2019 CFA® Exam Prep

IFT Mock Exams

Level II

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Table of Contents

Exam 1 Morning Session

Questions	Topic	Minutes
1 – 6	Ethical and Professional Standards	18
7 – 12	Economics	18
13 – 18	Financial Reporting and Analysis	18
19 – 24	Corporate Finance	18
25 – 30	Equity Investments	18
31 – 36	Equity Investments	18
37 – 42	Fixed Income	18
43 – 48	Fixed Income	18
49 – 54	Derivatives	18
55 – 60	Portfolio Management	18
Total:		**180**

Start time: 9:00 AM

End time: 12:00 PM

Allocate an average of 3 minutes per question for a total of 180 minutes (3 hours).

Minenhle Talbot Case Scenario (Questions 1 – 6)

Minenhle Talbot, CFA, a former employee of Dekso Chemicals Inc. (DCI), has recently joined Gold Crest Investment Advisors as the chief investment officer. She is informed by Gold Crest Investment Committee to look into the accounts of DCI which is on their investment list but now will be put on hold due to an inquiry filed by the regulator yesterday against the company's investment bankers – Ackso Capital and its CFO. Talbot learns from the newspapers that the regulator has placed Ackso, the lead underwriters of the follow-on equity offering of DCI under investigation for alleged price-setting and misleading of market participants by the CFO and his team. The inquiry amidst intense media coverage has been initiated one month after Ackso's CFO, Mike Vanlucker retired.

Talbot headed the treasury and investments department at DCI up until a month ago and knew nothing of any market fraud or price-volume distortion, despite being involved in the company's equity offering. Intrigued by these developments, she calls Kris Hoffman, a CFA candidate, who works in the Corporate Finance Department of Ackso. Hoffman headed the team of underwriters and acted as the investor relations officer of the issue. The offering, approved by the capital markets regulator, was hugely successful and oversubscribed.

Hoffman tells Talbot that he was shocked by the inquiry as there was no suspicious activity of any kind when his team diligently worked on the offering documents and reminded Talbot that the compliance officer, along with her had signed off on all of the public marketing materials of the issue, after an extensive review and financial analysis. Hoffman states, "Issuance guidelines were followed as stipulated by the regulator who reviewed the procedures and raised no objections at the time."

Concerned with the impact of the inquiry on its clientele Ackso's management instructs Hoffman to issue a public statement regarding the capital market regulator's investigations for price-setting and involvement of the now retired CFO of the bank. Hoffman prepares the following three draft statements for the management.

Statement 1 "Ackso Capital is under investigation by the capital markets regulator because of illegal activity by Mr. Vanlucker, the retired CFO, and his underwriting team for Dekso Chemicals Inc."

Statement 2 "The capital markets regulator has placed Ackso Capital under investigation for the alleged involvement in illegal activity by its former senior manager and his team."

Statement 3 "Ackso Capital has been placed under investigation by the capital markets regulator as a result of illegal activity."

Following Ackso's press release, Hoffman receives inquiries and several phone calls from

investment advisers who purchased the issue for their clients. One adviser, Raul Bhavin, threatens to report Hoffman to CFA Institute for violating his fiduciary duty. Hoffman responds, "You can report to CFA Institute if you like, because I haven't violated the Code of Ethics and Standards of Professional Conduct. As a Level III candidate in the CFA Program, I know my ethical responsibilities towards the clients because of the ethics portion covered in all of the three CFA exams. The CFA Program ensures one of becoming better at preserving the integrity of capital markets."

In view of Ackso's investigation, Talbot decides to go over her company's compliance policies and procedures to ensure they are in accordance with the CFA Institute Standards of Professional Conduct. She checks the firm's firewall elements involving interdepartmental communication of corporate finance department with sales and research departments. Talbot discovers gaps regarding communications of sensitive information across departments and firm's proprietary trading policies with respect to the recently implemented laws of the regulator. Worried that the firm could already be in trouble, Talbot elects to update them with the help of the compliance officer immediately.

Next Talbot reviews the firm's conflicts of interest policies and recommends changes to the firm's investment committee and board. Talbot makes the following revisions to the existing policy:

Revision 1 Materially beneficial ownership in stock by staff should be reported to both employer and clients with proper reporting requirements for personal transactions.

Revision 2 Any investment banking, underwriting and financial relationship with companies or issuer should be closely monitored by the firm when the investment advisory staff is recommending the securities of the same company or issuer to clients.

Following a complaint from one of the firm's potential clients – Avri Insurance about the lack of information of the performance history of accounts and the absence of comparative data with similar portfolios under Gold Crest's management Talbot calls them. During the phone conversation Talbot states, "We are reviewing and updating our compliance policies, including performance presentation reporting procedures. I can assure you that the new reporting requirements will meet your demands completely."

1. Based on the information given, are Hoffman and the compliance officer *most likely* in violation of the CFA Institute Standards of Professional Conduct regarding their role in Ackso's underwriting of DCI's issue?
    A. Yes, with regard to market manipulation.
    B. Yes, with regard to responsibilities of supervisors.
    C. No.

2. Which statement would *least likely* violate any CFA Institute Standards of Professional Conduct when used as a press release?
   A. Statement 1.
   B. Statement 2.
   C. Statement 3.

3. Does Hoffman *most likely* violate any CFA Institute Standards of Professional Conduct during his argument with the investment advisor?
   A. No.
   B. Yes, with regard to the CFA Program ensuring one of better preservation of capital markets' integrity.
   C. Yes, with regard to the ethics portion of the CFA exam.

4. To comply with CFA Institute Standards of Professional Conduct, the action *most likely* required by Talbot regarding appropriate procedures for interdepartmental communications and proprietary trading policies is:
   A. to ask the compliance officer to review all policies.
   B. initiate training of the firm's key personnel in the new law.
   C. to establish procedures by which employees are timely informed about changes in applicable laws.

5. Which of Talbot's revisions related to disclosure of conflicts of interest *most likely* conform to the CFA Institute Standards of Professional Conduct?
   A. Revision 1.
   B. Revision 2.
   C. Both.

6. Which of the following should Talbot *least likely* consider when revising the performance presentation policy?
   A. Presenting the performance of the weighted composite of similar portfolios in client presentations.
   B. Disclosure explaining performance results and inclusion of terminated accounts as part performance history where necessary.
   C. Performance presentation language to be in line with the knowledge of the audience.

Debra Spalding Case Scenario (Questions 7 – 12)

Debra Spalding, is a portfolio manager for Altvest Wealth Management (AWM), a boutique wealth management firm based in New York, U.S.A. AWM specializes in developing customized investment solutions for high net worth individuals and institutions. She meets

with the firm's economist Nathan Vanya, CFA to discuss his outlook for the economies of Australia and China and talk about certain issues pertaining to foreign exchange relations and international asset pricing. Spalding has no previous exposure in foreign stocks of Australia and China but is presently considering adding them to her portfolio. During the meeting, Vanya presents the following comparative information of both countries as shown in Exhibit 1.

Exhibit 1
Selected Currency Exchange Rates and Market Rates

Country	Currency	Spot Exchange Rate*	One Year Risk-free Rate	Expected Annual Inflation Rate
U.S.	USD	NA	1.90%	1.60%
Australia	AUD	1.3019-1.3140	2.50%	1.30%
China	CNY	6.6303-6.6504	4.50%	2.60 %

*Number of foreign currency units per one U.S. dollar

Spalding and Vanya review some basic relations that are useful in understanding the interplay between exchange rates, interest rates, and inflation. Spalding observes, "According to one of the international interest rate parity conditions, the expected change in the spot exchange rate between two countries over the investment horizon should on average equal the interest rate differential between them." Vanya adds, "Exchange rates are also interpreted in terms of inflation differentials, for instance under a PPP framework, countries that have *persistent* high inflation rates will see their currencies depreciate over time, while countries with relatively low inflation rates will find that their currencies appreciate over time."

The discussion then turns towards the impact of current account imbalances on exchange rates movements. Vanya elaborates, "Countries with persistent current account surpluses typically see their currencies appreciate over time, as opposed to countries with deficits whose currencies generally depreciate over time. China's continued current account surplus with US has put the Chinese currency under immense inspection by US authorities. Hence, I would expect the Chinese currency to appreciate against the US dollar in future. Given the growth in the equity market and views on the currency exchange rate, I would recommend a position in Chinese stocks."

Next, Vanya explains the potential for a carry trade. "We can consider allocating a portion of your FX portfolio to carry trade strategies." Vanya then shows Spalding the following information presented in Exhibit 2 about entering a carry trade position based on borrowing in yen and investing in one-year Hong Kong Libor.

Exhibit 2 Carry Trade Position

Today's One-Year Libor	Currency Pair	Spot Rate Today	Spot Rate One Year Later
JPY 0.11%	JPY/USD	88.25	88.00
HKD 4.76%	USD/HKD	0.1282	0.1290

7. Given a bid-side quote on the three-month forward contract of AUD1.3028 per U.S. dollar, the three-month forward U.S. dollar is quoted at an annualized:
   A. 0.28% discount.
   B. 0.28% premium.
   C. 4.00% premium.

8. Using Exhibit 1, according to the international Fisher effect, Spalding should *most likely* increase holdings in:
   A. Australia.
   B. China.
   C. neither countries.

9. If a dealer's bid-side quote for the Australian Dollar/Chinese Yuan is AUD0.2020, Spalding's profit on a USD1,000,000 initial investment in the triangular arbitrage opportunity is *closest* to:
   A. USD12,278.
   B. USD21,269.
   C. USD19,270.

10. The specific parity condition referred to by Spalding is *most likely* the:
    A. covered interest rate parity.
    B. ex ante PPP.
    C. uncovered interest rate parity.

11. Vany's justification of adding Chinese stocks based on the Chinese current account imbalance with the US is *most likely* based on which exchange rate adjustment? The appreciation of the Chinese Yuan relative to the US dollar is explained by the:
    A. flow supply/demand channel mechanism.
    B. portfolio balance channel mechanism.
    C. debt sustainability channel mechanism.

12. Based on Exhibit 2, After one year, the all-in return to the carry trade, measured in JPY terms, would be *closest* to:
    A. 3.10%.
    B. 5.02%.

C. 1.80%.

Jeremy Dimon Case Scenario (Questions 13 – 18)

Jeremy Dimon, CFO of Palladium Corporation Limited, a clothing and accessories retailer, headquartered in Pennsylvania, U.S.A. is reviewing the company's remuneration report which describes the executive compensation plan. Palladium prepares its financial statements in accordance with US GAAP and its year ends on December 31.

The current executive compensation and incentive plan has the following four elements:
I.   Base Salary
II. Performance Shares
III. Restricted Stock, and
IV. Non-Qualified Stock Options.

The purpose of Dimon's review of the compensation plan is to suggest changes to the incentive plan in the next board meeting. The current plan requires the forfeiture of Performance Shares if the Company does not achieve threshold performance goals by the close of the fiscal year. Restricted Stock and Non-Qualified Stock Options are provided if the vesting requirements – a service period of 5 years after the grant date, are met and share price appreciates. The compensation plan comprises of equity awards to ensure that executive compensation closely aligns with performance objectives and executives are held accountable for results.

Dimon recommends the following proposed changes to the incentive plan:

1. To achieve the proposed financial performance metrics in addition to the existing terms before the options can be exercised and restricted stock is issued. The additional metrics are: a target annual growth rate in earnings per share and positive return on invested capital (ROIC).
2. To introduce cash-settled stock appreciation rights (SARs) as compensation and retention of executives. With SARs, the compensation will be determined by a target percentage increase in a company's share price.
3. Black-Scholes model will continue to be used for the valuation of options, but the assumptions of the model are to be updated every two years. The following are the current and proposed assumptions of BSM:

Exhibit 1

Input Assumptions for the Black-Scholes Model		
	Current	**Proposed**
Risk-free rate	3.5%	2.5%

Volatility	25%	28%
Expected life of options	5 years	5 years
Dividend yield	4.8%	5.2%

Dimon examines the options and stocks granted this year under the incentive plan. Exhibit 2 lists excerpts from the financial statement.

Exhibit 2: Excerpts from Note 42 Palladium Corp.
Stock Options and Restricted Stock Granted for 2016

	Number of Options	Weighted Average Exercise Price
Balance on January 2016	4,200,100	$14.15
Options Granted during 2016	990,000	$14.40
Exercised during 2016	-297,000	$14.00
Forfeited during 2016	-148,500	$14.08
Balance on December 2016	4,744,600	$14.22
	Number of Shares	
Restricted Stock Granted during 2016	10,000	-

All stock and option grants in 2016 were awarded on July 1, 2016. The market price of the shares and the fair value of stock options on those dates are shown in Exhibit 3.

Exhibit 3 Share Prices and Option Values 2016

	Share Price	Option Fair Value
January 1, 2016	$13.18	$1.71
July 1, 2016	$13.09	$1.80
December 31, 2016	$13.90	$1.85

Dimon next inspects the Palladium's defined benefit pension plan as the pension costs have increased over the previous year leading to a deficit funding status for 2016. Dimon notes down the following changes to the plan in order to curtail pension costs:

I.   Estimated future salary increases for pension benefits to be reduced by 100 basis points from 2016, because of a significant decrease in expected inflation from previous years.
II. A positive expected rate of return on plan assets to be sought after changing the investment mix while staying within the allowable risk tolerance range.

To review the accounting policies used for pension expense calculation, and evaluate the plan's performance, Dimon considers the following information and realizes that though

current service costs decreased from $72 million from the previous year, the plan's funding position did not improve. Further Palladium recognizes actuarial gains and losses in OCI and uses the corridor approach to subsequently amortize to P&L.

Exhibit 4 Palladium Corp. Pension Plan Information
Values in $ Millions December 31

	2016
Employer Contributions	90.00
Current service cost	60.00
Past service cost	30.00
Benefit obligation at the beginning of year	3,350.00
Benefit obligation at end of year	3,920.00
Actuarial loss	340.00
Plan assets at beginning of year	3,740.00
Plan assets at end of year	3,694.20
Actual return on plan assets	-2.00%
Expected rate of return on plan assets	7.00%
Discount rate used to estimate plan liabilities	6.00%

13. Regarding Dimon's proposed changes to the incentive plan, which of the following statement is *most* accurate?
    A. By introducing SARs, the downside risk becomes unlimited.
    B. The proposed performance metrics can increase the chances of financial information manipulation by management.
    C. The option pricing model is not required to determine the compensation expense.

14. Based on Exhibit 1, which change in assumptions will *most likely* result in increase in compensation expense?
    A. The change in the risk-free rate.
    B. The change in volatility.
    C. The change in dividend yield.

15. The portion of the compensation expense related to the stock option component awarded in 2016 is *closest* to:
    A. $317,200.
    B. $487,300.
    C. $178,200.

16. Based on Exhibit 4, the pension benefits paid (in $ millions) in 2016 are *closest* to:
    A. 61.

B. 390.
C. 46.

17. The poor investment performance *most likely* caused the periodic pension cost (in $-millions) reported in the 2016 income statement (assuming no amortization of past service costs or actuarial losses) to be:
A. unaffected.
B. higher by $74.80 million.
C. higher by $340 million.

18. The *most* appropriate economic interpretation of Palladium Corp.'s contribution to the 2016 pension plan relative to its total pension cost (excluding income tax effects) is a(n):
A. financing cash outflow.
B. financing cash inflow.
C. operating cash inflow.

Pantax Chemical Inc. Case Scenario (Questions 19 – 24)

Pantax Chemical Inc. is a multidivisional company, manufacturing chemicals, plastics, performance chemicals, catalysts, and agri-based chemical products. Rana Haasim, a finance manager of a subdivision, is forecasting the profitability of a four-year project for the manufacturing of protective coatings for surface insulation and waterproofing. Pantax is introducing this as a new product and its manufacture will require new equipment. Exhibit 1 summarizes Haasim's forecasted financial projections for the project.

Exhibit 1 Protective Coatings Project Financial Projections
(Values are year-end totals in €' 000s)

	Year 0	Year 1	Year 2	Year 3	Year 4
Market Survey/Consultant Fee	8,250				
Fixed Capital	140,000				
Additional Net Working Capital	20,000				
Sales		100,000	125,000	156,250	195,300
Operating Costs		50,000	62,500	78,125	97,650
Depreciation		35,000	35,000	35,000	35,000
EBIT		15,000	27,500	43,125	62,650
Interest		6,500	5,057	3,500	1,817
EBT		8,500	22,443	39,625	60,833

Tax (34%)		2,890	7,631	13,473	20,683
Net Income before Salvage		5,610	14,812	26,153	81,516
Salvage Value					9,500
Tax on Salvage Value (34%)					3,230
After-Tax Salvage Value					6,270

Haasim discusses the project with Pantax's CFO, Ma Jun and outlines the following features:
I   Project assumptions are based on the fact that the capital structure - the overall debt and equity mix of the project, will be the same as the firm as a whole. Pantax's debt-to-total assets ratio is 50%.
II   However, instead of using Pantax's weighted average cost of capital (WACC) of 7.245%, the project should be evaluated with a project-specific discount rate as the risk of the project is not similar to any of the firm's current projects. The beta of the protective coatings project as determined by the pure play method is 1.2, the T-Bill rate is 3.0% and the market risk premium is 8.0%.
III.   All additional working capital investments will be recovered in the final fourth year of the project.

Upon a query about the evaluation methods considered, Haasim replies that she has computed the NPV at the project-specific discount rate and the economic profit using Pantax's WACC of 7.245% as the discount rate. The NPV calculated at the project-specific discount rate is €30.1 million. Jun asks Haasim to consider the profit realized from this investment by calculating the economic income of the project as economic income is different from accounting income. Haasim makes the following computations shown in Exhibit 2:

Exhibit 2 Computations for Protective Coatings Project Economic Income (in €1,000)

Year	1	2	3	4
Beginning market value	190,086.5	169,137.4	137,298.7	91,135.9
Ending market value	169,137.4	137,298.7	91,135.9	0
Change in market value	-20,949.1	-31,838.7	-46,162.8	-91,135.9

After some discussion, Jun suggests that an alternative surface adhesive project will perform the same task as the protective coatings project. The surface adhesive project is for a six-

year period. Haasim calculates its NPV with the same discount rate used for the original protective coatings project. Jun states, "The two projects are mutually exclusive, therefore it is best to use the equivalent annual annuity approach to decide between them." The NPVs of the two projects are presented in Exhibit 3.

Exhibit 3 Comparison of Project NPVs

Project	Project Life	NPV
Protective Coatings	4 years	€30,086,521
Surface Adhesive	6 years	€38,210,000

19. Based on Exhibit 1, the total after-tax (operating and non-operating) cash flow in (€1,000) for Year 4 is *closest* to:
   A. 96,349.
   B. 76,349.
   C. 102,619.

20. Based on Exhibit 1, the economic profit in (€1,000) for Year 1 is *closest* to:
   A. -243.
   B. -1,692.
   C. -5,982.

21. Based on Exhibit 1 and Exhibit 2, the economic income in (€1,000) for Year 1 is *closest* to:
   A. 9,900.
   B. 23,950.
   C. 20,949.

22. The *least likely* difference between economic income and accounting income is:
   A. accounting income is the after-tax income remaining after paying interest expenses, whereas interest expenses are not included in economic income.
   B. accounting depreciation is based on the current cost of the investment, whereas the economic income considers the historical cost of investment.
   C. accounting income is the net income after tax, whereas economic income is the after-tax operating cash flow less the economic depreciation.

23. Based on the first conversation with Jun, the *most* appropriate cost of equity (%) for determining the net present value for the proposed new protective coatings project is:
   A. 12.6%.
   B. 10.2%.
   C. 14.0%.

24. Based on the equivalent annual annuity method for the protective coatings and alternative projects, the *most appropriate* conclusion is to:
  A. be indifferent between the two projects.
  B. accept the alternative surface adhesive project.
  C. accept the protective coatings project.

Valentina Mendez Case Scenario (Questions 25 – 30)

Valentina Mendez, equity analyst at Enlace Investment Group (EIG), begins valuing Pablo Meditec, Inc. (PMI), a thinly and infrequently traded stock on a regional stock exchange. For estimating PMI's required return on equity, Mendez uses the capital asset pricing model (CAPM) approach; but she thinks its own equity beta of 1.25 is not very reliable because of the stock's extremely thin trading volume. Therefore, she obtains the beta and other pertinent data for Ray Diagnostics, Inc. (RDI) (see Exhibit 1), a midsized company in the same industry with high market liquidity trading on the NASDAQ, and re-levers it to reflect PMI's financial leverage.

Exhibit 1: Comparative Data for Valuation

	PMI Data	RDI Data
Equity beta	1.25	1.50
Debt ratio (Debt/Total assets)	0.30	0.50

Because of the recent expansion in the industry (which provides diagnostic and therapeutic systems for the treatment of ophthalmologic problems, PMI has been experiencing double-digit growth rates in revenues and cash flows and high growth is expected to persist for 10 more years. Considering these facts, Mendez decides to first determine PMI's present value of growth opportunities (PVGO). Next, she estimates the value of its stock using the H-model. The data and estimates she has compiled for this purpose are in Exhibit 2.

Exhibit 2: PMI's Data and Estimates for PVGO and H-Models

Required return on equity	13.20%
Weighted average cost of capital (WACC)	11.19%
Dividend pay-out ratio	40.00%
Most recent (average) earnings per share	$4.35
Current dividend growth rate	12.00%
Growth will decline linearly to final and perpetual value of	5.00%
Current stock price	$60.00

Casey Kassam, chief investment strategist at EIG, asks Mendez about what determines PVGO. Mendez comments that PVGO is determined by:
    1. a company's options to invest

2. a company's real options.

Next, Mendez and Kassam discuss other approaches that might be appropriate for valuing PMI's stock. They make the following statements:

Statement 1—Kassam: Because PMI's management is actively seeking opportunities to be acquired, the guideline public companies method (GPCM) would be most appropriate. It establishes a value estimate based on pricing multiples derived from the acquisition of control of entire public or private companies. Specifically, it uses a multiple that relates to the sale of entire companies.

Statement 2—Mendez: We could also value PMI using the free cash flow to equity (FCFE) model. But in order to support its rapid growth, the company is expected to significantly increase its net borrowing every year for the next three to five years. This will make the required return on equity more sensitive to changes in financial leverage. Hence the use of a constant discount rate is difficult to justify.

Statement 3—Kassam: The residual income (RI) model, also called the "excess earnings method," does not have the same weakness as the FCFE approach because residual income is an estimate of the profit of the company after deducting the cost of all capital: debt and equity. Furthermore, it makes no assumptions about future earnings and the justified P/B is directly related to the expected future residual income.

Kassam instructs Mendez to use the GPCM method to value PMI. Mendez collects the following financial information given in Exhibit 3 for the purpose.

Exhibit 3: Comparative data and PMI's financial information for GPCM approach

Average MVIC to EBITDA multiples of similar companies	7.0.
Total adjustment for relative risk and growth of PMI compared with guideline public companies	-14.0%
Control premium	0%
PMI's normalized EBITDA	$8,400,000
PMI book value of debt*	$15,170,400

 *Mendez assumes that the market value of debt capital is equal to PMI's book value of debt.

25. Using the data in Exhibit 1, Mendez's estimate of PMI's beta is *closest* to:
   A. 1.07.
   B. 1.11.
   C. 0.95.

26. Using the data in Exhibit 2, the estimate of PMI's present value of growth opportunities

(PVGO) is *closest* to:
A. $25.07.
B. $27.05.
C. $22.34.

27. Using the data in Exhibit 2, the estimate of PMI's stock according to the H-model is *closest* to:
A. $30.10.
B. $29.71
C. $26.75.

28. In regard to the comments by Kassam about what determines PVGO, he is *most likely* correct with respect to:
A. Options to invest.
B. Real options.
C. Both options to invest and real options.

29. In regard to the discussion on other approaches between Mendez and Kassam, which of the following statements that they make is *least likely* accurate?
A. Statement 1
B. Statement 2
C. Statement 3

30. Using the GPCM approach and the data in Exhibit 3, PMI's equity value ($ millions) is *closest* to:
A. 34.60.
B. 32.76.
C. 35.40.

Spectrum Investments Case Scenario (Questions 31 –36)

Spectrum Investments is an international asset management firm with a focus on equity portfolio management. Spectrum's senior equity analyst Kyra Sedgwick, and junior analyst Sunny Krishan, are valuing the common stock of Benning Company Inc. using a residual income valuation approach. Sedgwick makes the following comments about Benning's expected performance over the next four-years:

Comment I: Predictable payment of dividends.

Comment II: Free cash flows generated may be negative.

Comment III: No significant amounts of pension adjustments or foreign currency translation adjustments to be reported in the other comprehensive income.

On some of the other valuation approaches used at Spectrum, Sedgwick makes the following statements:

Statement I: Asset-based valuation is used typically for natural resource companies, which involves the market value of the assets or resources they control.

Statement II: Valuation based on liquidation value is relevant for companies with different independent, going-concern business segments.

For the residual income valuation, Krishan gathers the following information shown in Exhibit 1.

Exhibit 1 Basic Information for Valuation of Benning Company Inc.

Current book value per share	€25.00			
Required rate of return for common stock	10.00%.			
Forecasted data for the next four years is				
Years	1	2	3	4
Net income per share	€8.00	€8.00	€7.50	€7.80
Residual income per share	€5.20	€4.40	€3.25	€3.25
Although the firm will be profitable after year 4, residual income is expected to be zero				

After reviewing the valuation, Sedgwick decides to modify the RI approach. She asks Krishan to assemble alternative information for Benning shown in Exhibit 2.

Exhibit 2 Alternative Information for Valuation of Benning Company Inc.

Current book value per share	€25.00			
Required rate of return for common stock	10.00%.			
Forecasted return on equity (ROE) for the next four years:				
Years	1	2	3	4
Forecasted ROE	35%	25%	20%	15%
Annual dividends per share will be €2.00 each year for the next four years				
Although the firm will be profitable after year 4, residual income is expected to be zero				

After completing the second valuation, Krishan asks about valuing the firm if residual income continues instead of becoming zero beyond the four-year forecast horizon.

Sedgwick states that analysts can make any one of the following assumptions about residual income models:

1) Residual income continues indefinitely at a positive level. This is the basic premise of the single-stage residual income model that assumes that ROE will exceed the cost of equity indefinitely.

2) Residual income declines to zero as ROE fades over time to the cost of equity, which requires an assumption about the persistence factor. An assumption of a persistence factor of one implies that residual income will be zero beyond the forecast period.

The next day Krishan is reviewing some possible trades for three stocks in the consumer staples industry based on pairs- trading strategy. Krishan's evaluations are as follows:

   I.   P&S Industries is 18% overvalued.
  II.   Colby Inc. is 14% overvalued.
 III.   Palmer Consumer Company is 18% undervalued.

31. Which of Sedgwick's comments is *least* accurate regarding the use of the RI model for Benning Company Inc.?
   A. Comment I.
   B. Comment II.
   C. Comment III.

32. Which of Sedgwick's statements is *most likely* correct regarding other types of valuation approaches?
   A. Statement I.
   B. Statement II.
   C. Neither statements.

33. Based on Exhibit 1 and the residual income valuation model, the value per share (€) of Benning Company Inc. is *closest* to:
   A. 43.
   B. 38.
   C. 27.

34. Using Exhibit 2 and the residual income valuation model, the value per share (€) of Benning Company Inc. is *closest* to:
   A. 36.
   B. 40.
   C. 39.

35. In regard to Sedgwick's response about the assumptions in the residual income model,

she is *least* accurate with respect to:
A. assumption 1.
B. assumption 2.
C. both assumptions.

36. Based on his trading strategy, which of the following should Krishan recommend?
A. Short P&S and Colby.
B. Buy Palmer and Colby.
C. Buy Palmer and short Colby.

Stannis Capital Case Scenario (Questions 37 –42)

Robb Patterson, CFA, a fixed income portfolio manager for Stannis Capital, is analyzing three fixed-rate bonds issued by Water and Sewerage Board (WSB). WSB is owned by a sovereign government, so its bonds are considered default free. On 31 August 20X0, Patterson has gathered the following information about WSB bonds presented in Exhibit 1:

Exhibit 1: Fixed-Rate Bonds Issued by WSB

Bond	Maturity	Coupon	Type of Bond
Bond A	1 September 20X3	5.25% annual	Callable at par on 1 September 20X1 & 1 September 20X2
Bond B	1 September 20X3	5.00% annual	Option-free
Bond C	1 September 20X3	4.85% annual	Putable at par on 1 September 20X1 & 1 September 20X2

The one-year, two-year, and three-year par rates are 4.400%, 4.700%, and 5.000%, respectively. Based on an estimated interest rate volatility of 15%, Stannis Capital's fixed income analyst, Hassan Bukhari, has constructed the following binomial interest rate tree:

Exhibit 2: Binomial interest rate tree at 15% of interest rate volatility

Year 0	Year 1	Year 2


```
Year 0            Year 1            Year 2
                                      7.4832
                  5.7678
4.400                                 5.5437
                  4.2729
                                      4.1069
```
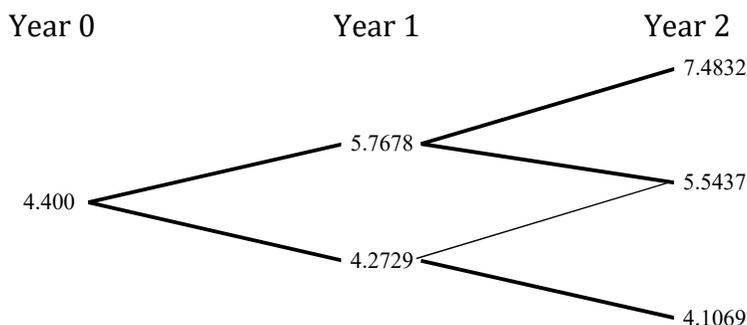
Patterson examines the bond prices of the embedded bonds and analyzes the effect of

interest rate volatility on the prices of the WSB bonds. Next Patterson reviews two fixed-rate bonds in his portfolio: a callable bond (Bond M) and a putable bond (Bond N). He wants to determine the interest rate sensitivity of these two bonds to a parallel shift in the benchmark yield curve. Together with Bukhari, Patterson assumes an interest rate volatility of 10%, and uses the valuation software to determine the price sensitivity of these bonds to a 25-bps parallel shift of the benchmark yield curve. Exhibit 3 shows the results:

Exhibit 3: Bond Prices at 10% Interest Rate Volatility with an OAS of 30 bps to a Parallel Shift of the Benchmark Yield Curve

	Bond M	Bond N
Time to maturity	Three years from today	Three years from today
Coupon	4.75% annual	4.75% annual
Type of bond	Callable at par one year from today	Putable at par one year from today
Current price (% of par)	100.210	100.950
Price (% of par) when shifting the benchmark yield curve down by 25 bps	100.815	101.600
Price (% of par) when shifting the benchmark yield curve up by 25 bps	99.484	101.354

Finally, Patterson analyzes the risk-return characteristics of a convertible bond issued by Sigma Tech. given in Exhibit 4. The market prices of Sigma Tech.'s convertible bond and common stock (as of 31 August 20X0) are €1,060 and €30.10, respectively.

Exhibit 4: Convertible Bond Issued by Sigma Tech.

Issue Date	5 January 20X0
Maturity Date	5 January 20X5
Coupon Rate	3.75%
Issue Price	€1,000
Conversion ratio	25

37. Based on Exhibits 1 and 2, the price of **Bond A** is *closest* to:
   A. 99.564% of par
   B. 100.046% of par
   C. 95.017% of par

38. Based on Exhibits 1 and 2, the price of **Bond C** is *closest* to:
   A. 100.860% of par

B. 94.579% of par

C. 99.128% of par

39. Using Exhibits 1 and 2, relative to its price at 15% interest rate volatility, the price of Bond A at a lower interest rate volatility will be *most likely*:

A. lower

B. the same

C. higher

40. Based on Exhibit 3, the effective duration for Bond M is *closest* to:

A. 1.44

B. 2.66

C. 1.22

41. Based on Exhibit 3, which statement is *most* accurate:

A. Bond N exhibits negative convexity.

B. When interest rates rise, the effective duration of Bond M shortens.

C. For a given decline in interest rates, putable bonds have more upside potential than otherwise identical callable bonds.

42. Based on Exhibit 4, the risk–return characteristics of Sigma Tech.'s convertible bond *most likely* resemble that of:

A. a bond

B. a hybrid instrument.

C. Sigma Tech.'s common stock.

Cooper & Lockhart Case Scenario (Questions 43 – 48)

Cooper & Lockhart Advisors (C&L) is a global investment firm which specializes in fixed income portfolio management and trading in credit default swaps. Simon Pharrell, chief investment officer, is considering purchasing a 10-year CDS on Waldon Inc. debt to hedge its current portfolio position. He asks Ann Preston, a derivatives analyst, to find if an upfront payment is needed and if so, to determine the amount of the premium. Preston collects the following information for the CDS presented in Exhibit 1.

Exhibit 1: Data for 10-Year CDS on Waldon Inc.

Credit spread	700 basis points
Duration	6 years
Coupon rate	5%

Pharrell then instructs Preston to analyse the following contracts: