

## 2013 Level II Mock Exam: Afternoon Session

The afternoon session of the 2013 Level II Chartered Financial Analyst (CFA®) Mock Examination has 60 questions. To best simulate the exam day experience, candidates are advised to allocate an average of 18 minutes per item set (vignette and 6 multiple choice questions) for a total of 180 minutes (3 hours) for this session of the exam.

Questions	Topic
1–6	Ethical and Professional Standards
7-12	Derivatives
13-18	Fixed-Income Investments
19-24	Portfolio Management
25-30	Economics
31-42	Financial Reporting & Analysis
43-48	Corporate Finance
49-60	Equity Investments
<b>Total:</b>	<b>180</b>

## Questions 1 through 6 relate to ethical and professional standards.

### McGuinn Case Scenario

---

Forster Investment Advisors (Forster) is a small asset management firm managing funds for both retail and institutional clients. Forster also undertakes investment banking activities, including market making, but only for a few shares that it follows closely.

Forster's finance director, who also serves as the firm's compliance officer, has given notice he will retire in one month's time. Forster's managing director asks Terry McGuinn, CFA, if he would be interested in being the compliance officer after the finance director retires. McGuinn, an independent compliance consultant whose clients mostly include pension funds, agrees to meet the managing director to discuss the position.

At the meeting, McGuinn is told, "Forster adopted the CFA Code and Standards 10 years ago. The outgoing finance director assured us at the time we adopted the Code, all of Forster's policies and procedures met the requirements of the Code and Standards and most of the recommendations as well. As a result, we mention compliance with the Code and Standards in all of our marketing material. We encourage you to implement new changes, but the implementation will need to be coordinated through the human resources department." After agreeing on written specific duties and responsibilities for the role, McGuinn accepts the offer to act as Forster's compliance officer on a part-time consultancy basis.

On his first day as the new compliance officer, McGuinn immediately reviews a draft response to a request for proposal (RFP) to be submitted the next day to a potential pension fund client. The proposal is identical to another RFP sent out three months ago and includes Forster's organizational chart, an in-depth description of its investment process and the occasional use of third-party research providers, a guarantee of a minimum 5% investment return and return of principal through a guaranteed structured savings product, underwritten by an investment-grade life insurance company. McGuinn approves the RFP document without making any changes.

That same day, Colleen Collins, a research analyst, approaches McGuinn, concerned that she may be in possession of insider information. Collins relates how she was at a party the night before and overheard a conversation between two CEOs of competing, publicly listed manufacturing companies. The CEOs discussed, but did not express their opinions on, the validity of a recent article published in an online industry newsletter, which was speculating on the benefits of a merger between their two companies. The newsletter is available by subscription only. One of these companies is on Forster's recommended buy list.

Following this conversation, McGuinn feels that it is necessary to enhance Forster's rules and procedures when dealing with possible insider information. He recommends the following changes to the company's policies and procedures:

- Recommendation 1: Stop market-making activities when in possession of material nonpublic information.
- Recommendation 2: Regularly review employee and proprietary trading.
- Recommendation 3: Require all employees to attend an annual refresher course on how to identify and handle material nonpublic information.

After reviewing how Forster chooses and retains its stockbrokers every year, McGuinn makes several changes in the policy. The following guidelines are implemented and communicated to clients. Stockbroker selection must be based on the brokers' ability to:

- Guideline 1: provide accounting software.
- Guideline 2: execute client transactions efficiently.
- Guideline 3: obtain invitations to investment conferences for loyal clients.

McGuinn undertakes an investigation based on reports citing that several Forster fund managers were witnessed being wined and dined over the past few weeks by large brokerage firms trying to get Forster's business. The same employees have not notified him about these dinners, violating Forster's internal policies. McGuinn notifies the employees in writing that they have been violating the company policy. In the letter of notification, he requires the employees to abide by the policy in the future.

- 
1. Is McGuinn's proposed compliance officer structure consistent with the CFA Institute Code and Standards?
    - A. Yes
    - B. No, with regard to policies and procedures
    - C. No, with regard to authority and responsibility
  2. Which item in the request for proposal (RFP) is inconsistent with Standard I (C) Misrepresentation?
    - A. Guaranteed investment return
    - B. The firm's organizational structure
    - C. Use of third-party research providers
  3. Did Collins *most likely* receive insider information as defined by the CFA Standards?
    - A. Yes
    - B. No, because the information is considered public
    - C. No, because the information is considered non-material
  4. Which of McGuinn's recommendations is *least* appropriate to implement as per recommended procedures for compliance of Standard II (A) Material Nonpublic Information?

- A. Recommendation 1
  - B. Recommendation 2
  - C. Recommendation 3
5. Which guideline with regard to choosing stockbroking services is consistent with Standard III (A) Duty to Clients?
- A. Guideline 1
  - B. Guideline 2
  - C. Guideline 3
6. With regard to the fund managers under investigation, the *most* appropriate additional action McGuinn should take is to:
- A. monitor their future actions.
  - B. report the misconduct up the chain of command.
  - C. require a statement stating the behavior will cease.

**Questions 7 through 12 relate to derivative investments.**

#### **Rudi Kesselaar Case Scenario**

---

Rudi Kesselaar, the treasurer for Internationaal Industrie Groep (IIG), a large, Dutch electronics multinational, directs the liquidity and hedging strategies of IIG's global subsidiaries. The treasurer's office maintains banking relationships and lines of credit in most countries where IIG has a presence and facilitates currency and interest rate hedges between each subsidiary and its respective local country bank. Kesselaar is meeting with IIG's head trader, Arndt Wolters, to review IIG's economic forecasts and planned hedging strategies for IIG's two largest projects for next year.

Kesselaar tells Wolters, "Our Polish subsidiary, IIG-Polska (IIG-P), will require financing for 12 months to execute a 50 million Polish zloty (PLN) upgrade of a manufacturing facility near the German border. Earlier this year, we set up a PLN60 million line of credit for them. IIG-P will be able to pay in either EUR or PLN to complete the factory upgrade. What hedging solutions would you recommend?"

Wolters replies, "Our economists (whose forecast is shown in Exhibit 1) project the PLN/EUR rate to decline to PLN3.75 over the next year. Although eurozone interest rates aren't expected to rise, Polish interest rates could start to rise by the fourth quarter of this year. Because the PLN swaps market is large enough to allow us to hedge a floating rate loan and IIG-P can pay in either EUR or PLN, I have developed two alternatives:

Alternative 1—Pay in EUR:

- IIG-P executes a 12-month EUR/PLN fixed-to-fixed currency swap with IIG, swapping PLN50,000,000 for EUR11,904,762.
- IIG-P pays the EUR rate of 1.50% and receives the PLN rate of 5.75%.
- Both PLN and EUR yield curves are flat for the next 12 months, and the respective risk-free rates are 5.50% in PLN and 0.40% in EUR.

Alternative 2—Pay in PLN:

- IIG-P draws on the PLN line of credit that is charged an interest rate based on the Warsaw Interbank Offered Rate (WIBOR).
- IIG-P purchases a six-month receiver swaption with an exercise rate of 4.75%. If exercised, IIG-P can enter into an interest rate swap in six months with a fixed rate equal to the exercise rate.”

**Exhibit 1**  
**Currency and Interest Rate Projections**

Date	1-Month WIBOR	1-Month Euribor	PLN/EUR Exchange Rate
1-Apr-13(spot)	4.75%	0.15%	4.2000
1-Jul-13	4.75%	0.20%	4.0000
1-Oct-13	4.85%	0.25%	3.8000
1-Jan-14	5.25%	0.30%	3.7500
1-Apr-14	5.25%	0.35%	3.7500

Kesselaar then informs Wolters, “Our second project in Latvia is to finance construction of an oil terminal on the Gulf of Riga for LAT Transport (LAT), a Latvian government-sponsored enterprise. The project has a value of EUR60 million today. LAT’s stock is a large component of the Riga Equity Index and has an almost perfect correlation with the index. Financing for the project is as follows:

- The Latvian government issues a four-year bond denominated in Latvian lats (LVL) to finance 50% of the construction costs.
- IIG provides LAT a EUR30 million loan for two years to finance the remaining 50% of the construction costs. In two years, the Latvian government intends to issue another LVL bond to allow LAT to repay the IIG loan.
- For the next two years, IIG will have an option to purchase 50% of the oil terminal for LVL45.92 million (equivalent to EUR32 million) at any time. The LVL/EUR exchange rate is pegged at LVL1.4350 per EUR because the Latvian government engages in market transactions to maintain this rate.”

Wolters responds to Kesselaar, “LAT’s market capitalization essentially reflects the value of the sum of its oil terminals. I think the price of the purchase option is cheap. I estimated the value of this option assuming the Riga Index can move up 15% or down 20% each year and the LVL annual risk-free rate is 2%. Using the Black–Scholes–Merton model, I calculate that the normal probabilities for the Riga Index are 59% for a gain each year and 41% for a loss.”

Kesselaar then tells Wolters, “I don’t believe your analysis is consistent with the Black–Scholes—Merton model assumptions. Please keep in mind that Standard & Poor’s has assigned Latvia a credit rating of BBB–, which is only one level above junk status. However, if Latvia still appears economically and politically stable in two years, I think we should definitely exercise our option.”

- Using the spot rates shown in Exhibit 1, on 1 April 2013, the market value of the currency swap described in Alternative 1 from IIG-Polska’s perspective is *closest* to:
  - positive PLN390,000.
  - negative PLN390,000.
  - positive PLN550,000.

8. Assume IIG-P and IIG enter into the swap described in Alternative 1, and the rates shown in Exhibit 1 materialize as projected. On 1 April 2014, the market value to IIG-Polska of the final exchange of payments would be *closest* to:
- A. positive PLN1,062,000.
  - B. positive PLN6,450,000.
  - C. negative PLN6,450,000.
9. If IIG-P uses Alternative 2 and assuming the interest rate forecasts in Exhibit 1 hold, does Wolters' recommendation of purchasing and exercising the swaption work?
- A. Yes
  - B. No, because the swap would not begin for six months
  - C. No, because the swap would not hedge the interest rate risk
10. The price of IIG's option on LAT Transport valued according to a two-period binomial model is *closest* to:
- A. EUR2.0 million.
  - B. EUR3.2 million.
  - C. EUR5.6 million.
11. The option-pricing model used by Wolters is *least likely* appropriate because the:
- A. option is European.
  - B. standard deviation of the log return does not change.
  - C. underlying price follows a lognormal probability distribution.
12. In order to hedge the risks posed by the LAT project to IIG, Wolters would *most likely* decide to use a(n):
- A. total return swap.
  - B. interest rate swap.
  - C. credit default swap.

**Questions 13 through 18 relate to fixed-income investments**

**Gloucester Case Scenario**

---

Beverly Magnolia, CFA, is a fixed-income analyst at Gloucester Advisors, LLC. Lynn Peabody, Gloucester's director of research, asks Magnolia to prepare several analyses for the next investment committee meeting. Magnolia's first assignment is to review a new bond issue for Rockport Corporation. Information about Rockport's outstanding and proposed senior debt issues is provided in Exhibit 1.

**Exhibit 1 — Bond Data for Rockport**

	<b>Outstanding Bond</b>	<b>New Bond</b>
Issue Date	2010	2012
Par Amount (\$millions)	500	300
Issue Ratings	BBB/Baa2	Not yet rated
Issuer	Holding Company	Operating Company
Issuer EBITDA (\$millions)	0	400
Seniority Ranking	Senior Unsecured	Senior Unsecured

Magnolia reviews the new bond issue prospectus and makes the following comment to Peabody: “I believe the issue rating for the new bond could be higher than for the outstanding bond. Because both bonds have the same seniority ranking, they have the same claim on the cash flows and assets of the issuer. The new bond is structurally subordinated to the outstanding bond. Neither of the ratings, of course, would reflect idiosyncratic risk, such as potential debt-financed acquisitions.”

In her analysis, Magnolia uses the financial data from the new issue prospectus presented in Exhibit 2 to calculate credit ratios.

**Exhibit 2**  
**Financial Data for Rockport**

	<b>2011</b>	<b>2012</b>
Revenues	20,500	18,700
Operating Expenses	18,700	17,100
Depreciation	750	670
Interest	304	257
Taxes	149	135
Net Income	597	539
Total Debt	4,500	4,425

Magnolia also compares Gloucester’s credit metrics with the industry averages using the information presented in Exhibit 3.

**Exhibit 3 — Selected Financial Data for Rockport and Industry**

	Rockport			Industry		
	2010	2011	2012	2010	2011	2012
Operating Margin (%)	12.7	(6.9)	8.7	8.0	4.0	6.0
FCF/Debt (%)	9.2	5.6	6.2	12.0	8.0	10.0
Debt/Capital (%)	36.7	38.2	39.6	35.6	33.7	33.0
Return on Capital (%)	8.6	2.6	7.7	7.7	6.6	7.1

Peabody tells Magnolia that Gloucester forecasts that interest rates are likely to increase as economic activity accelerates but not in a parallel fashion across the yield curve. She asks Magnolia to review three Treasury STRIPS portfolios that Gloucester's manages and assess their performance if the forecast is realized. Magnolia uses the data in Exhibit 4, which shows how the portfolios are allocated across key rate durations to prepare her analysis.

**Exhibit 4**  
**Key Rate Duration Profile for Treasury STRIPS Portfolios**

	Key Rate Durations		
	5 Years	15 Years	30 Years
Portfolio A	25%	50%	25%
Portfolio B	30%	30%	40%
Portfolio C	50%	25%	25%
Rate Change	+3 bps	+6 bps	+5 bps

Peabody asks Magnolia to evaluate a convertible bond issued by the Rockport Holding Company in 2008. The bond has a conversion ratio of 80 and a straight value of \$965.00. Rockport's stock is trading at \$12.25. Gloucester is considering paying the conversion value for the bond, but Peabody is concerned that the stock price may decline. Magnolia evaluates the potential loss the bond would incur, assuming a 10% decline in the stock price.

Finally, Magnolia reviews pricing for Rockport's \$500 million outstanding bond, which is callable. A dealer quotes bid-side prices at a zero-volatility spread of 185 bps and an option adjusted spread of 130 bps. Magnolia notes that a bond identical in every regard, except that it is option-free, is quoted in the market at a zero-volatility spread of 150 bps.

13. Magnolia's comments on the rating the agencies could assign Gloucester's new bond issue is *least likely* correct regarding:



- A. idiosyncratic risk.
- B. seniority ranking.
- C. structural subordination.

14. Based on the data in Exhibit 2, the leverage and coverage ratios, respectively, for Gloucester from 2011 to 2012 have *most likely*:

	<u>Leverage</u>	<u>Coverage</u>
A.	improved	improved.
B.	improved	deteriorated.
C.	deteriorated	improved.

15. Based on the information provided in Exhibit 3, which of the following statements *best* describes Gloucester's creditworthiness relative to the industry? Gloucester is a:

- A. weaker credit relative to the industry with more volatile earnings and higher leverage.
- B. stronger credit relative to the industry, given stable leverage and higher margins at times.
- C. weaker credit relative to the industry with a lower ability to reduce debt despite lower leverage.

16. Which of the portfolios in Exhibit 4 is *likely* to underperform the most, based on Gloucester's interest rate forecast?

- A. Portfolio A
- B. Portfolio B
- C. Portfolio C

17. If Gloucester buys Rockport's bond issued in 2008 and Magnolia's expectations materialize, the new value of the bond can best be described as the bond's:

- A. straight value.
- B. straight value plus the value of a call option.
- C. conversion value minus the value of a call option.

18. The spread measures quoted by the dealer *most likely* indicate that relative to the option-free bond, Rockport's bond is:

- A. overvalued.
- B. undervalued.
- C. not comparable.

## Questions 19 through 24 relate to portfolio management

### Jim Huntley Case Scenario

Bob Parker, CFA, a portfolio manager at Marcellus Investment Advisory, is meeting with Jim Huntley, CFA, a finance professor and portfolio management consultant for Marcellus, in preparation for a client meeting with a high-net-worth family. Parker tells Huntley that Marcellus is applying mean–variance analysis to the client’s portfolio, which consists of government bonds and actively managed large-cap stocks. The relationship between expected return and risk for combinations of these asset classes is provided in Exhibit 1.

**Exhibit 1**  
**Expected Return and Risk for Various Asset Allocations**

Bond %	Stock %	Expected Return (%)	Standard Deviation (%)
0	100	15.00	15.00
25	75	12.00	12.50
50	50	9.00	11.00
75	25	7.00	11.50
100	0	5.00	12.00

Parker plans to modify the client’s current portfolio by adding emerging markets stocks as a new asset class. A comparison of the current portfolio and the proposed portfolio, both of which are assumed to be mean–variance efficient, is provided in Exhibit 2. The risk free rate is 5%, and the market return is 10%.

**Exhibit 2**  
**Comparison of Current Portfolio to Proposed Portfolio**

	Current Portfolio	Proposed Portfolio
Portfolio Expected Return	15.0	20.0
Portfolio Standard Deviation	4.0	5.0

Huntley shares his view that markets are not always in a state of equilibrium. Huntley and Parker discuss other strategies that can be employed for the client. Parker mentions that his client’s investment policy statement provides flexibility to execute long–short strategies. Huntley then presents four model portfolios for Parker to consider. Each portfolio is well diversified but affected by rising interest rates, as captured by factor sensitivity. The expected return and factor sensitivity of each portfolio is provided in Exhibit 3.

**Exhibit 3**  
**Portfolio Information**

Portfolio	Expected Return (%)	Factor Sensitivity
A	5.0%	0.50

B	8.0%	0.75
C	10.0%	2.00
D	12.0%	1.25

Parker formulates three long–short strategies, as outlined in Exhibit 4. Each strategy uses combinations of the portfolios in Exhibit 3, with an initial investment amount of \$1,000,000 and a time horizon of one year.

**Exhibit 4**  
**Long–Short Strategies**

	Long	Long	Short	Short
Strategy 1	60% B	40% D	70% A	30% C
Strategy 2	70% B	30% C	60% D	40% A
Strategy 3	80% C	20% A	50% B	50% D

Parker confides that he occasionally questions investment practitioners’ justification for active portfolio management. Huntley responds by making the following comments regarding active and passive portfolios:

Comment 1: Abnormal returns in active portfolios can be earned whenever prices reflect fair value.

Comment 2: Asset allocation across passive portfolios requires little analysis or forecasting.

Comment 3: Efficient passive portfolios are the result of active investors’ identification of mispriced securities.

Huntley believes that the Treynor–Black approach enables security analysts’ forecasts to be utilized in security selection. He provides data on selected securities that could be added to the active large-cap portfolio in order to optimize its performance. The data are presented in Exhibit 5.

**Exhibit 5**  
**Data for Selected Securities**

Security	Information Ratio	Expected Alpha	Estimated Beta
X	2.0	0.20	1.1
Y	4.0	0.15	0.9
Z	3.0	0.10	1.2

The client’s investment policy statement contains the following objective: “The portfolio’s total pre-tax real return should achieve an average in excess of 7% over time in order for the family to have sufficient income to meet both its current and expected future spending needs.”

19. Based on Exhibit 1, does a portfolio consisting of 75% government bonds and 25% stocks *most likely* lie on the efficient frontier?

- A. Yes
- B. No, because it is dominated by other portfolios
- C. No, because it has lower return than other portfolios

20. Which of the following would *most likely* justify Parker's plan with respect to emerging markets stocks? The change in the:

- A. Sharpe ratio.
- B. beta coefficient.
- C. market risk premium.

21. Given Huntley's view on market equilibrium, which of Parker's long–short strategies *most likely* presents an arbitrage opportunity?

- A. Strategy 1
- B. Strategy 2
- C. Strategy 3

22. Which of Huntley's comments about active and passive portfolios is *most likely* accurate?

- A. Comment 1
- B. Comment 2
- C. Comment 3

23. Based on the Treynor–Black approach, Parker would *most likely* allocate the largest amount to which of the following?

- A. Security X
- B. Security Y
- C. Security Z

24. Based on the client's investment policy statement objective, which of the following is likely *least* important for Huntley?

- A. Tax rates
- B. Inflation levels
- C. Benchmark returns

## Questions 25 through 30 relate to economics

### Golden Island Case Scenario

---

Golden Island is a country flourishing through tourism. The island is governed by a governor general, a parliamentary body of elected legislators, and a couple of agencies to regulate the island's economic and social environment. Recently, prospectors in the mountain range bordering the southern coast of the island discovered a large deposit of gold, silver, and platinum. The government is concerned that development of this deposit will harm the tourist trade. Elena Trippi has been asked to participate in a series of fact-finding sessions conducted jointly by the Ministry of Finance for the island and the Ministry of Tourism. This blue-ribbon fact-finding committee has been meeting weekly for the past two months.

Trippi began a recent meeting of the committee by presenting a summary of current financial and economic conditions for Golden Island. Comparing Golden Island with other developing nations, she presents these conditions in Exhibit 1.

<b>Exhibit 1</b>
<b>Current Financial and Economic Conditions</b>
<b>Relative to other developing nations, Golden Island:</b>
1. Has a relatively low level of capital per worker.
2. Does not have competitive financial markets. The single commercial bank on the island also acts as the central bank of Golden Island.
3. Has a relatively low rate of savings and investment.
4. Has a low level of literacy (about half the population is illiterate).
5. Has well-established property rights.
6. Tightly regulates capital flows into and out of the Golden Island economy.

She states that these conditions do not necessarily cause great harm to the tourist industry. However, the mining and processing of gold, silver, and platinum will require reexamination of these economic policies and circumstances. In particular, Trippi is concerned with the issue of tariffs. Golden Island has relatively high tariffs on capital goods.

Trippi states: "Golden Island will benefit from continuing to protect domestic capital goods by maintaining its relatively high tariff on foreign capital goods. High tariffs have little impact on foreign direct investment (FDI), and they generate revenue for the government."

Rishi Chatterjee is the interim deputy minister for tourism. He states that he is not very knowledgeable about the gold business, but he believes that developing the island's gold deposits will affect the relative value of the island's currency, the sona (Sn). The current exchange rate of the sona against the U.S. dollar is Sn8.50/USD. Chatterjee says that increased FDI will cause the sona to strengthen against world currencies. Tourism will be harmed as goods and services priced in sonas will appear to be more expensive to the foreign visitors who make up the bulk of the tourist trade.

Trippi shows the committee Exhibit 2, which contains data from the currency exchange markets relative to the sona. Based on this data, Trippi states that markets currently anticipate that the sona will weaken against both the dollar and the British pound.

<b>Exhibit 2</b>			
<b>Exchange Rates, Interest Rates, and Inflation Rates</b>			
	<b>Current Spot Rates</b>	<b>1-Year Interest Rate (%)</b>	<b>1-Year Inflation Rate (%)</b>
<b>Golden Island</b>	Sn8.50 /USD	6.50	3.00
<b>United Kingdom</b>	GBP0.62/USD	4.05	1.60
<b>United States</b>		3.50	1.30

The minister of finance and president of the central bank is Rajiv Sengupta. He is confident that Golden Island can allow this mining district to proceed with little or no damage to tourism.

Sengupta states: “We can use free market mechanisms to control potential pollution from the mines. As there will be at least 4 and possibly more than 10 mining companies operating in the mining district, we can design an exchange in which the companies can trade ‘pollution rights.’ The government will set the total maximum amount of various pollutants that might occur from mining operations, revising that total from time to time. The companies will bid on ‘rights’ that will allow them a certain level of that total pollution. If the company exceeds the level they have a ‘right’ to, they will be fined. By allowing the trading of these rights on an exchange, the resulting ‘price of pollution’ will reflect the most efficient allocation of resources related to the mining district.”

Sengupta addresses the issues of potential inflation as the island transitions to greater growth. He assures the committee that Golden Island’s central bank stands ready to use monetary tools to prevent such inflation.

25. How many of the current financial and economic conditions listed in Exhibit 1 *at least* partially explain why Golden Island faces limited economic growth?

- A. All six are limitations on growth.
- B. Exactly five of the six are limitations on growth.
- C. Exactly three of the six are limitations on growth.

26. Trippi's statement regarding tariffs is *best* described as:

- A. correct.
- B. incorrect because high tariffs support increases in foreign direct investment (FDI).
- C. incorrect because eliminating high tariffs on manufactured goods will increase Golden Island's physical capital and contribute to higher productivity.

27. Chatterjee's statement about tourism and the currency exchange rate of the sona is *best* described as:

- A. correct.
- B. incorrect because increased FDI is likely to lead to a weakening of the sona.
- C. incorrect because a stronger sona will make Golden Island appear to be a less expensive tourist destination for foreigners.

28. Based on Exhibit 2, the one-year forward exchange rate of the Sn/GBP is *closest* to:

- A. Sn8.75/GBP.
- B. Sn13.45/GBP.
- C. Sn14.03/GBP.

29. Sengupta's views regarding potential pollution from the mining district are *most* consistent with which of the following?

- A. Regulatory capture
- B. The Coase theorem
- C. Regulatory arbitrage

30. Which of the following is *most likely* to be used by Sengupta to address the monetary issues relating to greater growth of the island's economy? The central bank will:

- A. sell domestic securities to the private sector.
- B. buy domestic securities from the private sector.
- C. reduce the interest rate on loans to the private sector.

## Questions 31 through 42 relate to financial reporting and analysis

### **Eagle Aerospace Case Scenario**

---

Phil Henderson, an independent equity analyst, is reviewing his file on Eagle Aerospace Inc. following the release of some preliminary year-end results for the company (Exhibit 1).

Eagle Aerospace Inc. (Eagle) is a designer and manufacturer of executive and regional jets. Based in Kitty Hawk, North Carolina, United States, the company caters to the corporate market for executive jets and operators of private charters, as well as to airlines that require smaller planes (20–100 seats) for

regional routes. The company sells planes either through outright sales, in which the buyer arranges the financing, or through offering long-term leases (more than 10 years) normally classified by Eagle as finance leases. Eagle also will buy and leaseback used aircraft, classifying those leases as operating leases with the lease payments due in advance at the beginning of each period. Eagle prepares its financial statements according to U.S. GAAP.

<b>Exhibit 1</b>		
<b>Eagle Aerospace Inc.</b>		
<b>Income Statements</b>		
<b>For the years ending December 31</b>		
<b>All amounts in USD\$ millions</b>		
	<b>2012</b>	<b>2011</b>
Revenue	\$ 7,030	\$ 6,600
Cost of sales	<u>6,010</u>	<u>5,675</u>
Gross profit	1,020	925
Operating expenses	582	575
Other (income)	<u>( 12)</u>	<u>( 1)</u>
Earnings before interest and taxes	450	351
Interest expense	240	230
Financing income	<u>( 198)</u>	<u>( 210)</u>
Earnings before taxes	412	331
Income tax provision	<u>103</u>	<u>83</u>
Net income	<u>\$ 309</u>	<u>\$ 248</u>

Henderson is surprised by the increase in Eagle's operating margin. By reviewing the notes to the financial statements, he identifies the following events and decides to start his analysis by considering the impact of each.

1. Eagle changed the interest rate used in determining the present value of the lease payments on leased aircraft from 8% in 2011 to 7% in 2012. At the start of 2012, the company delivered 20 regional jets to an airline under long-term leases. The lease terms are for 15 years with annual



payments of \$5 million per plane; the first payment is due on delivery. Henderson knows Eagle usually sells the jets for \$45 million each, and the production cost averages \$40 million per jet.

2. Because production can take many months and requires financing, Eagle allocates interest costs to the cost of manufacturing the aircraft by applying the cost of borrowing rate to the qualifying assets. These amounts are expensed when the aircraft are sold. Interest capitalized in 2012 and 2011 is \$47.5 million and \$25 million, respectively. The amount of previously capitalized interest included in cost of goods sold in 2012 is \$30 million. Henderson prefers to adjust for the effects of the capitalized interest when calculating the interest coverage ratio and analyzing cash flows.
3. On 1 January 2012, Eagle acquired 20% of the voting shares of Aurora Aerospace Inc. (Aurora). Aurora manufactures the landing gear used in Eagle's planes. Details about the investment and Aurora are in Exhibit 2.

<b>Exhibit 2</b> <b>Information on Eagle's Investment in Aurora</b> <b>All amounts in USD\$</b>		
<b>1 January 2012</b>	Purchases 4 million voting shares (20%)	Market price per share: \$35.00
	Book value of Aurora's net assets	\$500 million
	Value of Aurora's unrecorded, identifiable intangible assets with an estimated useful life of 10 years	\$60 million
<b>Net earnings for 2012</b>		\$93.0 million
	<ul style="list-style-type: none"> <li>During the latter half of 2012, Aurora delivered landing gear to Eagle worth \$30 million</li> <li>\$15 million worth of the landing gear is still in Eagle's ending inventory as of 31 December 2012</li> <li>Aurora earned a net profit of \$12 million on the original sale</li> </ul>	
<b>Dividends paid in 2012</b>		\$1.20 per share
<b>31 December 2012</b>		Market price per share: \$37.60

31. Considering how Eagle accounts for the purchase and leaseback of the used aircraft, the *most likely* effect on its financial statements is an increase in:

- A. capital assets.
- B. lease receivables.
- C. EBIT by an amount equal to the lease payments.

32. The impact on 2012 gross profit (\$ millions) from the change in the interest rate used for the 20 aircraft leased to the airline is *closest* to:
- A. 50.1.
  - B. 54.9.
  - C. 74.5.
33. Using Henderson's preferred method of calculating the interest coverage ratio for 2012, the ratio is *closest* to:
- A. 1.46.
  - B. 1.57.
  - C. 1.67.
34. Considering Eagle's accounting policy, which of the following *best* describes the effect on the cash flow statement of the capitalization of the \$47.5 million in interest costs in 2012? Ignoring taxes, the cash flow from:
- A. operations would not be affected.
  - B. investing activities would decrease.
  - C. financing activities would decrease.
35. If Eagle uses the equity method, the income (\$ millions) from its investment in Aurora for 2012 will be *closest* to:
- A. 16.2.
  - B. 17.4.
  - C. 21.0.
36. If Eagle uses the fair value method, the income (\$ millions) from its investment in Aurora for 2012 will be *closest* to:
- A. 4.8.
  - B. 10.4.
  - C. 15.2.

#### **London Star Refuse Company Case Scenario**

---

Cheryl Minor is a junior analyst at Woodland Third Bank in the United Kingdom. She has been asked to perform a detailed financial analysis on London Star Refuse Company, Ltd. (LSRC), a leading provider in the waste management and environmental services industry. LSRC has approached Woodland for a loan and plans to use the additional capital for expansion purposes.

Selected financial statement information for LSRC is presented in Exhibit 1. LSRC uses IFRS and classifies interest expense as a financing activity in its cash flow statement. Minor starts her analysis by calculating some cash flow and accruals ratios to compare with those of LSRC's competitors. Exhibit 2 contains the accrual ratios for three competitor companies.

<b>Exhibit 1</b>		
<b>London Star Refuse Company, Ltd.</b>		
<b>Selected Financial Data</b>		
<b>as at December 31</b>		
<b>(in £ millions)</b>		
	<b>2012</b>	<b>2011</b>
Cash and short-term investments	260	540
Total current assets	2,380	2,480
Total assets	22,570	21,480
Current liabilities	3,070	2,485
Total short-term and long-term debt	9,125	8,675
Total liabilities	16,500	15,215
Earnings before interest and taxes	1,520	1,630
Net income	980	950
Net cash flow provided by operating activities <sup>(1)</sup>	2,450	2,470
Cash paid for taxes	(480)	(470)
Cash paid for interest	(510)	(630)
Net cash flow provided by (used in) investing activities	(2,185)	(1,606)
<sup>(1)</sup> Includes cash paid for taxes		

**Exhibit 2**  
**Ratios for LSRC's Competitor Companies**

<b>Metric</b>	<b>Company 1 (%)</b>	<b>Company 2 (%)</b>	<b>Company 3 (%)</b>
Balance-sheet-based accruals ratio	14.3	12.8	11.4
Cash-flow-statement-based accruals ratio	10.7	9.2	6.3

Minor then reviews LSRC's financial statements for the year ended 31 December 2012 and discovers that the company uses derivatives to hedge against exposure to the following risks:

Risk 1: LSRC leases out assets to waste management firms. At the end of the leases, the lessee firms return those assets to LSRC, and the company faces the risk of realizing their estimated residual values. LSRC hedges against the uncertainty in recovering the estimated residual values of those assets.

Risk 2: LSRC faces potentially higher energy costs and its negative impact on future cash flows. The company uses derivatives to hedge against this risk.

Risk 3: LSRC uses derivatives to hedge against foreign currency exposure related to the company's investment in its Chinese subsidiary, Shanghai Refuse.

Continuing her assessment of the quality of LSRC's earnings, Minor takes note of the following changes in some of the company's accounts and metrics.

1. Recently, the company's days sales outstanding (DSO) has shown a dramatic improvement as a result of securitizing a large portion of its receivables.
2. During the most recent three quarters, there have been large decreases in unearned revenues.
3. Compared with the past, the company has increased the provisions for doubtful accounts.

37. LSRC's ratio of operating cash flow before interest and taxes to operating income during 2012 is *closest to*:

- A. 1.3.
- B. 1.9.
- C. 2.3.

38. LSRC's balance-sheet-based accruals ratio in 2012 is *closest to*:

- A. 1.7%.
- B. 2.4%.
- C. 3.6%.

39. LSRC's cash-flow-statement-based accruals ratio in 2012 is *closest to*:
- A. 1.8%
  - B. 3.2%
  - C. 4.9%
40. Based on Exhibit 2, the competitor that has the *best* earnings quality is Company:
- A. 1.
  - B. 2.
  - C. 3.
41. In accounting for the use of derivatives against the three risks that Minor has discovered, the entire gains or losses from the derivatives will *most likely* bypass LSRC's income statement for Risk:
- A. 1.
  - B. 2.
  - C. 3.
42. Which of the three changes in the company's accounts and metrics noted by Minor is *least likely* a warning sign concerning LSRC's quality of earnings? The change relating to:
- A. DSO.
  - B. unearned revenues.
  - C. provisions for doubtful accounts.

**Questions 43 through 48 relate to corporate finance**

**Aubrey Yacht Manufacturers Case Scenario**

---

Jack Aubrey and his brother Charles are cofounders of Aubrey Yacht Manufacturers of Miami, Florida. The company specializes in the production of yachts in the \$200,000 to \$800,000 price range. The Aubrey brothers took the company public in 1998, and its shares are now traded on NASDAQ under the symbol AYM. Jack is the president, and Charles is the CEO and chairman of the board.

Demand for yachts in AYM's price range was strong during 2007, but a six-month strike, which started in June of that year, allowed the company to reduce its finished goods inventory substantially by year end. During the 2008 recession, with demand falling, the company responded by reducing inventory and began to modify its capital structure from its long-run average of 25% long-term debt-to-equity until all of its outstanding long-term debt was finally repaid in 2009.

Earnings and dividends had been growing strongly until the strike occurred. The company paid its first dividend in 2003 but discontinued it soon after the strike began. Exhibit 1 shows the history of the company's earnings per share (EPS) and dividends per share (DPS) since 2003.

<b>Exhibit 1</b>  <b>Aubrey Yacht Manufacturers</b>  <b>Earnings and Dividend History</b>  <b>for years ending 31 December</b>  <b>2003–2012</b>										
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>EPS (\$)</b>	4.18	4.52	4.77	5.05	5.18	2.60	2.40	3.50	4.80	5.50
<b>DPS (\$)</b>	2.17	2.31	2.48	2.58	2.64					

During 2012, sales of yachts in the company's price range had recovered, and Jack Aubrey feels confident that the company will be able to reinstate its dividend in 2013. He also wants to ensure that future dividends are not cut, as they were in 2008, and he plans on determining dividends with a target payout adjustment model using a five-year period to adjust toward the target.

His estimates and proposed payout plan are provided in Exhibit 2.

<b>Exhibit 2</b>  <b>Jack Aubrey's Estimates of Future Earnings and Dividends</b>  <b>and Proposed Long-Run Dividend Policy</b>		
	<b>Earnings</b>	<b>Dividends</b>
For 2013	\$6.60/share	\$3.42/share
For 2014	\$8.05/share	
<b>Proposed Long-Run Dividend Policy, Beginning in 2014</b>		
Long-run target payout	35%	
Adjustment factor toward five-year target	0.20 per year	

Steve Maturin is the CEO of Standard Marine Containers, a manufacturer of plastic pallets and crates used in marine shipping. He is one of the four independent directors on the board of AYM; the board consists of eight directors, with only the Aubreys ever having had an employment relationship with the company. Maturin has been a close friend of Charles Aubrey since childhood, and Jack Aubrey is a director at Standard Marine Containers.

Charles, Maturin, and their families had just returned from a two-week cruise to Bermuda on the company's best yacht. Maturin informed Jack that the weather on this year's trip was much better than last year and that he was well rested and ready to tackle some thorny issues in AYM's first board meeting of the year.

Maturin said: "In particular, alternatives to paying dividends, moving to a staggered board of directors, and the company's financing mix are items of great interest to me."

Maturin said that on reviewing the company's share price behavior during the 2003 to 2007 period, he found that when the shares went ex-dividend, they normally fell by about \$0.68 per \$1.00 of dividend paid.

Jack Aubrey reminded everyone about the results of a survey that had been conducted last year on a large sample of the company's investors. It had indicated that, on average, the investors' tax rate on capital gains was 23%, but their tax rates on dividends varied widely across the sample.

Jack asked Maturin: "If these tax results had also applied to the time period for which you reviewed the ex-dividend share price behavior, what would have been the marginal tax rate on dividend income for those trading the company's shares around the ex-dividend date?"

Maturin said he would answer Jack's question later and continued: "I've been thinking that our current annual election of the board is not in the best interests of our shareholders, and we should be moving to a staggered board for the following reasons:

1. the company would be less likely to resist hostile takeover attempts with a staggered board,
2. it would ensure the continuity of the knowledge and experience in the company that is so essential for good corporate governance, and
3. it would provide board members more time in getting to understand the needs of shareholders and be in a better position to align their interests with them."

Maturin concluded his remarks by saying: "Although the company has not used any long-term debt since 2009, I would like to see the company use long-term debt again. It should issue long-term debt and repurchase shares to return to its historical level of 25% debt-to-equity. We should be able to issue long-term debt at a before-tax cost of 5%, and this should not materially increase the costs of financial distress, agency costs, or asymmetric information. With our current cost of equity at 12% and a 30% tax rate, our weighted average cost of capital should drop, enhancing shareholder value."

43. The dividend policy that was used by Aubrey Yacht Manufacturers (AYM) until the strike occurred is *best* described as a:

- A. stable dividend policy.
- B. residual dividend policy.

C. constant dividend payout ratio policy.

44. Using Aubrey's estimates in Exhibit 2, and assuming that the company adopts his suggested dividend policy, the company's 2014 dividends per share will be *closest* to:

- A. \$3.49.
- B. \$3.52.
- C. \$4.17.

45. Which of the following factors *best* supports Maturin's classification as an independent director of AYM?

- A. Maturin's employment history with the company
- B. Personal relationship between Maturin and Charles
- C. Jack's membership on the board of Standard Marine Containers

46. The *best* response that Maturin could give to Jack Aubrey's question about the marginal tax rate on dividend income is that it was:

- A. 15.6%.
- B. 32.0%.
- C. 47.6%.

47. Which of Maturin's reasons for adopting a staggered board is *most* consistent with best practices of corporate governance?

- A. Reason 1
- B. Reason 2
- C. Reason 3

48. Using Maturin's assumptions, the company's weighted average cost of capital under his proposed financing plan would be *closest* to:

- A. 9.8%.
- B. 10.3%.
- C. 11.3%.

#### Questions 49 through 60 relate to equity investments

##### **Fargo Durum Farmers Case Scenario**

---

Minneapolis Viking Arbitrageurs, LLC (MVA), is a fledgling U.S.-based hedge fund with slightly more than \$50 million under its management. MVA specializes in owning and managing small-sized properties in agriculture, forestry, and mining.



Jim Hester, MVA's M&A analyst, is evaluating Fargo Durum Farms, Inc. (FDF) for a potential acquisition. FDF owns 1,500 acres of fertile land, farm buildings, machinery, residential quarters, livestock, cattle feed, seeds, grain, significant amounts of intangible assets, and so forth. Selected data from FDF's income statement for the year ended December 2012 and additional estimates compiled by Hester are presented in Exhibits 1 and 2.

**Exhibit 1**

**FDF's Select Financial Data for the Year Ended December 2012**

Gross revenues from crops, livestock, feed, etc.	\$2,500,000
Cost of goods sold	1,000,000
Selling, general, and administrative expenses (SG&A)	900,000
Depreciation and amortization	200,000
Tax rate	30%

Notes:

- i) FDF carries debt in the amount of \$750,000 at an interest rate of 8%, and it comprises 30% of total assets on a book value basis. Debt will be a part of the acquisition transaction.
- ii) FDF holds \$200,000 in cash and short-term investments, but it will not be a part of the assets under acquisition transaction.

**Exhibit 2**

**Additional data and Hester's estimates for normalization**

1.	The cost of goods sold ratio should be higher at 45%
2.	SG&A includes \$400,000 in owners' compensation. According to Hester's research, owners' compensation expense for similar-sized farms is \$200,000.
3.	A ranch and living quarters are not required for the farm's core operations. The reported SG&A expenses include \$125,000 (\$25,000 toward depreciation and \$100,000 for operating expenses) relating to those properties. The ranch and living quarters will be kept by the current owners and are not a part of FDF's farming operations being considered for purchase by the hedge fund.
4.	For pro forma estimations, Hester will consider depreciation and amortization at 10% of gross revenues. He thinks the current tax rate of 30% to be reasonable.

First, Hester assesses FDF's normalized operating income after tax. Next, Hester values FDF's equity starting with the free cash flow to the firm (FCFF) with the data and assumptions in Exhibit 3.

<b>Exhibit 3</b>		
<b>FDF's data and estimates for valuing its equity</b>		
1.	Free cash flow to the firm (FCFF) for next year (2013)	\$336,250
2.	FCFF's annual growth rate for the foreseeable future	5%
3.	FDF's debt holding at an interest rate of 8.0% per year	\$750,000
4.	FDF's weighted average cost of capital (WACC)	11.5%
5.	FDF's cost of equity	14.0%

Hester presents his initial assessment and valuation of FDF to MVA's investment committee. The comments and suggestions from some members on the committee are as follows.

Xavier Moreno, commodities analyst, suggests the use of excess earnings method (EEM) for valuing FDF and makes the following three statements in support of his preference:

1. EEM involves estimating the earnings remaining before deducting amounts that reflect the required returns to the tangible assets.
2. EEM is a widely used method for pricing entire private businesses, such as FDF.
3. EEM is especially useful for valuing FDF because it allows for valuing working capital, fixed assets, and intangibles using different discount rates.

Jamal Bahrami, the external consultant on the committee, differs from Hester and prefers the use of free cash flow to equity (FCFE) model. Further, he develops his own estimates for valuing FDF's equity:

- Owing to the continued strength in the global demand for wheat, FDF will experience a higher annual growth rate of 10% for 2013 and 2014; thereafter, it will grow at a constant rate of 6% per year.
- Next year (2013), FDF will realize \$1,000,000 in cash flow from operations.
- To support its high-growth needs, FDF will require \$400,000 in new capital investment next year.
- In 2013, the company would need additional borrowing in the amount of \$250,000 at an interest cost of 8%.
- Because of illiquidity and small-firm risk premiums, the appropriate WACC and required return on equity will be higher at 12.9% and 16%, respectively.

Hester made a cash offer of \$9 million for acquiring FDF. But the Mahoney brothers decided to make a counter offer, and they approached Joselyn Olsen, a reputable agriculture industry analyst at the Red River Valley Consultants, LLP, for her assessment of FDF's value.

Olsen prefers the guideline transactions method (GTM) using next year's expected EBITDA to value FDF, and she estimates the following from the company data, market information, and her own assessments.

- ✓ FDF's expected EBITDA for 2013 = \$924,000.
- ✓ Three recent purchase transactions of similar farms in North Dakota indicate an average MVIC (market value of invested capital) to EBITDA multiple of 9.0.
- ✓ FDF commands a 30% control premium.
- ✓ FDF need not incur any additional capital expenditures or borrowing (*Note*: Currently, FDF carries debt in the amount of \$750,000 at an interest rate of 8%).

Olsen justifies her choice of the GTM approach in the following three statements:

1. The GTM approach works well for valuing FDF because it uses a multiple that specifically relates to sales of entire companies. SFAS No. 157 presents a fair value hierarchy that gives the highest priority to market-based evidence.
2. Most appraisers readily accept the valuation from GTM approach because of the reliability of transactions data.
3. The market approach to determine the value of equity is appropriate even for companies with highly leveraged financial conditions or significant volatility expected in future financial performance.

Satisfied with Olsen's valuation and her methodological choice, the Mahoney brothers move ahead with their counteroffer to Hester.

49. Using the company's data, Hester's assessments, and estimates in Exhibits 1 and 2, FDF's normalized operating income after taxes for the year 2012 is *closest* to:

- A. \$325,500.
- B. \$367,500.
- C. \$402,500.

50. Using the data and assumptions in Exhibit 3 compiled by Hester, FDF's value of equity as at the end of 2012 is *closest* to:

- A. \$2,986,111.
- B. \$4,423,077.
- C. \$4,681,731.

51. With regard to Moreno's three statements, he is *most* accurate with respect to the statement concerning:

- A. required returns to tangible assets.
- B. valuing the entire private businesses.
- C. the use of different discount rates for valuation.

52. According to the approach preferred by Bahrami and using the estimates developed by him, the value of FDF's equity as of 31 December 2012 is *closest* to:
- A. \$8,554,891.
  - B. \$8,793,104.
  - C. \$12,755,292.
53. The value of FDF's equity as at the end of 2012, according to the approach and estimates by Olsen, is *closest* to:
- A. \$7,566,000.
  - B. \$10,060,800.
  - C. \$10,810,800.
54. Which of Olsen's three statements justifying her choice of GTM approach is *most* accurate?
- A. Statement 1
  - B. Statement 2
  - C. Statement 3

### Rivera Case Scenario

---

Louisiana High Growth Investors (LHGI), a large hedge fund in New Orleans, Louisiana, United States, is considering the purchase of Black Tiger Prawns Inc. (BTP), a publicly traded company headquartered in the same city, for \$500 million. BTP's revenues and earnings are cyclical, from both seasonal and business cycle effects. BTP is a small-cap firm, and its stock trades thinly on the OTC market.

As a part of the analysis, Jose Rivera, equity analyst at LHGI, compiles the data presented in Exhibit 1 (Panel A) and estimates the forward-looking equity risk premium using the Gordon growth model. To the risk premium he has computed, Rivera adds 1.50% to account for the additional small-firm risk premium associated with BTP.

Rivera shows his computations to Kamini Royappa, chief investment officer. Royappa suggests that the macroeconomic model with supply-side analysis, using the Ibbotson–Chen format, provides a better estimate for BTP's risk-premium. She also suggests that BTP commands a 0.75% risk premium for its thin trading in addition to the small-firm risk premium that Rivera has already considered. Following the suggestions by Royappa, Rivera collects additional data presented in Exhibit 1 (Panel B).

<b>Exhibit 1</b>	
<b>Data for forward-looking risk premium estimates</b>	
<b>Panel A: Data for the Gordon growth model (GGM)</b>	
Current price level of the market index	1,480.00
Current year's dividend on the market index	\$31.25
Year-ahead forecasted dividend on the market index	\$33.60
Long-term earnings growth rate for the market index	6.00%
Current long-term government bond yield	4.00%
Current short-term government bond yield	2.75%
<b>Panel B: Data for the macroeconomic model using Ibbotson–Chen format</b>	
Expected growth rate in real earnings per share	3.00%
Expected growth rate in P/E	1.50%
Expected income component	2.50%
Expected TIPS yield	2.15%
Expected inflation	1.81%
TIPS = Treasury Inflation Protected Securities	

Further, Royappa says, “In addition to the forward-looking estimates of the equity risk premium for BTP, you should also compute historical estimates of risk premium for the stock. Note, however, the following three caveats as you undertake computations, especially when using the CAPM approach:

1. Compared with the geometric mean return, the arithmetic mean return is consistent with the assumptions of single period models, such as CAPM.
2. In almost all cases, the equity risk premiums based on long-term government bonds tend to be smaller than those based on short-term government bonds.
3. Make sure to adjust the risk premium upward if the market index has experienced the survivorship bias as a result of removing poorly performing companies.”

Next, Rivera presents his assessment of risk premium for BTP to the investment committee and asks for the committee's advice regarding approaches to valuing BTP. Katrina Smirnoff, portfolio manager, prefers the use of two multiples-based approaches—the justified P/B and EV/EBITDA—for BTP. Furthermore, she makes the following three statements regarding different relative valuation approaches:

1. In assessing BTP's trailing P/E, be sure to adjust for its countercyclical property, called the Molodovsky effect.
2. The PEG (P/E-to-growth) is a better measure than P/E because it correctly accounts for differences in risk and the duration of growth between BTP and its peers.
3. Note that BTP's return on equity (ROE) is much higher than its peers. Therefore, on the basis of justified P/B, BTP will appear overvalued relative to its peers with the same P/B.

Additionally, Smirnoff suggests that Rivera should adjust BTP's multiples reflecting a 25% discount for additional risks because of its small size and thin trading. Rivera agrees with Smirnoff and collects the data needed (see Exhibit 2).

<b>Exhibit 2</b> <b>BTP's Selected Financial Data</b> <b>(\$ millions)</b>			
Net income	20	Book value of equity	100
Interest	5	Market value of equity	250
Taxes	10	Long-term debt	150
Depreciation	80	Cash	50
Amortization	15	Required return on stock	11.0%
Earnings growth rate	5.5%	Weighted average cost of capital	9.0%

55. Using the appropriate data in Exhibit 1 and Rivera's adjustment, the risk premium for BTP stock according to the Gordon growth model is *closest* to:

- A. 5.61%.
- B. 5.77%.
- C. 7.02%

56. Using the appropriate data in Exhibit 1 for the macroeconomic model and the adjustments considered by Rivera and Royappa, the risk premium for BTP stock is *closest* to:

- A. 5.62%.
- B. 7.19%.
- C. 7.54%.

57. Which of the three caveats regarding the historical estimates of risk premium that Royappa has stated is *least* accurate? Her:

- A. Caveat 1.
- B. Caveat 2.
- C. Caveat 3.

58. Which of the three statements regarding relative valuation approaches that Smirnoff has stated is *most* accurate? His statement concerning the:

- A. P/E.
- B. PEG.
- C. justified P/B.

59. Using the data in Exhibit 2 and the adjustment suggested by Smirnoff, BTP's justified P/B is *closest* to:

- A. 1.98.
- B. 3.11.
- C. 3.30.

60. Using the data in Exhibit 2 and the adjustment suggested by Smirnoff, BTP's EV/EBITDA multiple is *closest* to:

- A. 2.02.
- B. 2.31.
- C. 3.36.