frac{1 + R_{240}}{1 + R_{180}} \right) - 1 = \left(\frac{1.0341}{1.0226} \right) - 1 = 0.0112$$

The 0.0112 or 1.12% rate represents a 60-day rate. Annualizing the rate will yield the following:

$$FRA_{6 \times 8} = 0.0112 \left(\frac{360}{60} \right) = 0.0675 = 6.75\% \approx 6.8\%$$

For Further Reference:

Study Session 14, LOS 40.a
SchweserNotes: Book 4 p.124
CFA Program Curriculum: Vol.5 p.270

Question #50 of 60

A) \$2,340.

Explanation

For this question, we must find the value of the FRA three months (90 days) after the inception of the contract. First find the contract rate on a new FRA. Since we are 90 days past the inception of the original contract an equivalent new contract would be a 3 × 5 FRA, which would represent a 2-month (60-day) loan that would begin three months (90 days) from now. Thus, the relevant LIBOR rates are going to be 90-day and 150-day LIBOR. Calculate the FRA rate the same way as in the previous question:

$$R_{90} = 0.0512 \left(\frac{90}{360} \right) = 0.012800 \qquad R_{150} = 0.0596 \left(\frac{150}{360} \right) = 0.024833$$

$$FRA_{3 \times 5} = \left(\frac{1 + R_{150}}{1 + R_{90}} \right) - 1 = \left(\frac{1.024833}{1.012800} \right) - 1 = 0.011881$$

$$FRA_{3 \times 5} = 0.011881 \left(\frac{360}{60} \right) = 0.07129 = 7.129\%$$

Now take the difference between the new FRA rate and the original rate (given as 6.0% in the question) on an un-annualized basis and multiply by the notional principal (i.e., the amount that will be borrowed).

$$\left[(0.07129 - 0.06) \left(\frac{60}{360} \right) \right] \times \$1,275,000 = \$2,399$$

Finally, discount this difference to the present using the 150-day LIBOR rate.

$$\frac{\$2,399}{\left[1 + \left(0.0596 \times \frac{150}{360} \right) \right]} = \$2,340$$

For Further Reference:

Study Session 14, LOS 40.b

SchweserNotes: Book 4 p.124

CFA Program Curriculum: Vol.5 p.271

Question #51 of 60

- B) the present value of the difference between the current futures price times 0.5597 and the exercise price multiplied by 0.508.

Explanation

Using the Black model, the call option is valued as $C_0 = e^{-rT}[F_T N(d_1) - XN(d_2)]$

For Further Reference:

Study Session 14, LOS 41.j

SchweserNotes: Book 4 p.178

CFA Program Curriculum: Vol.5 p.362

Question #52 of 60

- C) short position in a silver forward contract and a long position in a U.S. dollar currency forward contract.

Explanation

The company will need to sell silver in eight months. Thus, if the price of silver is expected to fall over that time frame, Walker should be short a forward contract on the price of silver to lock in a higher selling price now. Walker will also need to convert Australian dollars to U.S. dollars after the extracted Australian silver is sold. Thus, he is effectively long Australian dollars and will need either a short currency forward contract on Australian dollars or equivalently a long currency forward contract on U.S. dollars if he expects the Australian dollar to depreciate.

For Further Reference:

Study Session 14, LOS 40.a

SchweserNotes: Book 4 p.124

CFA Program Curriculum: Vol.5 p.270

Question #53 of 60

- A) A zero-cost portfolio consisting of a long cap and a short floor with the same strike rate.

Explanation

If the exercise rate on a cap and floor is same, a long cap and short floor can be used to replicate a payer swap. If the value of such long cap and short floor is same, their (common) exercise rate should be equal to the swap fixed rate.

For Further Reference:

Study Session 14, LOS 41.k

Question #54 of 60

A) long position in an off-market FRA by making a payment to the short position.

Explanation

In answering this question, you must first compute the contract rate for a zero value (arbitrage free) 7 × 10 FRA (i.e., the FRA expires in 210 days and the underlying loan expires in 300 days). The contract rate for the 7 × 10 FRA is computed as follows:

$$R_{210} = 0.0603 \left(\frac{210}{360} \right) = 0.0352 \qquad R_{300} = 0.0641 \left(\frac{300}{360} \right) = 0.0534$$

$$FRA_{7 \times 10} = \left(\frac{1 + R_{300}}{1 + R_{210}} \right) - 1 = \left(\frac{1.0534}{1.0352} \right) - 1 = 0.0176$$

$$FRA_{7 \times 10} = 0.0176 \left(\frac{360}{90} \right) = 0.0704 = 7.04\%$$

Since the contract rate on an arbitrage free is higher than the desired rate of 6.95%, Walker must establish a position in an off-market FRA. He will need a long position because he will be borrowing at the contract rate, not lending. Since having a contract rate that is lower than the market rate (6.95% < 7.04%) is valuable to the long, Walker will have to make a payment to the short position at the contract inception.

For Further Reference:

Study Session 14, LOS 40.b
SchweserNotes: Book 4 p.124
CFA Program Curriculum: Vol.5 p.271

Question #55 of 60

B) Two.

Explanation

What Yeung has identified as Constraint 1 is properly classified as a return objective and not a constraint. Investment constraints are factors that restrict investment choices. Constraint 2 is an example of time horizon constraint. Constraint 3 is an example of liquidity constraint.

For Further Reference:

Study Session 16, LOS 47.e
SchweserNotes: Book 5 p.130
CFA Program Curriculum: Vol.6 p.247

Question #56 of 60

B) Zhou is using a fundamental factor model, Yeung is using principal component analysis, and Joeng is using a macroeconomic model.

Explanation

Macroeconomic models are based on surprises in macroeconomic data. Principal component analysis is used to identify the factors of a statistical factor model, which cannot necessarily be described using conventional economic variables. Fundamental factor models use firm-specific valuation metrics such as PE with standardized sensitivities.

For Further Reference:

Study Session 16, LOS 48.d

SchweserNotes: Book 5 p.146

CFA Program Curriculum: Vol.6 p.275

Question #57 of 60**C)** 151%.**Explanation**

Information ratio for Lincoln fund = IR = active return/active risk = $(7.6\% - 6.5\%) / 5\% = 0.22$

Sharpe ratio of benchmark = $SR_B = (6.5\% - 3\%) / 11\% = 0.32$

The optimal amount of active risk can be calculated as:

$$\sigma_A^* = (IR/SR_B) \times \sigma_B = (0.22 / 0.32) \times 11.0\% = 7.56\%$$

The weight of the active Lincoln portfolio should be $7.56\% / 5.0\% = 1.51$, and the weight on the benchmark portfolio would be $1 - 1.51 = -0.51$.

For Further Reference:

Study Session 17, LOS 51.d

SchweserNotes: Book 5 p.205

CFA Program Curriculum: Vol.6 p.452

Question #58 of 60**A)** 0.39.**Explanation**

The highest Sharpe ratio can be calculated using the relation $SR_P^2 = SR_B^2 + IR^2$:

$$SR_P = \sqrt{SR_B^2 + IR^2} = \sqrt{0.32^2 + 0.22^2} = 0.388$$

Thus, the highest Sharpe ratio that can be achieved by combining the active and passive portfolios is approximately 0.39.

For Further Reference:

Study Session 17, LOS 51.d

SchweserNotes: Book 5 p.205

CFA Program Curriculum: Vol.6 p.452

Question #59 of 60**B)** higher.**Explanation**

An asset whose value is negatively correlated to the investor's utility from future consumption provides a poor hedge against bad consumption outcomes. That is, the asset pays off more when the investor's utility is low. Such assets would command a higher risk premium.

For further reference:

Study Session 17, LOS 50.c

SchweserNotes: Book 5 p.184

CFA Program Curriculum: Vol.6 p.368

Question #60 of 60

B) inter-temporal rate of substitution will be high.

Explanation

For countries with high expected economic growth rates, real rates will be high. Investors will be less concerned about the future, and the inter-temporal rate of substitution will be *low*. Also, investors will want to increase current consumption and, hence, will borrow more and save less.

For further reference:

Study Session 17, LOS 50.c

SchweserNotes: Book 5 p.184

CFA Program Curriculum: Vol.6 p.368