CFA Level II

Questions #1-6 of 60

Questions 1 through 6 relate to Ethical and Professional Standards.

Trent, LLC Case Scenario

Martha Gillis, CFA, trades currencies for Trent, LLC. Trent is one of the largest investment firms in the world, and its foreign currency department trades more currency on a daily basis than any other firm. Gillis specializes in currencies of emerging nations.

Gillis received an invitation from the new finance minister of Binaria, one of the emerging nations included in Gillis's portfolio. The minister has proposed a number of fiscal reforms that he hopes will help support Binaria's weakening currency. He is asking currency specialists from several of the largest foreign exchange banks to visit Binaria for a conference on the planned reforms. Because of its remote location, Binaria will pay all travel expenses of the attendees, as well as lodging in government-owned facilities in the capital city. As a further inducement, attendees will also receive small bags of uncut emeralds (because emeralds are a principal export of Binaria), with an estimated market value of $500.

Gillis has approximately 25 clients that she deals with regularly, most of whom are large financial institutions interested in trading currencies. One of the services Gillis provides to these clients is a weekly summary of important trends in the emerging market currencies she follows. Gillis talks to local government officials and reads research reports prepared by local analysts, which are paid for by Trent. These inputs, along with Gillis's interpretation, form the basis of most of Gillis's weekly reports.

Gillis decided to attend the conference in Binaria. In anticipation of a favorable reception for the proposed reforms, Gillis purchased a long Binaria currency position in her personal account before leaving on the trip. After hearing the finance minister's proposals in person, however, she decides that the reforms are poorly timed and likely to cause the currency to depreciate. She issues a negative recommendation upon her return. Before issuing the recommendation, she liquidates the long position in her personal account but does not take a short position.

Gillis's supervisor, Steve Howlett, CFA, has been reviewing Gillis's personal trading. Howlett has not seen any details of the Binaria currency trade but has found two other instances in the past year where he believes Gillis has violated Trent's written policies regarding trading in personal accounts.

One of the currency trading strategies employed by Trent is based on interest rate parity. Trent monitors spot exchange rates, forward rates, and short-term government interest rates. On the rare occasions when the forward rates do not accurately reflect the interest differential between two countries, Trent places trades to take advantage of the riskless arbitrage opportunity. Because Trent is such a large player in the exchange markets, its transactions costs are very low, and Trent is often able to take advantage of mispricings that are too small for others to capitalize on. In describing these

trading opportunities to clients, Trent suggests that "clients willing to participate in this type of arbitrage strategy are guaranteed riskless profits until the market pricing returns to equilibrium."

Question #1 of 60

Question ID: 1220539

According to CFA Institute Standards of Professional Conduct, Gillis may accept the invitation to attend the conference in Binaria without violating the Standards:

A) so long as she pays her own travel expenses and refuses the gift of emeralds.

B) **so long as she refuses the gift of emeralds.**

C) because she would be the guest of a sovereign government.

Explanation

Standard I(B). Attending the conference would be appropriate, but Gillis must avoid any situation that would affect her independence in order to properly comply with Standard I(B) Professionalism – Independence and Objectivity. Since Binaria is remotely located, it is reasonable for the government to pay her travel expenses. However, the gift of emeralds must be refused. The fact that the host is a sovereign government does not matter—the obvious objective is to give the analysts a favorable bias toward the currency and the proposed reforms.

For Further Reference:

(Study Session 1, Module 2.1, LOS 2.a)

Question #2 of 60

Question ID: 1220540

Given that Gillis's weekly reports to clients are market summaries rather than specific investment recommendations, what are her record-keeping obligations according to CFA Institute Standards of Professional Conduct? Gillis must:

A) **maintain records of her conversations with local government officials and also keep copies of the research reports prepared by local analysts.**

B) only maintain records of her conversations with local government officials and her own summaries of the research reports prepared by local analysts.

C) keep her own summaries of the research reports prepared by local analysts, but she has no obligation to maintain records of her conversations with local government officials.

Explanation

Standard V(C). Gillis's reports may not be specific investment recommendations, but because they are client communications, she should keep either electronic or hard copy records of her conversations with the government officials and copies of the research reports she used in developing her weekly summary reports, in order to comply with Standard V(C) Investment Analysis, Recommendations, and Actions – Record Retention.

For Further Reference:

(Study Session 1, Module 2.8, LOS 2.a)

Question #3 of 60

Question ID: 1220541

Regarding Gillis's transactions in the Binaria currency, she has violated the Standards by:

A) **taking the long position and by selling the position before issuing a recommendation to clients.**

B) selling the position before issuing the recommendation to clients, although taking the long position was not a violation.

C) not disclosing the trades in her report because the trades are acceptable as long as they are disclosed.

Explanation

Standard VI(B). Gillis is attempting to trade ahead of her employer and her clients in violation of the Standards. She was wrong to take the long position in anticipation of a positive recommendation and wrong to sell the position before issuing her negative recommendation. These trades were wrong regardless of whether they were disclosed. In accordance with Standard VI(B) Conflicts of Interest – Priority of Transactions, client interests must take precedence over personal interests.

For Further Reference:

(Study Session 1, Module 2.9, LOS 2.a)

Question #4 of 60

Question ID: 1220542

According to CFA Institute Standards of Professional Conduct, Howlett's best course of action with regard to the suspected violations by Gillis would be to:

A) meet with Gillis in person, explain the nature of the violations, and seek assurances that such violations will not recur.

B) warn Gillis to cease the trading activities and report the violation to Howlett’s supervisor immediately.

C) **place limits on Gillis’s personal trading and increase monitoring of Gillis’s personal trades.**

Explanation

Standard I(A). Warning Gillis and/or reporting the violation up Trout's management structure are inadequate solutions. Limiting the trading activity and increased monitoring to prevent future violations are more appropriate initial responses, in accordance with Standard I(A) Professionalism – Knowledge of the Law.

For Further Reference:

(Study Session 1, Module 2.1, LOS 2.a)

Question #5 of 60

Question ID: 1220543

Based on the information given, and according to CFA Institute Standards, which of the following statements *best* describes Trent's compliance procedures relating to personal trading in foreign currencies? The compliance procedures:

A) appear adequate because Howlett was able to identify potential violations.

B) appear adequate, but Howlett's monitoring of Gillis's trades indicates poor supervisory responsibility.

C) **should include both duplicate confirmations of transactions and preclearance procedures for personal trades.**

Explanation

Standard VI(B). The main problem in this case appears to be that there is no system to identify potential front-running violations before they occur. Standard VI(B) Conflicts of Interest – Priority of Transactions recommends both preclearance of trades and duplicate trade confirmations as procedures for compliance.

For Further Reference:

(Study Session 1, Module 2.9, LOS 2.a)

Question #6 of 60

Question ID: 1220544

Trent's arbitrage trading based on interest rate parity is successful mostly due to Trent's large size, which provides it with an advantage relative to smaller, competing currency trading firms. Has Trent violated CFA Institute Standards of Professional Conduct with respect to its trading strategy or its guarantee of results?

A) The trading strategy and guarantee of results are both violations of CFA Institute Standards.

B) The trading strategy is legitimate and does not violate CFA Institute Standards, but the guarantee of investment return is a violation of Standards.

C) **Both the trading strategy and guarantee statement comply with CFA Institute Standards.**

Explanation

Standards II(B) and V(B). The strategy based on interest rate parity would provide riskless profits until the prices moved into equilibrium and the forward rates accurately reflected the interest rate differentials. Trout's guarantee is therefore accurate. The low transaction costs available to Trout are a competitive advantage that can be exploited without violating Standard II(B).

For Further Reference:

(Study Session 1, Module 2.3, LOS 2.a)

Questions #7-12 of 60

Questions 7 through 12 relate to Economics.

Summit Consulting Case Scenario

Jill Surratt, CFA, and Elizabeth Castillo, CFA, are analysts for Summit Consulting. Summit provides investment advice to hedge funds and actively managed investment funds throughout the United States and Canada.

Surratt and Castillo have a client, Tom Carr, who is interested in increasing his returns from foreign currency positions. Carr currently has a position in Japanese yen (¥) that he wishes to convert to Taiwanese dollars (NT$) because he thinks the Taiwanese currency will appreciate in the near term. He does not have a quote for yen in terms of the NT$ but has received quotes for both currencies in terms of the U.S. dollar. The quotes are $0.008852-56 for the yen and $0.02874-6 for the Taiwanese dollar. He would like to purchase NT$10 million.

In discussing these quotes, Surratt notes that the bid-ask spread is affected by many factors. She states that if an economic crisis were expected in the Asian markets, then the bid-ask spread of the currency quotes should widen. Castillo states that if a dealer wished to unload an excess inventory of yen, the typical response would be to lower her ask for the yen, thereby narrowing the bid-ask spread.

In regards to changes in currency values, Surratt states that under the Mundell-Fleming model, if the U.S. Federal Reserve restricts the growth of the money supply and foreign interest rates remain constant, then the interest rate differential (U.S. interest rate minus counter currency interest rate) should increase, thereby increasing the value of the dollar.

In addition to using monetary policy, Summit Consulting uses anticipated changes in fiscal policy to forecast exchange rates and the balance of payments for Canada. Castillo states that, under the Mundell-Fleming model, if the Canadian government were to unexpectedly reduce the budget deficit, then this should have a positive impact on the value of the Canadian dollar in the short run because foreigners would have more confidence in the Canadian economy.

Another of Summit's clients is Jack Ponder. Ponder would like to investigate the possibility of using covered interest arbitrage to earn risk-free profits over the next three months, assuming initial capital of $1 million. He asks Surratt to gather information on the inflation rates, interest rates, spot rates, and forward rates for the U.S. dollar and the Swiss franc (SF). Surratt has also used technical analysis to obtain a projection of the future spot rate for the two countries' currencies. The information is presented as follows.

Spot rate	$0.85 / SF
Three-month forward rate (as of today) for SF	$0.80 / SF
Expected spot rate three months from now	$0.60 / SF
Three-month inflation rate in Switzerland (annualized)	2.0%
Three-month inflation rate in the U.S. (annualized)	6.0%
Three-month interest rate for SF (annualized)	12.0%
Three-month interest rate for U.S. dollars (annualized)	18.0%

Ponder has a carry trade open involving the Bun (the currency of Bundovia). Ponder notices that Bundovia has a current account deficit and asks Surrat about the impact of such a deficit on the value of the Bun. Surrat states that the impact on the Bun depends on three factors:

Factor 1:	The expected size of the current account deficit in the future.
Factor 2:	The influence of exchange rates on domestic prices.
Factor 3:	The response of import and export demand to changes in import and export prices.

Question #7 of 60

Question ID: 1220546

The yen cost to Carr of buying NT$10 million is *closest* to:

A) ¥3,077,000.

B) ¥32,453,000.

C) **¥32,490,000.**

Explanation

We want to convert ¥ to NT$ (via USD). Since we are not given the starting ¥ position, we start with a hypothetical ¥1,000 contract size. The quotes given are $/¥ and $/NT$. To convert ¥ to $ (i.e., going "up the quote") use the bid price (and multiply). To convert from $ to NT$ we use the offer price (and divide).

Step 1: Convert 1,000 yen to USD at $0.008852 to obtain 1,000 × 0.008852 = $8.852.

Step 2: Convert $8.852 to NT$ at $0.02876 to get 8.852 / 0.02876 = NT$ 307.7886.

Now, we want NT$ 10 million or 10,000,000 / 307.7886 = 32,489.8323 ¥ contracts or ¥32,489,832.

Alternatively, we can calculate the NT$/Yen cross rate as 0.307789-0.308142.

To convert Yen to NT$ (going up the quote, use bid price and multiply):

Yen × 0.307789 = NT$ 10,000,000

Yen = 10,000,000 / 0.307789 = 32,489,790.

For Further Reference:

(Study Session 4, Module 10.1, LOS 10.b)

Question #8 of 60

Question ID: 1220547

Are Surratt and Castillo correct with regard to their statements concerning the currency bid-ask spreads?

A) **Only Surratt is correct.**

B) Only Castillo is correct.

C) Both Surratt and Castillo are correct.

Explanation

Surratt is correct. Market conditions affect currency spreads such that the bid-ask spread on foreign currency quotations increases as exchange rate volatility (uncertainty) increases. In this example, an economic crisis in the Asian markets would create uncertainty, thereby impacting the $/¥ and $/NT$ exchange rates and increasing the bid-ask spread.

Castillo is incorrect. Bank and other currency dealer positions are not considered to directly impact the size of foreign currency spreads.

In this example, it is true that the dealer would likely reduce her yen ask (selling price) if she wanted to unload an excess inventory of yen. However, the dealer would also probably reduce her bid (buying price) so that she did not buy any

additional yen. The result would be that the spread would remain relatively unchanged.

For Further Reference:

(Study Session 4, Module 10.1, LOS 10.a)

Question #9 of 60

Question ID: 1220548

Evaluate Surratt's statements concerning the impact of monetary policy on currency values. Surratt is:

A) correct.

B) incorrect, because restrictive monetary policy in the United States would lead to a lower value of the dollar.

C) incorrect, because restrictive U.S. monetary policy would be matched by foreign governments.

Explanation

Surratt is correct. Under the Mundell-Fleming model, restrictive monetary policy reduces the growth rate of the money supply and will lead to appreciation of a country's currency. Restrictive monetary policy will increase the interest rate and, consequently, the demand for domestic physical and financial assets. This increase in financial inflows (increase in the financial account) increases the demand for the domestic currency for investment purposes leading to its appreciation. Choice C is incorrect because we are given in the vignette that the foreign interest rates remain constant.

For Further Reference:

(Study Session 4, Module 10.3, LOS 10.k)

Question #10 of 60

Question ID: 1220549

Regarding Castillo's statements concerning the effect of fiscal policy on currency values, Castillo is:

A) correct.

B) incorrect, because under the Mundell-Fleming model, restrictive Canadian fiscal policies lead to a short-run depreciation of the Canadian dollar.

C) incorrect, because under the Mundell-Fleming model, restrictive Canadian fiscal policies lead to an increase in the value of the Canadian dollar in the long run.

Explanation

Castillo is incorrect with respect to the impact of unanticipated restrictive fiscal policies on the value of the Canadian dollar.

A reduction in the budget deficit means that government borrowing will decline, which reduces interest rates and causes investment funds to flow out of the country. As a result, the value of the Canadian dollar tends to decline.

For Further Reference:

(Study Session 4, Module 10.3, LOS 10.k)

Question #11 of 60

Question ID: 1220550

Which of the following *best* describes the covered interest arbitrage that Ponder should execute? Borrow in:

A) Swiss francs to make an arbitrage profit of $80,313.

B) U.S. dollars to make an arbitrage profit of $80,313.

C) **Swiss francs to make an arbitrage profit of $75,588.**

Explanation

The 90-day USD and SF interest rates are 18% / 4 = 4.5% and 12% / 4 = 3% respectively.

Using CIRP, F = S $(1+R_{\$}) / (1+R_{SF})$ = 0.85 (1.045) / (1.03) = $0.8624 / SF, which is greater than the market forward price of $0.80/SF. This implies that SF is trading at a bargain price in the forward market—buy it!

At t = 0	**Cash Flow**
Buy (i.e., long position in) SF in forward market at $0.80/SF	$0
Sell 1,176,471 SF in the spot at $0.85/SF	$1,000,000
	(1,176,471 SF)
Borrow 1,176,471 SF for 90 days @ 12% annual rate	1,176,471 SF
Invest $1 million for 90 days @ 18% annual rate	($1,000,000)
Total cash flows at t = 0	0

t = 90	**Cash Flow**
Receive USD with interest	$1,045,000
Convert USD 969,412* into SF at previously locked-in forward rate of $0.80/SF	($ 969,412)
	SF 1,211,765
Repay the SF loan taken at t = 0	(1,211,765)
Total cash flows at t = 90	$75,588

**This is the amount needed to repay the SF loan (with interest) after conversion.*

For Further Reference:

(Study Session 4, Module 10.2, LOS 10.e)

Question #12 of 60

Question ID: 1220551

How many of the factors identified by Surrat regarding Bundovia's current account deficit are accurate?

A) **One factor only.**

B) Two factors only.

C) All three factors.

Explanation

Only factor 3 is correct. Factor 1 incorrectly specifies the size of expected future deficits rather than size of initial current account deficit. Factor 2 incorrectly specifies influence on domestic prices in general rather than domestic prices of traded goods (i.e., imports/exports).

For Further Reference:

(Study Session 4, Module 10.3, LOS 10.j)

Questions #13-18 of 60

Questions 13 through 18 relate to Financial Reporting and Analysis.

DF Investments Case Scenario

Lauren Jacobs, CFA, is an equity analyst for DF Investments. She is evaluating Iron Parts, Inc. Iron Parts is a manufacturer of interior systems and components for automobiles. The company is the world's second-largest original equipment auto parts supplier, with a market capitalization of $1.8 billion. Based on Iron Parts's low price-to-book value ratio of 0.9× and low price-to-sales ratio of 0.15×, Jacobs believes the stock could be an interesting investment. However, she wants to review the disclosures found in the company's financial statements. In particular, Jacobs is concerned about Iron Parts's defined benefit pension plan.

The following information for 20X7 and 20X8 is provided.

In millions, December 31	20X8	20X7
Projected benefit obligation (PBO)	$635	$500
Current service cost	30	18
Actual return on plan assets	37	32
Benefits paid	22	15
Past service cost	80	45
Employee contributions	17	15
Fair market value of plan assets	395	327
Discount rate	6.0%	5.5%
Expected return on plan assets	8.2%	7.5%
Rate of compensation increase	4.0%	4.0%

Iron Parts reports under U.S. GAAP.

Jacobs wants to fully understand the impact of changing pension assumptions on Iron Parts's balance sheet and income statement. In addition, she would like to compute Iron Parts's true pension expense.

Question #13 of 60

Question ID: 1220553

As of December 31, 20X8, the pension plan would be reflected on Iron Parts's balance sheet as:

A) a $175 million liability.

B) **a $240 million liability.**

C) a $183 million asset.

Explanation

Funded status equals fair value of plan assets minus PBO (395 − 635 = –240). Because the funded status is negative, Iron Parts would report a liability of $240 million.

For Further Reference:

(Study Session 5, Module 14.2, LOS 14.b)

Question #14 of 60

Question ID: 1220554

Which of the following *best* describes the effects of the change in Iron Parts's discount rate for 20X8, all else being equal?

A) **Service cost decreased and the pension plan appeared more funded.**

B) Pension expense decreased and the PBO increased.

C) Interest cost increased and retained earnings decreased.

Explanation

The discount rate increased from 5.5% to 6.0%. An increase in the discount rate will result in lower service cost. Lower service cost will result in a *lower* PBO. A lower PBO will result in a higher funded status (more funded). Lower service cost will result in lower pension expense and *higher* retained earnings. The impact on interest cost cannot be determined without more information.

For Further Reference:

(Study Session 5, Module 14.5, LOS 14.d)

Question #15 of 60

Question ID: 1220555

How much did Iron Parts contribute to its pension plan during 20X8?

A) $31 million.

B) **$36 million.**

C) $53 million.

Explanation

$327 beginning balance plan assets + $37 actual return + $17 employee contributions + employer contributions − $22 benefits paid = $395 ending balance plan assets. Solving for the contributions, we get $36.

For Further Reference:

(Study Session 5, Module 14.2, LOS 14.b)

Question #16 of 60

Question ID: 1220556

Which of the following *best* describes the effect(s) of the change in Iron Parts's expected return on the plan assets, all else being equal?

A) Pension expense decreased and the PBO increased.

B) Retained earnings increased and the pension plan appeared more funded.

C) **Net income increased.**

Explanation

The higher expected return reduces pension expense. Lower pension expense results in higher net income. Higher net income results in higher retained earnings. Neither the PBO nor the funded status is affected by the expected return on plan assets.

For Further Reference:

(Study Session 5, Module 14.5, LOS 14.d)

Question #17 of 60

Question ID: 1220557

For this question only, assume that Iron Parts reports under IFRS. The amount of periodic pension cost reported on the 20X8 P&L would be *closest* to:

A) $48 million.

B) $69 million.

C) **$120 million.**

Explanation

Amount reported under IFRS:

Service cost	$30
Interest cost[1]	$10.4
Past service cost	$80
Pension cost on P&L	$120.4 million

[1]*Interest cost = discount rate × beginning funded status = 0.06 × (500 − 327)*

For Further Reference:

(Study Session 5, Module 14.3, LOS 14.c)

Question #18 of 60

Question ID: 1220558

For the year ended December 31, 20X8, Iron Parts's total periodic pension cost is *closest* to:

A) $67 million.

B) **$103 million.**

C) $157 million.

Explanation

interest cost = beginning PBO × discount rate = 0.06 × 500 = $30.

TPPC = current service cost + past service cost + interest cost + losses due to changes in actuarial assumptions affecting PBO − actual return = 30 + 80 + 30 + 0 − 37 = $103

Alternatively, total periodic pension cost is equal to employer contributions of $36 minus the change in funded status. 20X8 funded status was –240 (395 plan assets − 635 PBO) and the funded status for 20X7 was –173 (327 plan assets − 500 PBO), so the change in funded status is –240 − (–173) = –$67. Thus, total periodic pension cost is $103 [36 − (–67)].

For Further Reference:

(Study Session 5, Module 14.3, LOS 14.c)

Questions #19-24 of 60

Questions 19 through 24 relate to Financial Reporting and Analysis.

Tobin Yoakam Case Scenario

Tobin Yoakam, CFA, is analyzing the financial performance of Konker Industries, a U.S. company which is publicly traded under the ticker KONK. Yoakam is particularly concerned about the quality of Konker's financial statements and its choices of accounting methodologies.

Below is a summary of Konker's financial statements prepared by Yoakam.

Konker Industries

Income Statement ($ in thousands)	**20X8**	**Balance Sheet** ($ in thousands)	**20X8**
Gross sales	55,435	Cash and equivalents	457
Sales discounts, returns, and allowances	1,352	Short term marketable securities	927
Net sales	54,083	Accounts receivable (net)	47,740
Cost of goods sold	26,500	Inventories	20,963
SG&A expenses	15,625	PP&E (net of depreciation)	25,371
Depreciation expense	1,082	Total assets	95,458
Earnings before interest and taxes	10,876		
Interest expense	693	Accounts payable	24,994

Earnings before taxes	10,183	Other current liabilities	1,209
Taxes (tax rate 40%)	4,073	Long term debt	21,770
Net income	6,110	Total liabilities	47,973
		Common stock	40,314
Dividends	5,046	Retained earnings	7,171
Net addition to retained earnings	1,064	Total liabilities and shareholders equity	95,458

At the beginning of 20X8, Konker formed a qualified special purpose entity (QSPE) and sold a portion of its accounts receivables to the QSPE. Under U.S. GAAP, QSPE was exempt from consolidation requirements. The total amount of accounts receivables sold to the QSPE was $13.5 million. Yoakam has noted in his research that the Financial Accounting Standards Board (FASB) eliminated qualified special purpose entities.

Konker has three major operating divisions: Konker Industrial, Konker Defense, and Konker Capital. Yoakam has computed the EBIT margin for each division over the last three years, as well as the ratio of the percentage of total capital expenditures to the percentage of total assets for each division.

	EBIT / Assets			**CapEx % / Assets %**		
	20X8	**20X7**	**20X6**	**20X8**	**20X7**	**20X6**
Konker Industrial	6.2%	7.5%	6.7%	1.5	1.3	1.2
Konker Defense	6.7%	7.2%	6.9%	0.5	0.6	0.7
Konker Capital	10.1%	12.1%	11.1%	0.7	0.6	0.5

Since Yoakam is concerned about the quality of Konker's earnings, he decides to analyze the accrual ratios using the balance sheet approach. The table below contains the last three years of accrual ratios for Konker and the industry average.

Balance Sheet Accrual Ratios	**20X8**	**20X7**	**20X6**
Konker	4.5%	15.0%	7.0%
Industry average	4.8%	4.4%	5.2%

Yoakam meets his colleague Sarah for lunch. Sarah specializes in the insurance sector and makes the following statements:

Statement 1:	P&C insurers' liability duration is shorter than that of life insurance companies.
Statement 2:	Analysis of a life insurer's profitability includes analysis of its loss reserves.

Question #19 of 60

Question ID: 1220560

With respect to the balance sheet accrual ratio, which of the following, other things equal, would *most likely* lead to an increase in the ratio for a growing company?

A) Extending the time the firm takes to pay its suppliers.

B) A significant build-up of cash.

C) **A build-up of inventory.**

Explanation

The balance sheet accrual ratio is the year-over-year increase in net operating assets divided by average net operating assets. An increase in payables (a liability) will tend to decrease (reduce the change in) net operating assets, while an increase in inventory will tend to increase (increase the change in) net operating assets. Cash is not an operating asset and does not affect the ratio.

For Further Reference:

(Study Session 6, Module 18.5, LOS 18.e)

Question #20 of 60

Question ID: 1220561

When FASB retroactively eliminated the allowance of QSPEs created for the securitization of receivables, the *most likely* impact on Konker's financial statements would have been:

A) an increase in equity and an increase in interest expense.

B) no change in assets but an increase in financial leverage ratios.

C) **an increase in financial leverage ratios and a decrease in the interest coverage ratio.**

Explanation

The elimination of the securitization of receivables as an off-balance-sheet item would result in Konker having to report the transaction as securitized borrowing, replacing the receivables on the balance sheet, and reporting a liability equal to the proceeds of the securitization transaction. The impact on Konker's balance sheet would be an increase in assets, and an increase in liabilities. The change in equity from reporting the transaction in this way is likely to be small. Financial leverage would increase, and the consequent increase in interest expense from the liability would decrease the interest coverage ratio.

For Further Reference:

(Study Session 5, Module 13.9, LOS 13.c, Study Session 6, Module 18.2, LOS 18.d)

Question #21 of 60

Question ID: 1220562

An analyst is considering the effects of income reported under the equity method on certain financial ratios. For a firm that reports equity income as non-operating income (not included in EBIT), removing equity income from the financial statements would *most likely* result in:

A) an increase in the tax burden term in the extended Du Pont decomposition of ROE.

B) **an increase in the asset turnover ratio.**

C) a decrease in the interest coverage ratio.

Explanation

Removing the effects of the income reported under the equity method involves removing the income and the equity asset reported on the balance sheet. The decrease in total assets will increase the asset turnover ratio. The tax burden term is net income divided by earnings before tax so that the decrease in net income from removing the equity income will decrease the term. Neither interest expense nor operating earnings (EBIT) are affected by the appropriate adjustments, so the interest coverage ratio is unaffected.

For Further Reference:

(Study Session 6, Module 18.2, LOS 18.b)

Question #22 of 60

Question ID: 1220563

Regarding the three operating divisions of Konker, Yoakam should be *most* concerned that:

A) Konker is growing the Industrial division over time.

B) the operating ROA of the Capital division has fallen over the last year.

C) the ratio of the Capex percent change to the asset percentage is significantly less than one for the Defense division.

Explanation

The fact that Konker is growing the Industrial division most rapidly (highest capex percent to asset percent ratio) is a likely cause for concern and further investigation, since this division has the lowest operating return on assets. The decrease in the operating ROA for the Capital division is not particularly troublesome as it mirrors the pattern for the other divisions and likely just reflects year-to-year variation in profitability. The fact that the percent of capex for the Defense division is less than its percent of total assets is not a primary cause for concern since that division has a lower operating ROA, and growth in capital assets likely follows contract awards in the defense industry, rather than drives business. Also, the apparent overinvestment in the Industrial division will decrease the capex percent for other divisions, other things equal.

For Further Reference:

(Study Session 6, Module 18.2, LOS 18.b)

Question #23 of 60

Question ID: 1220564

Based on the balance sheet accruals ratios, Yoakam would *most likely* conclude which of the following regarding the earnings of Konker?

A) The volatile accruals ratios are indicators that Konker may be manipulating earnings.

B) Konker’s earnings quality was lower than its peer group in 20X8 but higher in 20X6 and 20X7.

C) Konker’s earnings quality worsened from 20X6 to 20X8 but was superior to its peer group over the 3-year period.

Explanation

Volatile accruals ratios are an indicator that a firm may be manipulating earnings. Additionally, increasing accruals ratios may be a sign that a firm may be manipulating earnings. Lower accrual ratios represent higher earnings quality.

For Further Reference:

(Study Session 6, Module 18.2, LOS 18.b)

Question #24 of 60

Question ID: 1220565

Which of Sarah's statements about insurance companies is *most* accurate?

A) Only statement 1 is correct.

B) Only statement 2 is correct.

C) Both statements are correct.

Explanation

Only statement 1 is correct. P&C policies (and hence, claim liabilities) tend to be short-term as compared to long-term life insurance policies. Statement 2 is incorrect because evaluation of loss reserves is important for P&C insurers' profitability. (

For Further Reference:

(Study Session 5, Module 16.6, LOS 16.f)

Questions #25-30 of 60

Questions 25 through 30 relate to Corporate Finance.

MavsHD Case Scenario

Donnie Nelson, CFA, has just taken over as chief financial officer of MavsHD, a high-tech company that delivers high-definition technology to a broad-based group of sports enthusiasts. MavsHD has 40% debt and 60% equity in its capital structure. For the year just ended, net income and dividends for MavsHD were $145 million and $21.75 million, respectively. The consensus estimate for net income at the end of the current year is $153 million. The company's current book value is $550 million. MavsHD's stock is currently trading on the NYSE for a price of $50 per share and has been steadily decreasing for the past 12 months.

MavsHD has gone through its pioneer and growth phases and is now settling in to the early stages of maturity. The business model is starting to shift from relying almost exclusively on new customers to retaining and satisfying existing customers. The previously experienced very high growth rate has slowed considerably. Nelson believes that shareholder composition has changed over time as well, favoring shareholders who have a greater interest in dividend stability than in explosive growth. In the past, however, the firm has favored a low dividend rate due to the availability of attractive internal investment opportunities.

Nelson wants to develop an optimal dividend policy for MavsHD that will create the most value for the shareholders and at the same time protect corporate assets. He is concerned, however, that there is sometimes a disconnect between an optimal dividend policy and how actual dividend rates are perceived in the marketplace.

Nelson is preparing a recommendation to senior management and the board of directors regarding the firm's dividend policy going forward. Nelson is considering recommending that MavsHD engage in a stock repurchase plan and repurchase 1.5 million shares of the 12.75 million shares outstanding. This repurchase would eliminate any need to increase the cash dividend payout. Other managers at the firm, besides Nelson, believe MavsHD should increase its dividend and gravitate toward what they perceive to be the target payout ratio over the next eight years. Thus, at the end of the current year, the firm would increase the dividend payment by $250,000 over the dividend in the prior year.

During the board meeting, two of the directors raised concerns over Nelson's proposed repurchase plan. The directors' comments follow:

Director 1:	I support the repurchase plan, especially relative to varying our dividend. Firms should not vary dividends—this lowers investors' confidence and can adversely impact the firm's cost of equity and its share price.
Director 2:	A share repurchase does not take away the uncertainty associated with future stock value. According to the bird-in-the-hand theory, investors prefer higher dividends because capital gains are uncertain. The theory states that if we increase our dividend payout, the value of MavsHD equity will increase. Thus, I propose a dividend increase rather than a repurchase.

One of the board members, Jason Neely, proposed an alternative dividend policy plan one week after the meeting at which Nelson presented his plan. Neely's proposal involves utilizing a residual dividend model. Neely rationalizes his plan by claiming that relative to a stable dividend policy, his proposal would increase the volatility of dollar dividends paid to shareholders but would simultaneously increase the firm's ability to exploit value additive investment projects using internally generated funds. Because of this enhanced access to value additive projects, MavsHD's cost of equity capital will experience a marginal decrease, which will further increase the overall value of the firm.

Question #25 of 60

Question ID: 1220567

Using the target payout ratio adjustment model approach to estimate dividend increases, determine which of the following is *closest* to the target payout ratio estimated by MavsHD's managers.

A) 15%.

B) 20%.

C) 25%.

Explanation

The target payout ratio approach to estimating a company's expected dividend uses the following formula:

> expected increase in dividends = [(expected earnings × target payout ratio) – previous dividend] × adjustment factor

Rearranging the formula to solve for the target payout ratio, we obtain:

> target payout ratio = [(expected increase in dividends ÷ adjustment factor) + previous dividend] ÷ expected earnings

Managers at MavsHD want to move toward the target payout ratio over a period of 8 years, which makes the adjustment factor equal to: 1 / 8 = 0.125. The expected dividend increase is given as $250,000, and the previous dividend is given as

$21,750,000. Plugging each of these figures into the previous formula, the target payout ratio is calculated as:

target payout ratio = [($250,000 ÷ 0.125) + $21,750,000] ÷ $153,000,000 = 0.1552 = 15.5%

For Further Reference:

(Study Session 7, Module 21.2, LOS 21.g)

Question #26 of 60

Question ID: 1220568

If the board proceeds with Nelson's proposed stock repurchase plan as suggested, which of the following is *least likely* to be true? MavsHD:

A) would be increasing financial leverage.

B) is trying to signal the market that despite the declining share price, future prospects for the company are good.

C) **will reduce the wealth of all shareholders, including those who tender their shares for repurchase if the repurchase price is at a premium to the current stock price.**

Explanation

Paying a premium price for the shares (i.e., a price higher than the current market price of the stock) will reduce the value of the remaining shareholders' shares. However, this value reduction is actually transferred to the selling shareholders since they receive more than the market value per share for selling their shares.

For Further Reference:

(Study Session 7, Module 21.2, LOS 21.k)

Question #27 of 60

Question ID: 1220569

For this question only, assume that MavsHD's marginal investor is in a 39.6% tax bracket for capital gains and a 15% tax bracket for dividends. If MavsHD declares a dividend of $2.25 per share, the change in MavsHD's stock price when the stock goes ex-dividend will be *closest* to:

A) 1.36.

B) 1.91.

C) **3.17.**

Explanation

$\Delta P = D(1 - T_D) / (1 - T_{CG}) = 2.25(1 - 0.15) / (1 - 0.396) = 3.17$

For Further Reference:

(Study Session 7, Module 21.1, LOS 21.d)

Question #28 of 60

Question ID: 1220570

In light of the fact that several different groups of investors hold shares in MavsHD, evaluate the directors' comments regarding Nelson's proposed stock repurchase plan.

A) Only Director 1 is correct.

B) Only Director 2 is correct.

C) **Both Director 1 and Director 2 are correct.**

Explanation

Investors do not like instability in the dividends paid by a company. Any volatility in dividends is seen as a negative sign by investors, and the company's stock price would be punished as a result of varying dividends. According to the bird-in-the-hand theory, investors prefer the assurance of receiving a higher dividend today rather than waiting for returns in the form of capital appreciation. Because of the uncertainty associated with capital appreciation and the relative certainty of dividends, the bird-in-the-hand theory predicts that investors will reward dividend paying companies with a lower cost of equity and, thus, a higher equity value. A repurchase does not provide the same type of assurance since it is an unpredictable and possibly one-time event.

For Further Reference:

(Study Session 7, Module 21.1, LOS 21.b, 21.c, 21.g)

Question #29 of 60

Question ID: 1220571

If MavsHD plans to make $160 million in net investments in the current year, what will be the company's dividend payout ratio using the residual dividend model?

A) **37.3%.**

B) 58.2%.

C) 62.8%.

Explanation

If the company plans on spending $160 million on net investments, then only 60% of the funds need to come from retained earnings. Therefore, MavsHD needs 0.6 × 160 = $96 million in retained earnings. Net income is projected to be $153 million, leaving $57 million (153 − 96) available to pay dividends. Thus, the dividend payout ratio would equal 57 / 153 = 37.3%.

For Further Reference:

(Study Session 7, Module 21.2, LOS 21.g)

Question #30 of 60

Question ID: 1220572

Evaluate Neely's comments about his proposed residual dividend plan. Neely's comments are:

A) correct.

B) **incorrect, because the equity cost of capital would not decrease under the proposed plan.**

C) incorrect, because the firm would not have greater access to internal funds for investment.

Explanation

Under a residual dividend policy, a firm determines the optimal capital budget and then uses retained earnings to fund the optimal capital budget, paying out what is left over to shareholders. Because the amount of distributable earnings is not known in advance and is determined as a function of the capital budget, the dollar dividend paid to shareholders will fluctuate widely from year to year. However, the firm will be able to use internally generated funds to a greater extent when deciding how to fund the optimal capital budget. It is not true, however, that the residual dividend policy will reduce the firm's cost of capital. Investors do not like unpredictable dividends and will penalize the company in the form of a higher required return on equity to compensate for the additional uncertainty related to dividend payments.

For Further Reference:

(Study Session 7, Module 21.2, LOS 21.g)

Questions #31-36 of 60

Questions 31 through 36 relate to Equity Valuation.

Arnaud Aims Case Scenario

Arnaud Aims is assisting with the analysis of several firms in the retail department store industry. Because one of the industry members, Flavia Stores, has negative earnings for the current year, Aims wishes to normalize earnings to establish more meaningful P/E ratios. For the current year (2016) and six previous years, selected financial data are given below. All data are in euros.

Exhibit 1: Selected Financial Data for Flavia Stores, 2010–2016

	2016	2015	2014	2013	2012	2011	2010
Earnings per share	(1.05)	1.90	1.65	0.99	1.35	0.77	1.04
Book value per share	9.11	10.66	9.26	8.11	7.62	6.77	6.50
Return on equity	(0.115)	0.178	0.178	0.122	0.177	0.114	0.160

Aims wishes to estimate normalized EPS for 2016 using two different methods, the method of historical average EPS and the method of average rate of return on equity. He will leave 2016 EPS and ROI out of his estimates. Based on his normalized EPS estimates, he will compute a trailing P/E for 2016. The stock price for Flavia Stores is €26.50.

Aims is also looking at price-to-book ratios as an alternative to price-to-earnings ratios. Three of the advantages of P/B ratios that Aims recalls are as follows:

Advantage 1:	Because book value is a cumulative balance sheet account encompassing several years, book value is more likely than EPS to be positive.
Advantage 2:	For many companies, especially service companies, human capital is more important than physical capital as an operating asset.

Advantage 3:	Book value represents the historical purchase cost of assets, as well as accumulated accounting depreciation expenses. Inflation and technological changes can drive a wedge between the book value and market value of assets.

Aims used a constant growth DDM to establish a justified P/E ratio based on forecasted fundamentals. One of his associates asked Aims whether he could easily establish a justified price-to-sales (P/S) ratio and price-to-book (P/B) ratio from his justified P/E ratio.

Aims replied, "I could do this fairly easily. If I multiply the trailing P/E ratio times the net profit margin, the ratio of net income to sales, the result will be the P/S ratio. If I multiply the leading P/E ratio times the return on equity, the ratio of net income to beginning book value of equity, the result will be the P/B ratio."

Aims's associate likes to use the price-earnings-to-growth (PEG) ratio because it appears to address the effect of growth on the P/E ratio. For example, if a firm's P/E ratio is 20 and its forecasted 5-year growth rate is 10%, the PEG ratio is 2.0. The associate likes to invest in firms that have an above-industry-average PEG ratio. The associate also says that he likes to invest in firms whose leading P/E is greater than its trailing P/E. Aims tells the associate that he would like to further investigate these two investment criteria.

Finally, Aims makes two comments to his associate about valuation ratios based on EBITDA and on dividends.

Comment 1:	EBITDA is a pre-interest-expense figure, so I prefer a ratio of total equity value to EBITDA over a ratio of enterprise value to EBITDA.
Comment 2:	Dividend yields are useful information because they are one component of total return. However, they can be an incomplete measure of return, because investors trade off future earnings growth to receive higher current dividends.

Question #31 of 60

Question ID: 1220574

Using the information in Exhibit 1, estimate the P/E ratio for Flavia Stores using EPS estimated with the method of historical average EPS. The P/E ratio is *closest* to:

A) 18.4.

B) 20.6.

C) 27.9.

Explanation

Normalizing EPS using the method of average EPS is accomplished by averaging the EPS over the six-year period from 2010–2015:

EPS(normalized) = (1.90 + 1.65 + 0.99 + 1.35 + 0.77 + 1.04) / 6 = 1.283. The P/E ratio based on this normalized EPS is 26.5 / 1.283 = 20.649.

For Further Reference:

(Study Session 11, Module 29.1, LOS 29.e)

Question #32 of 60

Question ID: 1220575

Using the information in Exhibit 1, estimate the P/E ratio for Flavia Stores using EPS estimated with the method of average return on equity. The P/E ratio is *closest* to:

A) 16.0.

B) 18.8.

C) 25.0.

Explanation

Normalizing EPS (for 2016) using the method of average return on equity is accomplished by (1) averaging the ROE over the six-year period from 2010−2015, and then (2) multiplying the average ROE times the 2015 BVPS. ROE(average) = (0.178 + 0.178 + 0.122 + 0.177 + 0.114 + 0.160) / 6 = 0.155. EPS(normalized) = 0.155(10.66) = 1.652. The P/E ratio based on this normalized EPS is 26.5 / 1.652 = 16.04.

For Further Reference:

(Study Session 11, Module 29.1, LOS 29.e)

Question #33 of 60

Question ID: 1220576

Which one of the three advantages recalled by Aims *most likely* represents a good reason to consider using a P/B ratio?

A) Advantage 1.

B) Advantage 2.

C) Advantage 3.

Explanation

Book values are more likely to be positive than EPS. Thus, the P/B ratio suffers less often from the problem where P/E ratios are not meaningful because of a negative EPS. The other two advantages given are actually disadvantages associated with using P/B ratios.

For Further Reference:

(Study Session 11, Module 29.1, LOS 29.c, 29.d)

Question #34 of 60

Question ID: 1220577

Is Aims correct in describing how we could transform a justified P/E ratio into a P/S ratio or a P/B ratio?

A) Yes.

B) No. He is correct about the P/S ratio but incorrect about the P/B ratio.

C) No. He is correct about the P/B ratio but incorrect about the P/S ratio.

Explanation

Aims is correct about both ratios. For example, let's take the trailing P/E ratio, which is P_0/E_0. Multiplying by the net profit margin results in $P_0/E_0 \times E_0/S_0 = P_0/S_0$. If the justified P/E is $(1 - b)(1 + g) / (r - g)$, the justified P/S is $(E_0/S_0)\ (1 - b)(1 +$

g) / (r − g). Multiplying the leading P/E ratio by the ROE results in $P_0/E_1 \times E_1/B_0 = P_0/B_0$. If the justified P/E is (1 − b) / (r − g), the justified P/B is ROE(1 − b) / (r − g). This becomes (ROE − b × ROE) / (r − g). Since b × ROE = g (from sustainable growth equation), the equation becomes (ROE − g) / (r − g).

For Further Reference:

(Study Session 11, Module 29.1, LOS 29.h)

Question #35 of 60

Question ID: 1220578

When Aims further investigates the two investment criteria (the PEG ratio and the comparison between the trailing and leading P/E ratio), should he find his colleague's use of them to be appropriate?

A) No.

B) The PEG ratio criterion is appropriate, but the P/E ratio criterion is not.

C) The P/E ratio criterion is appropriate, but the PEG ratio criterion is not.

Explanation

Both criteria are poorly applied by the associate. Generally, a lower PEG ratio is considered desirable, not a higher one. The difference in the trailing and leading P/E ratios could be due to transitory elements in the current year's income in the denominator of the trailing P/E. In a constant growth model (admittedly a strong assumption), the leading P/E will naturally be smaller than the trailing P/E because earnings are growing by g.

For Further Reference:

(Study Session 11, Module 29.1, LOS 29.e, 29.r)

Question #36 of 60

Question ID: 1220579

Are Aims's two comments about the dividend yield and EBITDA ratios correct?

A) Yes.

B) No. The comment about EBITDA ratios is correct, but the comment about dividend yields is incorrect.

C) No. The comment about dividend yields is correct, but the comment about EBITDA ratios is incorrect.

Explanation

Comment 1 about EBITDA ratios is incorrect. EBITDA is a pre-interest variable, so it is a flow available to all suppliers of capital, not just common shareholders. The comment about dividend yields is reasonable.

For Further Reference:

(Study Session 11, Module 29.4, LOS 29.m, 29.n)

Questions #37-42 of 60

Questions 37 through 42 relate to Equity Valuation.

Thorngate Ventures Case Scenario

Marsha McDonnell and Frank Lutge are analysts for the private equity firm Thorngate Ventures. Their primary responsibility is to value the equity of private firms in developed global economies. Thorngate's clients consist of wealthy individuals and institutional investors. The firm invests in and subsequently actively manages its portfolio of private firms.

During a discussion with junior analysts at the firm, McDonnell compares the characteristics of private firms with those of public firms and makes the following statements:

Statement 1:	Private firms typically have higher risk premiums and required returns than public firms because private firms are usually smaller and thus thought to be riskier. Furthermore, the lack of access to liquid public equity markets can limit a private firm's growth.
Statement 2:	Because of their higher risk, private firms may not be able to attract as many qualified applicants for top positions as public firms. Due to the higher risk, the managers they do attract tend to have a shorter-term view of the firm and their tenure at the firm, compared to public firm managers. As a result, the private firm may neglect profitable long-term projects.

Due to its considerable success, Thorngate has recently attracted a substantial inflow of capital from investors. To deploy that capital, McDonnell and Lutge are considering the purchase of Albion Biotechnology. Albion is using advances in biotechnology for application in the pharmaceutical field. The analysts are primarily interested in Albion because the firm's research team is developing a drug that Thorngate's current pharmaceutical firm is also working on. McDonnell estimates that combining research teams would result in advances that no pharmaceutical competitor could match for at least two years. The firm is currently owned by its founders, who are familiar to Lutge through previous social contacts. Lutge hopes to avoid a competitive bidding process for the firm, because its founders have not publicly advertised the firm's sale.

McDonnell is also examining the prospects of Balanced Metals, a metal fabrication firm. Thorngate currently does not have any manufacturing firms in its portfolio, and Balanced would provide needed exposure. The growth in sales at Balanced has been impressive recently, but it is expected to slow considerably in the years ahead due to increased competition from overseas firms. The firm's most valuable assets are its equipment and factory, located in a prime industrial area.

Balanced was previously considered for possible purchase by a competitor in the metal fabrication industry. Although the sale was not consummated, McDonnell has learned that the firm estimated that costs could be reduced at Balanced by eliminating redundant overhead expenses. McDonnell has obtained the following financial figures from the Balanced Metals CFO, as well as the previously estimated synergistic savings from cost reductions. Capital expenditures will equal depreciation plus approximately 4% of the firm's incremental revenues. McDonnell wants to forecast Balanced's free cash flow to the firm (FCFF) for the next year.

Current revenues	$22,000,000
Revenue growth	7%
Gross profit margin	25%
Depreciation expense as a percent of sales	1%
Working capital as a percent of sales	15%

SG&A expenses	$5,400,000
Synergistic cost savings	$1,200,000
Tax rate	30%

Lutge is valuing a noncontrolling equity interest in Jensen Gear, a small outdoors equipment retailer. Jensen has experienced healthy growth in earnings over the past three years. However, given its size and private status, Lutge does not expect that Jensen can be easily sold. To obtain the appropriate price multiple for the Jensen valuation, he has prepared a database of price multiples from the sale of entire public and private companies over the past 10 years, organized by industry classification. Using historical data, Lutge estimates a control premium of 18.7% and discount for lack of marketability of 24%.

To obtain the cost of capital for Jensen, Lutge uses a cost of capital database that includes public company betas, cost of equity, weighted average cost of capital, and other financial statistics by industry. Given Jensen's small size, Lutge obtains a size premium using the smallest-firm-size decile of the database. McDonnell examines Lutge's cost of capital calculations and makes the following statements.

Statement 1:	I am concerned about the use of this database. The estimate of the size premium may result in an undervaluation of the Jensen equity interest.
Statement 2:	The use of betas and the CAPM from the database may be inappropriate. If so, Lutge should consider using the build-up method whereby an industry risk premium is used instead of beta.

Question #37 of 60

Question ID: 1220581

Regarding the statements made by McDonnell on the comparison of private firms and public firms, are both statements correct?

A) Yes.

B) No, both statements are incorrect.

C) **No, one statement is correct, but the other statement is incorrect.**

Explanation

Statement 1: McDonnell is correct. Private firms are usually smaller than public firms and, thus, thought to be riskier. Accordingly, private firms are usually assigned higher risk premiums and required returns than public firms. The lack of access to liquid public equity markets can also limit a private firm's growth.

Statement 2: McDonnell is correct that small private firms may not be able to attract as many qualified applicants for top positions as public firms. This may reduce the depth of management, slow growth, and increase risk at private firms. She is, however, incorrect that private firm managers and investors have a shorter-term view. Public firm shareholders often focus on short-term measures such as quarterly earnings and the consistency of such. Public management may therefore take a shorter-term view than they otherwise would. So it is private firms that should be able to take a longer-term view.

Furthermore, in most private firms, management has substantial equity ownership. In this case, external shareholders cannot exert as much control, and the firm may be able to take a longer-term perspective.

For Further Reference:

(Study Session 11, Module 31.1, LOS 31.a)

Question #38 of 60

Question ID: 1220582

Which of the following *best* describes the standard of value that McDonnell and Lutge will apply to Albion Biotechnology?

A) Market value.

B) Intrinsic value.

C) **Investment value.**

Explanation

McDonnell and Lutge will use the investment value of Albion Biotechnology to determine what the firm is worth to Thorngate. Investment value is the value to a specific buyer and may be different for each investor due to different cash flow estimates, perceived firm risk, discount rates, financing costs, and synergies that lead to decreased costs.

Market value is frequently used in real estate and other real asset appraisals where the purchase will be levered. Intrinsic value is the value that should be the market value once other investors arrive at this "true" value.

McDonnell and Lutge are determining the firm's value to Thorngate. The firm is not publicly traded so there is no market for its shares at the present time.

Furthermore, combining Albion with Thorngate's current pharmaceutical firm would result in advances that no pharmaceutical competitor could match. The synergies appear to be unavailable to other potential buyers (i.e., the value that McDonnell and Lutge will determine is specific to Thorngate and is not a value determined in a market of many buyers and sellers).

For Further Reference:

(Study Session 11, Module 31.1, LOS 31.c)

Question #39 of 60

Question ID: 1220583

Which of the following is *closest* to the FCFF that McDonnell should estimate for Balanced Metals?

A) **–$117,800.**

B) $344,120.

C) $722,120.

Explanation

In a strategic transaction, a firm is acquired based in part on the synergies it brings to the acquirer. A financial transaction occurs when there are no synergies. The previous suitor of Balanced, a competitor in the same industry, was a strategic buyer and could realize the synergistic cost savings of $1,200,000.

Thorngate currently does not own a manufacturing firm, so it would be a financial buyer. Thorngate will not be able to realize any synergistic cost savings, so these are not included in the free cash flow to the firm (FCFF) estimates in the following tables.

The calculations are as follows.

Pro Forma Income Statement	
Revenues	$23,540,000
Cost of goods sold	$17,655,000
Gross profit	$5,885,000
SG&A expenses	$5,400,000
Pro forma EBITDA	$485,000
Depreciation and amortization	$235,400
Pro forma EBIT	$249,600
Pro forma taxes on EBIT	$74,880
Operating income after tax	$174,720

Adjustments to Obtain FCFF	
Plus: Depreciation and amortization	$235,400
Minus: Capital expenditures	$297,000
Minus: Increase in working capital	$231,000
FCFF	–$117,880

The following provides a line-by-line explanation for the previous calculations.

Pro Forma Income Statement	Explanation
Revenues	Current revenues times the growth rate: $22,000,000 × (1.07)
Cost of goods sold	Revenues times one minus the gross profit margin: $23,540,000 × (1 − 0.25)
Gross profit	Revenues times the gross profit margin: $23,540,000 × 0.25
SG&A expenses	Given in the question
Pro forma EBITDA	Gross profit minus SG&A expenses: $5,885,000 − $5,400,000
Depreciation and amortization	Revenues times the given depreciation expense: $23,540,000 × 0.01
Pro forma EBIT	EBITDA minus depreciation and amortization:

	$485,000 − $235,400
Pro forma taxes on EBIT	EBIT times tax rate: $249,600 × 0.30
Operating income after tax	EBIT minus taxes: $249,600 − $74,880
Adjustments to Obtain FCFF	
Plus: Depreciation and amortization	Add back noncash charges from above
Minus: Capital expenditures	Expenditures cover depreciation and increase with revenues: $235,400 + 0.04 × ($23,540,000 − $22,000,000)
Minus: Increase in working capital	The working capital will increase as revenues increase 0.15 × ($23,540,000 − $22,000,000)
FCFF	Operating income net of the adjustments above

For Further Reference:

(Study Session 11, Module 31.2, LOS 31.e)

Question #40 of 60

Question ID: 1220584

Which of the following income approaches would be *most* appropriate for valuing Balanced Metals?

A) **The free cash flow method.**

B) The excess earnings method.

C) The capitalized cash flow method.

Explanation

The free cash flow method can accommodate multiple stage growth assumptions and is the most appropriate. The firm's growth is expected to slow considerably in the years ahead, so the constant growth assumption of the capitalized cash flow method would be inappropriate. The capitalized cash flow method is a single-stage model.

The excess earnings method is useful when there are intangible assets to value, but that does not appear to be a concern in the valuation of Balanced. The firm's assets appear to be largely tangible (consisting of equipment and the factory).

For Further Reference:

(Study Session 11, Module 31.2, LOS 31.f)

Question #41 of 60

Question ID: 1220585

Which of the following is *closest* to the total adjustment for control and marketability that would be applied to the Jensen valuation?

A) A discount of 5.3% would be applied.

B) A discount of 36.0% would be applied.

C) A discount of 42.7% would be applied.

Explanation

Lutge is using the guideline transactions method (GTM) because his database uses the price multiples from the sale of entire public and private companies. The interest in Jensen is a noncontrolling equity interest, so a discount for lack of control (DLOC) will be applied to its valuation. A discount for lack of marketability (DLOM) will also be applied because the Jensen interest cannot be easily sold.

The DLOC is backed out of the control premium.

$$\text{DLOC} = 1 - \left[\frac{1}{1+\text{control premium}}\right]$$

$$\text{DLOC} = 1 - \left[\frac{1}{1+0.187}\right] = 15.75\%$$

The total discount includes the discount for lack of marketability (DLOM).

total discount = 1 − [(1 − DLOC)(1 − DLOM)]

total discount = 1 − [(1 − 0.1575)(1 − 0.24)] = 36.0%

For Further Reference:

(Study Session 11, Module 31.4, LOS 31.i, 31.k)

Question #42 of 60

Question ID: 1220586

Regarding the statements made by McDonnell on Lutge's cost of capital calculations for Jensen, are both statements correct?

A) Yes.

B) No, both statements are incorrect.

C) No, one statement is correct, but the other statement is incorrect.

Explanation

Statement 1: McDonnell is correct. Using data from the smallest cap segment of public equity to get the size premium may include a distress premium that is not applicable to a healthy private firm such as Jensen. If so, the estimated size premium will be too large, resulting in a discount rate that is too high and an undervaluation of the Jensen equity interest.

Statement 2: McDonnell is correct. Using the CAPM and estimating beta from public firm data may not be appropriate for private firms that have little probability of going public or being acquired by a public firm. In the build-up method, an industry risk premium is added to the risk-free rate along with an equity risk premium, the small stock premium, and a company-specific risk premium.

For Further Reference:

(Study Session 11, Module 31.2, LOS 31.g, 31.k)

Questions #43-48 of 60

Questions 43 through 48 relate to Fixed Income.

Solsbury Peak Case Scenario

Youri Wabush, CFA, works as an analyst for Solsbury Peak, a small investment house based in the United States. Wabush focuses primarily on fixed-income investment opportunities in the United States.

Every Monday, Wabush attends a morning briefing along with John Rafita, the firm's leading economist. Rafita presents his macroeconomic forecasts with a heavy focus on likely interest rate moves. Of particular interest to Wabush is Rafita's update on forward rates, which he provides on the first Monday of every month. Rafita provides an interpolated U.S. Treasuries spot rate curve along with current forward rate curves and a commentary on whether or not he believes the curves will remain stable in the short, medium, and long term.

The most recent U.S. Treasuries spot curve presented by Rafita is shown in Exhibit 1.

Exhibit 1: U.S. Treasuries Spot Curve

Maturity (years)	1	2	3	5	7	10	20	30
Spot rate (%)	0.13	0.29	0.65	1.29	2.05	2.70	3.42	3.76

Rafita also presents his view on the likely progression of the spot rate curve over the next year and a description of fixed-income strategies that should be successful if these changes are realized. His notes are presented in Exhibit 2.

Exhibit 2: Rafita Yield Curve Notes

U.S. Treasury Spot Curve Progression

The central bank has announced its intention to keep target rates constant for at least the next 15 months. This unprecedented level of transparency should allow fixed-income managers to forecast rates with a high degree of accuracy for the next year. As a result, I anticipate that the spot curve at this time next year will be almost identical to the no-arbitrage forward curve we're seeing now.

Minority Strategy

My estimate is that there is a sizeable minority, perhaps 20–25%, of fixed income portfolio managers who will continue to ride the yield curve as they have since 2008. With an upward-sloping curve such as the one we currently face, managers have historically been slow to move away from these strategies.

Wabush is not convinced that the central bank will follow through on their commitment to keep rates constant. He has heard rumors that the bank will announce next month that the policy will be reviewed, with the potential for almost immediate changes in target rates. Wabush is concerned that this will introduce significant volatility into the term structure of interest rates.

Wabush intends to test the impact on one of his fixed-income portfolios of the three theoretical yield curve shifts shown in Exhibit 3.

Exhibit 3: Theoretical Yield Curve Shifts

Theoretical Shift A	
Short term (2 yr.)	+70bps

Medium term (5 yr.)	+0bps
Long term (15 yr.)	+50bps

Theoretical Shift B	
Short term (2 yr.)	+30bps
Medium term (5 yr.)	+30bps
Long term (15 yr.)	+30bps

Theoretical Shift C	
Short term (2 yr.)	–10bps
Medium term (5 yr.)	+40bps
Long term (15 yr.)	+50bps

Wabush has estimated that the key rate durations of his portfolio are as shown in Exhibit 4.

Exhibit 4: Key Rate Durations

Maturity	Key Rate Duration
2 year	0.50
5 year	1.20
15 year	0.80

Question #43 of 60

Question ID: 1220588

Based on information in Exhibit 1, which of the following statements is *least accurate*?

A) Any U.S. Treasuries' forward curve will be upward sloping.

B) Any U.S. Treasuries' forward curve will lie below the spot curve.

C) A U.S. Treasuries' forward curve can be implied from the spot curve.

Explanation

If the spot curve is upward sloping, the forward curve will be upward sloping and lie above the spot curve.

For Further Reference:

(Study Session 12, Module 32.1, LOS 32.a)

Question #44 of 60

Question ID: 1220589

Using the spot rate curve given in Exhibit 1, the one-year forward rate one year from today is *closest* to:

A) 0.27%.

B) 0.35%.

C) **0.45%.**

Explanation

$f(1,1) = [(1.0029)^2/(1.0013)] - 1 = 0.00450$ or 0.45%.

For Further Reference:

(Study Session 12, Module 32.1, LOS 32.b)

Question #45 of 60

Question ID: 1220590

If Rafita's comments on the U.S. Treasury spot curve progression in Exhibit 2 prove to be correct, it is *most likely* that:

A) **the one-year holding period return on a two-year, zero-coupon U.S. Treasury starting today would be 0.13%.**

B) the one-year holding period return on a two-year, zero-coupon U.S. Treasury starting today would be 0.16%.

C) the one-year holding period return on a two-year, zero-coupon U.S. Treasury starting today would be 0.29%.

Explanation

If the spot rate curve after one year has passed is the same as the one-year forward curve from one year ago, the total return on a bond of any maturity over that year will be the one-year spot rate. In other words, the return on a bond over one year is always equal to the one-year spot rate if spot rates evolve as predicted by today's forward curve.

For Further Reference:

(Study Session 12, Module 32.1, LOS 32.c)

Question #46 of 60

Question ID: 1220591

Fixed-income managers using the minority strategy described by Rafita in Exhibit 2 are *most likely* to:

A) **invest in bonds with a maturity longer than their investment horizon.**

B) match the maturity of the bond portfolio with their investment horizon.

C) invest in bonds with a maturity shorter than their investment horizon.

Explanation

In a "riding the yield curve" strategy, given an upward-sloping yield curve, investors purchase bonds with maturities longer than their investment horizon. As the bond approaches maturity, its price will increase, generating superior returns for the investor.

For Further Reference:

(Study Session 12, Module 32.2, LOS 32.d)

Question #47 of 60

Question ID: 1220592

If the rumors Wabush has heard regarding the central bank announcement are true, the uncertainty would *most likely* increase volatility:

A) in short-term rates more than in long-term rates.

B) in long-term rates more than in short-term rates.

C) equally in long-term and short-term rates.

Explanation

Volatility at the long-maturity end is thought to be associated with uncertainty regarding the real economy and inflation, while volatility at the short-maturity end reflects risks regarding monetary policy.

For Further Reference:

(Study Session 12, Module 32.6, LOS 32.l)

Question #48 of 60

Question ID: 1220593

Given the information in Exhibit 3 and Exhibit 4, which of the theoretical yield curve movements is *most likely* to result in a large percentage change in the value of Wabush's portfolio?

A) Theoretical shift A.

B) Theoretical shift B.

C) Theoretical shift C.

Explanation

Theoretical Shift A	**KRD**	**% Change**
Short term (2yr) +70bps	0.50	–0.35
Medium term (5yr) +0bps	1.20	0.00
Long term (15yr) +50bps	0.80	–0.40
		–0.75
Theoretical Shift B		
Short term (2yr) +30bps	0.50	–0.15

Medium term (5yr)	1.20	–0.36
+30bps		
Long term (15yr)		
+30bps	0.80	–0.24
		–0.75

Theoretical Shift C		
Short term (2yr)		
–10bps	0.50	+0.05
Medium term (5yr)		
+40bps	1.20	–0.48
Long term (15yr)		
+50bps	0.80	–0.40
		–0.83

For Further Reference:

(Study Session 12, Module 32.6, LOS 32.k)

Questions #49-54 of 60

Questions 49 through 54 relate to Derivatives.

Newton Capital Partners Case Scenario

Paul Durham, CFA, is a senior manager in the structured bond department within Newton Capital Partners (NCP), an investment banking firm located in the United States. Durham has just returned from an international marketing campaign for NCP's latest structured note offering, a series of equity-linked fixed-income securities or ELFS. The bonds will offer a 4.5% coupon paid annually along with the annual return on the S&P 500 Index and will have a maturity of five years. The total face value of the ELFS series is expected to be $200 million.

Susan Jacobs, a fixed-income portfolio manager and principal with Smith & Associates, has decided to include $10 million worth of ELFS in her fixed-income portfolio. At the end of the first year, however, the S&P 500 Index value is 1,054, significantly lower than the initial value of 1,112 set by NCP at the time of the ELFS offering. Jacobs is concerned that the four remaining years of the ELFS life could have similar results and is considering her alternatives to offset the equity exposure of the ELFS position without selling the bonds. Jacobs decides to offset her portfolio's exposure to the ELFS by entering into an equity-swap contract. The LIBOR term structure is shown in Exhibit 1.

Exhibit 1: LIBOR Term Structure

	LIBOR	Discount Factor
1-year	3.2%	0.9690
2-year	4.1%	0.9242
3-year	4.9%	0.8718
4-year	5.3%	0.8251

To gain further understanding of different derivative contracts, Jacobs met with Jonathan Widby, senior analyst with Smith and Associates. Widby made the following statements:

Statement 1:	$N(d_2)$ in the BSM is interpreted as the risk-neutral probability that a put option will expire in the money.
Statement 2:	A call option on a dividend-paying stock can be valued using the BSM if we reduce the current stock price by the present value of dividends expected over the life of the option.
Statement 3:	For options on currencies, the carry benefit is not a dividend but rather interest earned on a deposit of the foreign currency.
Statement 4:	Under the Black model, a call option on futures is modeled as a portfolio containing a long bond position and a short futures position.

To offset any credit risk associated with the equity swap, Widby recommends using an index trade strategy by entering into a credit default swap (CDS) as a protection buyer. Widby's strategy would involve purchasing credit protection on an index comprising largely the same issuers (companies) included in the equity index underlying the swap. Widby suggests the CDS should have a maturity equal to that of the swap to provide maximum credit protection.

Question #49 of 60

Question ID: 1220595

Which of the following strategies would be *most* appropriate given Jacobs's situation and desire to offset the equity exposure of the ELFS position in her portfolio? Establish an equity swap as:

A) the floating-rate payer and S&P 500 Index return receiver.

B) the fixed-rate receiver and S&P 500 Index return payer.

C) the fixed-rate payer and S&P 500 Index return receiver.

Explanation

Jacobs needs to offset the returns on the S&P 500 Index. She is currently receiving the returns on the index (which means if there is a negative return on the Index, Jacobs must make a payment), so she will need to enter into a swap in which she pays the index and receives a fixed rate.

For Further Reference:

(Study Session 14, Module 37.9, LOS 37.c)

Question #50 of 60

Question ID: 1220596

Based on the strategy appropriate for Jacobs's portfolio, determine the contract rate on the swap strategy.

A) 4.5%.

B) 3.6%.

C) **4.9%.**

Explanation

Calculate the contract rate on a fixed-rate receiver equity swap using the following formula:

$$C_N = \frac{1 - Z_N}{(Z_1 + Z_2 + ... + Z_N)}$$

Note that this is the same formula for determining the fixed interest rate on an interest rate swap. The discount (Z) factors are given in Exhibit 1. Therefore, the contract rate is:

$$C_N = \frac{1 - 0.8251}{(0.9690 + 0.9242 + 0.8718 + 0.8251)} = 4.9\%$$

For Further Reference:

(Study Session 14, Module 37.9, LOS 37.c)

Question #51 of 60

Question ID: 1220597

If Jacobs enters into a $10 million 4-year 4.50% annual-pay fixed-rate equity swap as the equity return payer, what is the value to Jacob of the swap after one year (immediately after settlement) if the index has increased from 1,054 to 1,103, the LIBOR term structure is as given below, and the 3-year annual-pay swap fixed rate is currently 5.0%?

LIBOR

1-year: 4.10%

2-year: 4.70%

3-year: 5.29%

A) **–$136,885**

B) –$464,982

C) –$602,555

Explanation

Value to payer

$$\begin{aligned} &= (\text{sum of discount factors}) \times (\text{SFR}_{\text{new}} - \text{SFR}_{\text{old}}) \times (\text{days}/360) \times \text{notional} \\ &= 2.7377 \times (0.05 - 0.045) \times (360/360) \times \$10{,}000{,}000 \\ &= \$136{,}885 \end{aligned}$$

Since Jacob is a fixed rate receiver, value to Jacob = $–136,885.

Note: The value of equity side is not relevant because the valuation is immediately after settlement. Hence the change in index value net of fixed rate payment was already settled. Discount factors are as calculated below:

Term (yr)	LIBOR	DF
1	4.10%	0.9606
2	4.70%	0.9141
3	5.29%	0.8630
	Sum	2.7377

Note that LIBOR discount factors are calculated as follows:

Year 3 DF = 1 / [1 + (0.0529 × 1080 / 360)] = 0.8630

Alternatively, value to fixed rate receiver = value of fixed rate bond – value of equity = [(2.7377 × 450,000) + (0.8630 × 10,000,000)] – 10,000,000 = 9,861,965 – 10,000,000 = –138,035 *(difference due to rounding)*.

For Further Reference:

(Study Session 14, Module 37.9, LOS 37.d)

Question #52 of 60

Question ID: 1220598

Regarding statements 1 and 2 made by Widby:

A) both statements are correct.

B) only statement 1 is correct.

C) **only statement 2 is correct.**

Explanation

$N(d_2)$ is interpreted as the risk-neutral probability that a *call* option will expire in the money. $N(-d_2)$ is interpreted as the risk-neutral probability that a *put* option will expire in the money.

For Further Reference:

(Study Session 14, Module 38.6, LOS 38.g)

Question #53 of 60

Question ID: 1220599

Regarding statements 3 and 4 made by Widby:

A) both statements are correct.

B) **only statement 3 is correct.**

C) only statement 4 is correct.

Explanation

Statement 3 is correct, but Statement 4 is incorrect. Under the Black model, a call option is conceptualized as a futures component minus a bond component. (A put option is comprised of a bond component minus a futures component.)

For Further Reference:

(Study Session 14, Module 38.6, LOS 38.h, 38.i)

Question #54 of 60

Question ID: 1220600

Which of the following *best* evaluates Widby's suggested use of credit default swaps to offset the credit risk of the equity swap? Widby's recommended strategy is:

A) correct.

B) incorrect, because the maturity of the CDS is not properly specified.

C) **incorrect, because the CDS does not reference the proper credit risk.**

Explanation

The credit risk underlying the equity swap is associated with the swap counterparty, not the companies in the equity index. This credit risk arises from the possibility that the counterparty to the swap will be unable or unwilling to make payments to Jacobs if the equity return is less than the fixed rate on the swap (i.e., the counterparty owes a payment to Jacobs).

For Further Reference:

(Study Session 13, Module 36.1, LOS 36.a)

Questions #55-60 of 60

Questions 55 through 60 relate to Alternative Investments.

AI Partners Case Scenario

Julian Fuentes, CFA, analyzes real estate investments for AI Partners (AIP), a private equity real estate investment firm. Although AIP has primarily invested in nonresidential commercial property, they are considering a multi-family residential investment along with nonresidential commercial properties. Fuentes has been asked to prepare selected data on three potential investment properties. Fuentes's results are presented in Exhibit 1.

Exhibit 1: Selected Property Data

	Property #1	Property #2	Property #3
Property type	**Multi-Family**	**Office Building**	**Retail Center**
Occupancy	93%	92%	95%
Square feet or #units	325 (u)	125,000 (sf)	315,000 (sf)
Gross potential rent	$3,900,000	$4,312,500	$2,765,850
Other income	$25,000	$440,000	$780,000
Potential gross income	$3,925,000	$4,752,500	$3,545,850
Vacancy loss	$273,000	$425,000	$138,293
Effective gross income	$3,652,000	$4,327,500	$3,407,557

Property management fees	$145,000	$172,500	$138,288
Other operating expenses	$1,800,500	$2,163,750	$1,703,800
Net operating income (NOI)	$1,706,500	$1,991,250	$1,565,469

Other information:

1. Each property except Property #3 is located in an active market.
2. Property #2 is an older office building with architectural features characteristic of the period in which it was constructed.
3. Property #2 is located in an area that is undergoing extensive renovation.

Radna Margulies, AIP's Chief Investment Officer, asks Fuentes to focus on the multi-family opportunity presented as Property #1. This request is based on her forecast of pent-up demand in the housing market. Fuentes forecasts net operating income for Property #1 for the first five years as presented in Exhibit 2. A list of discounted cash flow valuation assumptions for an equity-only transaction is presented in Exhibit 3.

Exhibit 2: Property #1—Net Operating Income Forecast

	Year 1	Year 2	Year 3	Year 4	Year 5
NOI	$1,706,500	$1,774,760	$1,845,750	$1,919,580	$1,996,364

Exhibit 3: Property #1—DCF Assumptions

Investment holding period	5 years
Going-in capitalization rate	8.25%
Terminal capitalization rate	7.50%
Discount rate	9.50%
Income/value growth rate	Constant

After reviewing valuation data for the three properties, Margulies requests that Fuentes discuss funding terms with Amiable Life Insurance Company (ALIC) for Property #1. Fuentes is offered a rate of 5.5%, interest only, on a 5-year term loan. ALIC stipulates a maximum loan-to-value (LTV) of 70% and minimum debt service coverage ratio of 1.5x.

Fuentes receives an appraisal of $30 million for the value for Property #1.

Question #55 of 60

Question ID: 1220602

Which property valuations are *most likely* to be heavily affected by their unique characteristics?

A) Property #1 and Property #2.

B) Property #1 and Property #3.

C) **Property #2 and Property #3.**

Explanation

While almost any private equity real estate investment will be unique (if for no other reason than that they must be in different locations), residential properties tend to have the fewest unique characteristics. Transactions-based indices tend to be more useful for residential commercial property benchmarking than for nonresidential commercial properties due to the large amount of data required for many properties and the unique features of many nonresidential commercial properties.

For Further Reference:

(Study Session 15, Module 39.1, LOS 39.b)

Question #56 of 60

Question ID: 1220603

Which property is likely to have the greatest operational risk resulting from management expenses?

A) Property #1.

B) Property #2.

C) **Property #3.**

Explanation

Commercial uses with higher management involvement, such as restaurants, hotels, shopping centers, also have higher operational risks. One way to check this given the specifics in this case is to look at management fees as a percentage of effective gross income for the three properties.

Property #1 3.97% = ($145,000 / $3,652,000)

Property #2 3.99% = ($172,500 / $4,327,500)

Property #3 4.06% = ($138,288 / $3,407,557)

Therefore, Property #3 would be expected to have greater operational risk.

For Further Reference:

(Study Session 15, Module 39.1, LOS 39.d)

Question #57 of 60

Question ID: 1220604

Which approach would an appraiser *most likely* use for valuing Property #2?

A) Cost approach.

B) **Income approach.**

C) Sales comparison approach.

Explanation

Property #2 is an older office building with unique characteristics that could not be easily reproduced using current architectural designs and materials. Therefore, the cost approach would be less appropriate than the income approach as a basis for appraisal. The sales comparison approach would also be less suitable as the property is relatively unique.

For Further Reference:

(Study Session 15, Module 39.2, LOS 39.e)

Question #58 of 60

Question ID: 1220605

Based on Exhibit 2 and Exhibit 3, the valuation for Property #1 based on the discounted cash flow approach will be *closest* to:

A) $22,798,000.

B) $24,295,000.

C) $24,633,000.

Explanation

DCF valuation based on a required return of 9.5% is:

	NOI	Present Value
Year 1	$1,706,500	$1,558,447.49
Year 2	$1,774,760	$1,480,169.30
Year 3	$1,845,750	$1,405,822.60
Year 4	$1,919,580	$1,335,210.50
Year 5	$1,996,364	$1,268,145.64
Terminal value	$27,150,550	$17,246,780.74
Property #1 value		$24,294,576.27

Selected Calculation:

Terminal value is computed by applying the terminal cap rate to NOI in year 6. To estimate NOI for year 6, we need a growth rate estimate. We are not given the growth rate directly, but given the discount rate of 9.5% and the terminal cap rate of 7.5%, we can estimate the growth rate to be 2%.

$$TV_5 = \frac{NOI_5(1+g)}{C_t} = \frac{1{,}996{,}364(1+0.02)}{0.075} = \$27{,}150{,}550.40$$

Note: Make sure that you use the uneven cash flow function to compute NPV using your financial calculator.

For Further Reference:

(Study Session 15, Module 39.3, LOS 39.g)

Question #59 of 60

Question ID: 1220606

Based on the appraised value, Amiable Life Insurance Company would be willing to loan a maximum amount *closest* to:

A) $20.7 million.

B) $21.0 million.

C) $21.7 million.

Explanation

The maximum loan amount will typically be based on the lower of loan-to-value (LTV) or debt service coverage ratio. Based on LTV of 70%, ALIC would be willing to loan $21 million ($30 million × 0.70). Based on a debt service coverage ratio of 1.5x, ALIC will loan just under $20.7 million. ALIC will be willing to loan only an amount equal to the lower of these two measures.

The calculation for maximum debt service based on a minimum debt service coverage ratio of 1.5x is:

$$\text{maximum debt service} = \frac{\text{NOI}_1}{\text{DSCR}} = \frac{\$1{,}706{,}500}{1.5} = \$1{,}137{,}666.67$$

Maximum debt service on an interest-only loan can be used to calculate the maximum loan amount:

$$\begin{aligned}\text{maximum loan} &= \frac{\text{maximum debt service}}{\text{interest rate}} \\ &= \frac{\$1{,}137{,}666.67}{0.055} = \underline{\underline{\$20{,}684{,}848.48}}\end{aligned}$$

For Further Reference:

(Study Session 15, Module 39.5, LOS 39.m)

Question #60 of 60

Question ID: 1220607

AIP's estimated return on equity on Property #1 using leverage as compared to return on equity without using any leverage will *most likely* be:

A) lower.

B) **greater.**

C) the same.

Explanation

AIP should earn a higher return on equity by financing part of its purchase price with a mortgage because the cost of mortgage funds (5.5%) is less than the required return on equity (9.5%). Including the mortgage funding in a weighted-average cost of capital (WACC) will increase the value over the purchase price required if only equity funding is used.

For Further Reference:

(Study Session 15, Module 39.1, LOS 39.l)