

## 2012 Level II Mock Exam: Morning Session

The morning session of the 2012 Level II Chartered Financial Analyst (CFA)<sup>®</sup> 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.

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## Adam Case Scenario

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Nine months ago, Makenna Adam, CFA, was dismissed from her job as an equity research analyst with Transcontinental Brokerage Company, a publicly listed nationwide stock brokerage company. Unable to find new employment, Adam establishes an Internet-based business, Adam Research Ltd, selling research reports to individuals, institutional investors, and sell-side financial services companies.

Adam recognizes she must make numerous disclosures on her website to comply with the CFA Code of Ethics and Standards of Professional Conduct and the CFA Institute Research Objectivity Standards. She feels it is important to comply with the Standards to help improve her business prospects. Adam clearly displays the following claim on the home page of Adam Research Ltd's website:

"Adam Research Ltd complies with the CFA Institute Research Objectivity Standards. This means investors can be assured all research is accurate, although actual outcomes may differ from forecasted outcomes. Our research reports clearly distinguish between facts and opinions by the analyst writing the research report."

Also clearly displayed on the home page is an additional disclosure regarding potential conflicts of interest:

"Adam Research Ltd and/or its employees and associates may from time to time hold shares in any of the companies we cover. Please contact us for disclosure concerning our share positions."

In addition, Adam creates a stock rating system, posting it on the website for her clients and potential clients so they understand the basis for how Adam Research recommendations are made. She thoroughly describes the rating system as follows: The firm uses different recommendation categories (i.e., outperform, neutral, and underperform) along with an indication regarding risks for each type of investor, time horizons, and the time frame in which the shares are expected to reach their target price.

Adam realizes she must produce research reports quickly to have product to sell. Adam's first report covers her former employer, Transcontinental, and is based in part on last year's annual report. Because she is a former employee and a shareholder in Transcontinental, Adam is convinced she knows all aspects of the company very well and decides not to meet with Transcontinental management. She publishes the report clearly stating she is a former employee and current shareholder. To drive traffic to her website, she allows free access to the report, leaving it on the site even after Transcontinental reports its year-end financial results. She receives an excellent response, with roughly 45% of her marketing list downloading the report.

The Transcontinental report captures the attention of investors due to its strong "buy" recommendation, in contrast to other analyst reports recommending a "sell." As a result, Adam is

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invited to participate in an interactive Internet chat room, where she recommends a “buy” for Transcontinental. Due to limited time, she only discloses her former employment at Transcontinental and uses the rest of the time to advertise Adam Research. On several occasions Adam mentions her website’s URL address.

To expand Adam Research’s research capability after obtaining new clients, Adam hires two analysts. Recognizing the need to have written implementation policies, as Adam is no longer the only one writing research reports, she creates policies and provides them to the new employees before posting them on the Adam Research website for clients to download. These policies are provided below in Exhibit 1.

**Exhibit 1**  
**Adam Research Ltd Company Policies and Procedures**

<b>Policy Type</b>	<b>Content Description</b>
Research Objectivity Policies	This document describes the process required to determine if there is independence and objectivity in the firm’s research, with instructions to make this policy available to all investors and employees. Procedures cited include supervisory procedures to ensure compliance, annual attestation, and adherence to internal audit requirements.
Compliance and Enforcement Policies	This document describes compliance policies and procedures to ensure research objectivity and lists all activities considered to be violations and the resulting disciplinary sanctions, including dismissal from the firm.
Personal Investments and Trading Policies	These policies are designed to manage covered employees’ personal investments and trading activities to ensure the interests of the clients are always placed before the company, its employees, and their immediate families, including prohibition of front running and participation in subject company IPOs. In addition, covered persons are banned from trading against the company’s recommendations unless for financial hardship reasons. All trades must be approved in advance.

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1. Does the reference in Adam Research’s website to the CFA Institute Research Objectivity Standards *most likely* reflect the objectives of these Standards?
    - A. No
    - B. Yes, because Adam states actual outcomes may differ from forecasted outcomes
    - C. Yes, because Adam clearly states analyst opinions are distinguishable from facts

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2. Adam Research's website disclosure regarding potential conflicts of interest *least likely* meets the recommendations for compliance with the CFA Institute Research Objectivity Standards concerning the:
  - A. plain language.
  - B. prominent display.
  - C. comprehensiveness.
3. Which category of Adam Research's rating system could *most likely* be improved to meet the recommendations for compliance of the CFA Institute Research Objectivity Standards?
  - A. Risk
  - B. Time horizon
  - C. Rating category
4. The research report on Transcontinental *most likely* meets CFA Institute recommendations for compliance with Research Objectivity Standards with regard to:
  - A. reasonable and adequate basis.
  - B. relationships with subject companies.
  - C. timeliness of research reports and recommendations.
5. Did Adam's participation in an interactive Internet chat room *most likely* comply with CFA Institute recommendations for compliance with ROS and Standards of Professional Conduct?
  - A. Yes
  - B. No, because she did not make sufficient disclosures
  - C. No, because she is trying to manipulate the share price
6. Which of Adam Research's company policies and procedures given in Exhibit 1 *least likely* complies with the CFA Institute Research Objectivity Standards?
  - A. Research Objectivity
  - B. Compliance and Enforcement
  - C. Personal Investments and Trading

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## Robyn Lawrence Case Scenario

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Robyn Lawrence is a senior quantitative analyst in the Global Derivatives Group of Ridgeview Capital, an investment management firm based in New York City. Lawrence is conducting a training session for two recently hired analysts, Wilma Kaplan and Anita Mehra. At the meeting, Kaplan and Mehra are asked questions about the Berkeley Corporation and are provided with the information in Exhibit 1.

**Exhibit 1**  
**Stock and Options Data for Berkeley Corporation**  
**and Risk-Free Interest Rate**

Current Call Price	\$2.30
Current Put Price	\$4.70
Exercise Price	\$130.00
Days to Expiration*	60
Current Stock Price	\$128.55
Up Move on Stock	15%
Down Move on Stock	10%
Risk-Free Interest Rate	3%

\*Note: Assume a 365-day year.

Lawrence begins the meeting by stating:

Statement 1:

“You have both been asked to use the information provided in Exhibit 1 to perform certain calculations. One of your tasks was to calculate the synthetic values of call and put options for Berkeley Corporation. Can one of you tell me why it is useful to construct and value synthetic calls and puts?”

Kaplan responds, “Deriving synthetic values enables us to determine whether it is possible to earn arbitrage profits. For example, if we find that the current call price is greater than the synthetic call price then we could earn an arbitrage profit by carrying out the following transactions: selling the call, purchasing the put, and taking short positions in the stock and the bond.”

The discussion then moves on to the Black–Scholes–Merton option pricing model. Lawrence states: “The Black–Scholes–Merton option pricing model is based on a number of assumptions, including: underlying prices follow a lognormal probability distribution, the risk-free rate is known and constant, there are no cash flows on the underlying, and the options being priced are European options. What are the other assumptions of this model?” Kaplan responds:

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“The other assumptions of the model are:

Assumption 1: There are no taxes or transactions costs.

Assumption 2: The volatility of the underlying assets change through time.

Assumption 3: The prices of the underlying asset follow a lognormal distribution.”

Lawrence continues the discussion: “In the Black–Scholes–Merton model, option prices for European calls and puts are impacted by a number of variables, including time to expiration, volatility, and the risk-free rate. Can one of you explain the effect of changes in these variables on the prices of European call and put options?”

Mehra responds: “Call and put prices are higher when volatility is higher, and call and put prices are lower for higher risk-free rates. However, while call options are higher for longer time to expiration, put option prices can be higher or lower the longer the time to expiration.”

Lawrence ends the meeting with the following statement:

Statement 2:

“An important option Greek that you should be familiar with is the option delta, because traders can use this to construct hedges to offset the risks of their option positions. You should note that for in-the-money call and put options, delta approaches 1 as the option moves toward expiration.”

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7. Based on the information provided for the Berkeley Corporation in Exhibit 1, the price of a synthetic 60-day call option with a \$130.00 strike price is *closest* to:
- A. \$3.25
  - B. \$3.88
  - C. \$5.52
8. Kaplan’s response to Lawrence’s Statement 1 is *most likely*:
- A. correct.
  - B. incorrect with regard to purchasing the put.
  - C. incorrect with regard to taking a short position in the stock.
9. Based on the information in Exhibit 1 and using a one-period binomial model, the value of a 60-day Berkeley Corporation call option with a strike of \$130.00, is *closest* to:
- A. \$6.67.
  - B. \$8.31.
  - C. \$9.00.

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10. Kaplan's response to Lawrence regarding the assumptions of the Black–Scholes–Merton model is *least likely* correct with respect to:
- A. Assumption 1.
  - B. Assumption 2.
  - C. Assumption 3.
11. Mehra's response to Lawrence is *least likely* correct with respect to the impact on call and put prices of:
- A. volatility.
  - B. the risk-free rate.
  - C. time to expiration.
12. Is Statement 2 by Lawrence *most likely* correct?
- A. Yes.
  - B. No, she is incorrect with respect to calls.
  - C. No, she is incorrect with respect to puts.

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## El Morro Case Scenario

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Raul Garcia, CFA, and Mateo Alonso are co-managers of El Morro U.S. Core Bond Fund. El Morro is a fixed income fund that is benchmarked against the U.S. Barclays Aggregate Bond Index. The fund and index contain securities in the Treasury, credit, asset-backed, and mortgage-backed sectors of the market.

Garcia and Alonso first discuss their expectations on the direction of interest rates. Garcia states: "Rates are attractive across the curve. The 7- to 10-year part of the curve looks expensive, but that should not deter us because it is driven by insurance companies hedging their liabilities." Alonso responds: "Interest rates for long maturity bonds look attractive; the risk premium appears to compensate us for the potential downside of adding duration. This premium is above the expected forward rates."

Garcia then asks Nora Costas, CFA, El Morro's corporate bond analyst, to evaluate securities in other sectors of the index. Costas offers the following observations comparing corporate bond analysis to credit analysis in other sectors:

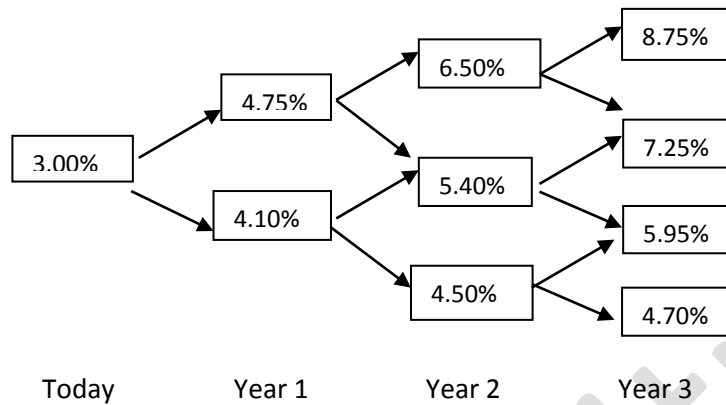
- Observation 1: Asset-backed securities (ABS) analysis is very similar in that it is important to assess not only the collateral but also the cash flow characteristics and the operating and business risks that impact these flows.
- Observation 2: Municipal revenue bond analysis is identical, as it requires an assessment of character of management, covenants, cash flow generation, and the underlying factors that generate these revenues.
- Observation 3: Sovereign debt analysis is very similar in that it requires the qualitative assessment of economic factors, and the willingness to pay as well as the ability to pay.

Alonso then focuses on the mortgage securities in the portfolio. He asks Costas to explain what the cash flow implications are for a pool of mortgages in the portfolio. Alonso describes the mortgages in the pool as having a 20-month average age, and the pool has a monthly mortality of 0.4353%.

Costas then offers to go over her valuation of a callable bond issued by a company she has been researching. The bond is callable at \$101.50 every year starting one year from today. She uses the data in Exhibit 1 for her valuation.



**Exhibit 1**  
**Binomial Interest Rate Tree (9% Volatility Assumed)**  
**for Valuing a \$100 Par Value 3-Year Callable Bond with a 6.25% Coupon**



Alonso tests Costas' knowledge of securitized transactions by asking her to explain the tranches of the ABS securitization in Exhibit 2.

**Exhibit 2**  
**ABS Structure**

Bond Class	Par Value (\$millions)
A1 (senior)	40
A2 (senior)	25
A3 (senior)	20
B (subordinate)	8
C (subordinate)	7
<b>Total</b>	<b>100</b>

Costas provides the following explanation: "This securitization is a sequential-pay transaction. As such, interest payments are paid to each bond class periodically. Principal repayments are applied first to the lowest tranche, in this case tranche C, to protect investors from prepayment risk. The senior-subordinate structure has been established for credit tranching to protect against defaults, with subordinated tranches sharing equally in any losses".

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Garcia then asks Costas which of the various valuation models would be most appropriate for assessing relative value. Costas responds: "It really depends on the characteristics of the security. As examples, consider the following three securities:"

Security A: 5%, non-callable 30-year corporate bond selling at a discount.

Security B: 4%, 20-year Ginnie Mae debenture callable in five years.

Security C: Zero-coupon, 10-year Treasury bond.

Costas explains that the most appropriate measures to use are a zero-volatility spread for Security A, an option-adjusted spread (OAS) for Security B, and a nominal spread for Security C.

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13. Which theory of the term structure of interest rates *least likely* explains the views of either Garcia or Alonso?
- A. Preferred habitat
  - B. Pure expectations
  - C. Liquidity preference
14. In comparing the analysis of corporate bonds to the analysis of fixed income securities in other sectors, Costas is *least likely* correct with respect to:
- A. Observation 1.
  - B. Observation 2.
  - C. Observation 3.
15. The prepayment estimate of the mortgage pool Alonso describes is *closest* to a PSA of:
- A. 85%.
  - B. 128%.
  - C. 131%.
16. Using the data in Exhibit 1, the current value of the callable bond Costas is analyzing is *closest* to:
- A. 101.40.
  - B. 104.61.
  - C. 105.56.
17. Costas' explanation of the securitization in Exhibit 2 is *least likely* correct with respect to:
- A. interest payments and losses.
  - B. losses and principal payments.
  - C. interest and principal payments.

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18. Costas is *least likely* correct with respect to the valuation measure for:

- A. Security A.
- B. Security B.
- C. Security C.

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## Hartmut Fischer Case Scenario

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Hartmut Fischer, age 30, is the founder and 100% owner of start-up firm High Vision Social Network (HVSN), based in Stuttgart, Germany. He is selling HVSN to global media and consumer goods giant PSMG AG (PSMG) for cash and stock. German tax rules allows Fischer to sell the firm without any tax obligation for capital gains.

Executive Wealth Management Associates (EWMA), a national investment and financial planning firm, is advising Fischer in his wealth planning and in the negotiations with PSMG. Although HVSN's internationally held stock is publicly traded large-cap equity, Fischer is restricted from selling his stock for at least five years and will remain as director of the German division.

As the transaction is being finalized, Fischer meets with Silvia Schilz, a portfolio manager at EWMA, to discuss his investment needs. He shares the following information with her:

"My income as director at PSMG will be more than enough to cover all of my living expenses and save at least €100,000 annually, so I do not plan to withdraw funds from my portfolio. I would have preferred selling HVSN for cash, but by accepting the restricted stock, the total sales proceeds were almost twice as much as in a cash sale. This is the first time I've ever had any amount of wealth, and I want to be sure that it lasts a long time. The portfolio will fund our retirement. I want my portfolio to show steady growth, averaging 7% to 9% annually, with moderate volatility. A list of my assets is shown in Exhibit 1:"

**Exhibit 1**  
**Fischer Family Assets**

Assets	Value
Personal home	€1,450,000
PSMG restricted stock from HVSN sale	€14,000,000
Cash from HVSN sale	€6,250,000

Schilz arranges a future meeting with Fischer to present specific recommendations and drafts an investment policy statement (IPS) with the following elements:

- 1) A 7% to 9% return objective
- 2) A 9% standard deviation risk objective
- 3) An appropriate time horizon that recognizes his objectives and constraints
- 4) No anticipated liquidity needs

EWMA uses proprietary diversified funds of funds (FOF) for each asset class. The funds can only be liquidated monthly. Individual stocks are typically only held pursuant to a client's direction. She narrows her choice of funds to the three funds, which are presented in Exhibit 2 along with EWMA's capital market assumptions:

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**Exhibit 2**  
Capital Market Assumptions

	Expected Return	Standard Deviation	Beta	Sharpe Ratio	Correlation with PSMG
PSMG stock	12%	20%	1.2	0.50	1.00
Large-Cap Equity Index Fund	12%	15%	1.0	0.67	0.90
EWMA Aggressive FOF	15%	13%	0.9	1.00	0.75
EWMA Alternative FOF	12%	15%	0.1	0.67	0.00
EWMA Short Assets FOF	9%	12%	-0.4	0.58	-0.75
Risk-free rate	2%				

Finally Fischer asks Schilz, "I would also be very interested in learning your opinion of PSMG as an investment, since it is such a large part of my portfolio." Schilz responds, "According to our capital market assumptions and the capital asset pricing model (CAPM), I find that PSMG stock is undervalued."

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19. The most appropriate time horizon that Schilz should include in the investment policy statement is:
- A. Five years.
  - B. A multi-stage period.
  - C. A single 35-year period.
20. Based on the IPS and Exhibit 2, which of the following elements of Fischer's investment policy is least likely to be satisfied?
- A. Risk tolerance
  - B. Liquidity needs
  - C. Return objective
21. Based on the data in Exhibit 2, which of the following would Schilz least likely include in her initial asset allocation recommendation?
- A. EWMA Aggressive FOF
  - B. EWMA Alternative FOF
  - C. Large-Cap Equity Index Fund
22. Based on the Sharpe ratio, which single EWMA FOF should be added to the PSMG stock holding in order to achieve the greatest mean-variance improvement for the resulting two-asset portfolio?
- A. Aggressive
  - B. Alternative
  - C. Short Assets

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23. If Fischer invests his available cash of €6,250,000 in the EWMA Short Assets FOF, the standard deviation of the two-asset portfolio is closest to:

- A. 11.3%.
- B. 14.3 %.
- C. 17.5%.

24. According to the CAPM, is Schilz's assessment of PSMG's valuation most likely correct?

- A. Yes.
- B. No, because PSMG is overvalued.
- C. No, because PSMG is fairly valued.

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## Shoshone Capital Case Scenario

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Shoshone Capital is a private equity firm that structures funds as limited partnerships for which it serves as the general partner. The funds focus on buyouts of publicly traded companies. Shoshone has produced a new marketing brochure that it will use to solicit capital investments. The first section of the brochure describes the common characteristics of buyout investments, including:

- Characteristic 1: The target firms generally have experienced management teams.
- Characteristic 2: There is often potential for substantial cost reductions in target firms.
- Characteristic 3: The deals are generally arranged through relationships with the existing shareholders.

Section 2 of the brochure discusses how Shoshone aligns its interests with those of the managers of its portfolio companies.

Shoshone's brochure provides an example of a typical acquisition, in which it purchases LUW, Inc. for \$160 million. After the acquisition, LUW's new capital structure consists of \$80 million in debt, \$65 million in preference shares, and \$15 million in common equity. After six years, Shoshone sells LUW, Inc. to another private equity firm for \$285 million.

The brochure also provides an example of a private equity fund called Tensleep Fund, which has committed capital of \$150 million, a management fee of 2%, carried interest of 20%, and a hurdle rate of 9%. Carried interest is paid on a deal-by-deal basis. In the example, the fund calls \$100 million in commitments at the beginning of the first year and invests \$40 million in Firm A and \$60 million in Firm B. At the beginning of the second year, it calls the remaining \$50 million and invests it in Firm C. At the end of the second year, the investment in Firm B is sold for \$70 million. At the end of the third year, the fund's investment in Firm A is worth \$54 million, its investment in Firm C is worth \$40 million, and it has \$46 million in cash.

The brochure concludes with the history of a second private equity fund called Pocatello Fund. The first five years of this fund's cash flows and distributions are presented in Exhibit 1.

### Exhibit 1 Pocatello Fund

#### Cash Flows and Distributions (USD million)

Year	Paid-In Capital	Mgmt Fees	Operating Results	NAV before Distributions	Carried Interest	Distributions	NAV after Distributions
2005	40	0.8	-3	36.2			36.2
2006	55	1.1	4	54.1			54.1
2007	80	1.6	11	88.5			88.5
2008	100	2.0	27	133.5	4.2	19	110.3
2009	125	2.0	34	167.3	6.6	38	122.7

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25. Which of the characteristics listed in the brochure regarding buyout investments is least likely correct?
- A. Characteristic 1
  - B. Characteristic 2
  - C. Characteristic 3
26. Which of these clauses is most likely to be included in Section 2 of Shoshone's brochure?
- A. Reserved matters
  - B. Liquidation preference
  - C. Tag-along, drag-along rights
27. When LUW, Inc. is sold by Shoshone, which part of its capital structure will most likely have decreased in size?
- A. Debt
  - B. Common equity
  - C. Preference shares
28. Compared to the exit route chosen, Shoshone's least likely alternate exit route for the LUW, Inc. investment is a(n):
- A. liquidation.
  - B. management buyout.
  - C. initial public offering.
29. The carried interest paid to the general partner of the Tensleep Fund at the end of the second year is closest to:
- A. \$0.
  - B. \$0.7 million.
  - C. \$2.0 million.
30. In 2009, the total value to paid in (TVPI) of the Pocatello Fund is closest to:
- A. 0.46×
  - B. 0.98×
  - C. 1.44×

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## Paul Charlent Case Scenario

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Paul Charlent works for a London-based merchant bank that specializes in assisting small and medium-sized companies in developing markets to place debt and equity issues with U.S. and U.K. investors. Charlent is conducting exploratory analysis regarding possible relationships between developing market equity returns and various U.S. and U.K. macroeconomic variables. He regresses monthly total returns of the Bangkok SET Index on one-month LIBOR (for a U.S. dollar–denominated contract). The period of the study is from July 2003 through December 2010. To improve the statistical validity of the variables, for both the SET index and LIBOR, Charlent uses the natural logarithms of one plus the monthly returns in the regression calculation. The results of the regression are shown in Exhibit 1 and Exhibit 2.

Exhibit 1	
Regression of SET Index on LIBOR	
$\ln(1 + SET) = \alpha + \beta \times \ln(1 + LIBOR) + \varepsilon$	
$\ln(1 + SET) = \alpha + \beta \times \ln(1 + LIBOR) + \varepsilon$	
Summary Output	
Regression Statistics	
Multiple R	0.1623
$R^2$	0.0263
Adjusted $R^2$	0.0152
Standard error	0.0729
Observations	89

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Exhibit 2							
Regression of SET Index on LIBOR							
$\ln(1 + SET) = \alpha + \beta \times \ln(1 + LIBOR) + \varepsilon$ $\ln(1 + SET) = \alpha + \beta \times \ln(1 + LIBOR) + \varepsilon$							
ANOVA							
	df	SS	MS	F	Significance F		
Regression	1	0.0125	0.0125	2.355	0.1285		
Residual	87	0.4624	0.0053				
Total	88	4499.91					
	Coefficients		Standard Error	t-Statistic	p-Value	Lower 95%	Upper 95%
Intercept	0.031		0.015	1.997	0.0489	0.010	0.061
LIBOR	−0.732		0.477	−1.535	0.1285	−1.679	0.216

Charlent suspects that his regression equation might not be well specified. In particular, he is concerned with the possibility that one or both of the time series in the regression exhibit a unit root. Using the Engle–Granger approach, he tests the residuals from the above regression and rejects the null hypothesis that the error term has a unit root.

Charlent next regresses the natural logarithm of one plus the SET Index monthly returns on the natural logarithm of one plus LIBOR, the natural logarithm of one plus the effective Fed funds rate, and the USD/GBP exchange rate. The results are reported in Exhibit 3 and Exhibit 4. Charlent recalls that the null hypothesis of no positive serial correlation is rejected if the calculated DW statistic is less than the lower critical value and that the null hypothesis of no negative serial correlation is rejected if the calculated DW statistic exceeds 4 minus the lower critical value.

Exhibit 5 reports the pairwise correlations of the variables used in the second regression.

Exhibit 3																			
<p><b>Regression of SET Index on LIBOR, Fed Funds, and USD/GBP</b></p> $\ln(1 + SET) = \alpha + \beta_1 \times \ln(1 + LIBOR) + \beta_2 \times \ln(1 + Fed Funds) + \beta_3 \times \$ / \pounds + \varepsilon$ $\ln(1 + SET) = \alpha + \beta_1 \times \ln(1 + LIBOR) + \varepsilon$																			
<p><b>Summary Output</b></p> <table> <tr> <th colspan="2">Regression Statistics</th></tr> <tr> <td>Multiple R</td><td>0.5544</td></tr> <tr> <td><math>R^2</math></td><td>0.3073</td></tr> <tr> <td>Adjusted <math>R^2</math></td><td>0.2829</td></tr> <tr> <td>Standard error</td><td>0.0622</td></tr> <tr> <td>Durbin Watson (DW) statistic</td><td>1.9566</td></tr> <tr> <td>DW upper critical value</td><td>1.73</td></tr> <tr> <td>DW lower critical value</td><td>1.59</td></tr> <tr> <td>Observations</td><td>89</td></tr> </table>		Regression Statistics		Multiple R	0.5544	$R^2$	0.3073	Adjusted $R^2$	0.2829	Standard error	0.0622	Durbin Watson (DW) statistic	1.9566	DW upper critical value	1.73	DW lower critical value	1.59	Observations	89
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Exhibit 4						
Regression of SET Index on LIBOR, Fed funds, and USD/GBP						
$\ln(1 + SET) = \alpha + \beta_1 \times \ln(1 + LIBOR) + \beta_2 \times \ln(1 + Fed Funds) + \beta_3 \times \$ / \pounds + \varepsilon$ $\ln(1 + SET) = \alpha + \beta_1 \times \ln(1 + LIBOR) + \beta_2 \times \ln(1 + Fed Funds) + \beta_3 \times \$ / \pounds + \varepsilon$						
ANOVA						
	df	SS	MS	F	Significance F	
Regression	3	0.1460	0.0486	12.572	7.03E <sup>-07</sup>	
Residual	85	0.3289	0.0039			
Total	88	0.4749				
	Coefficients	Standard Error	t-Statistic	p-Value	Lower 95%	Upper 95%
Intercept	0.152	0.077	1.977	0.0512	-0.001	0.304
LIBOR	-11.199	1.966	-5.697	1.711E <sup>-07</sup>	-15.107	-7.291
Fed funds	11.070	1.920	5.765	1.284E <sup>-07</sup>	7.252	14.888
USD/GBP	-0.063	0.048	-1.293	0.199	-0.159	0.034

**Exhibit 5**  
**Pairwise Correlations**

Variable	LIBOR	Fed Funds	USD/GBP
LIBOR	1.0000		
Fed funds	0.9814	1.0000	
USD/GBP	0.6872	0.6798	1.0000

Geoffrey Small, a colleague of Charlent, comments on the results of the two regressions. Small states that the highly significant *F*-statistic of the second regression along with the increased *R*<sup>2</sup> of the second regression means that the addition of the Fed funds rate and the USD/GBP exchange rate to the analysis provides more reliable estimates of linear associations than the first regression.

31. Based on the results in Exhibits 1 and 2, the *most* appropriate interpretation is that:
- A. there is a small but positive correlation between the SET Index and LIBOR.
  - B. the variation in LIBOR does not explain the variation in SET index returns.
  - C. LIBOR has a statistically significant linear relationship with returns of the SET Index.
32. Using Exhibit 2 and two-tail *t*-tests to determine if the coefficients are equal to zero, at the 0.05 significance level, the null hypotheses are most likely:
- A. rejected for both the intercept and the slope.
  - B. accepted for the intercept and rejected for the slope.
  - C. rejected for the intercept and accepted for the slope.
33. Using the regression equation results reported in Exhibit 2, if the value for LIBOR is 3%, and thus the  $\ln(1 + 0.03)$  is 0.02956, the point estimate of the associated return on the SET Index is closest to:
- A. -2.16%.
  - B. 0.90%.
  - C. 0.94%.
34. The most appropriate conclusion that follows from the result of the Engle–Granger test is that the two time series are:
- A. cointegrated, and tests of the estimates of the intercept and slope are therefore valid.
  - B. cointegrated, and tests of the estimates of the intercept and slope are therefore not valid.
  - C. not cointegrated, and tests of the estimates of the intercept and slope are therefore valid.
35. Based on Exhibit 3 and Exhibit 4 and the reported Durbin Watson statistic, the most appropriate conclusion is:
- A. serial correlation is not significant, and the standard errors are unbiased.
  - B. significant serial correlation is present, and the standard errors are likely to be overestimated.
  - C. significant serial correlation is present, and the standard errors are likely to be underestimated.
36. Regarding Geoffrey Small’s statement about the second regression, which of the following is least accurate?
- A. The *F*-statistic of the second regression is likely overestimated.
  - B. Small is incorrect because the second regression displays multicollinearity.
  - C. The second regression is an improvement, as both LIBOR and Fed funds show significant relationships to SET.

## Aeolus Controls AG Case Scenario

---

Karen Spaulding is the chief equity analyst at Shearson Woods. She was asked by Jim Tomlinson, the firm's chief investment officer, to carry out an analysis of the common shares of Aeolus Controls AG, a company that prepares its financial statements using IFRS.

Aeolus Controls produces a broad range of heating, cooling, and refrigeration products for global use. Its three major operating segments are home comfort products, industrial and building products, and transportation refrigeration units. Selected financial statement information for Aeolus is presented in Exhibits 1 and 2.

<b>Exhibit 1</b> <b>Aeolus Controls, AG</b> <b>Selected Financial Data</b> <b>as at December 31</b> <b>(in € Millions)</b>		
	<b>2010</b>	<b>2009</b>
Operating cash flow	2,449	3,229
Operating income	6,986	2,694
Sales	19,750	19,371
Interest expense	152	143
Operating lease payments	126	113
Cash interest paid	81	84
Cash taxes paid	532	496
Total assets	20,097	19,964
Capital expenditures	824	835
Expenditures on intangible assets	73	72
Current debt	2,271	2,599
Long-term debt	1,347	1,614
Total shareholder's equity	11,268	9,654

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Exhibit 2 Aeolus Controls AG Selected Notes to the Financial Statements	
Operations and Summary of Significant Accounting Policies	
Note 1. Revenue Recognition	
Revenue from the sale of goods is recognized in the income statement at the moment when the significant risks and rewards of ownership of the goods have been transferred to the buyer, which is mainly upon shipment. In special circumstances, at the customer's request, the company may sell products on a bill-and-hold basis provided that the product is ready for shipment. Such goods are segregated, and the risks of ownership and legal title have passed to the customer. This practice is limited only to customers who are government agencies who request it for budgetary and physical planning reasons. The amount of such bill-and-hold sales averages about 3% of consolidated sales annually.	
Note 7. Property, Plant, and Equipment	
Up until 31 December 2010, the company amortized its machinery and equipment on a straight-line basis over a 10-year expected useful life. As of 2011, the company's estimate of the useful life of certain machinery and equipment will be reduced to eight years.	
Note 12. Restructuring Charges	
In 2010, the company introduced an early retirement program for those employees who were 50 years of age or older who voluntarily left employment. A larger number of employees than anticipated accepted the offer, and the company recorded an expense of €10.5 million, of which €4.5 million was classified as nonrecurring.	
Note 18. Financial and Operating Leases	
A. Financial Leases	
The implicit interest rate on finance leases for 2009 and 2010 was 6.0%.	
B. Operating Lease Commitments (in € Millions)	
as of 31 December 2010	
Due 1 January: 2011, 2012, 2013, and 2014	130
Due 1 January 2015	80
Total of future lease payments thereafter*	320
Total Commitments	920
*After 2015, all lease payments are assumed to be the same as in 2015	

Spaulding tells Tomlinson that she suspects the recent increase in profitability is the result of earnings management. In support, she presents several ratios in Exhibit 3.

<b>Exhibit 3</b> <b>Aeolus Controls AG</b> <b>Selected Accrual, Cash Flow and Profit Ratios</b> <b>as at December 31</b>
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	2010	2009
Balance sheet accruals ratio	-7.6%	3.1%
Cash flow accruals ratio	10.5%	-1.1%
Operating cash flow ÷ Operating income	0.4	1.2
Revenue ÷ Cash collected ratio	99.8%	98.8%
Net profit margin	32.2%	11.0%

Tomlinson responds, "The comparison you have made between operating cash flow and operating earnings is biased upward when comparing to accrual based operating income."

Spaulding says, "Although the company could repay all of its debt and maintain reinvestment, if it chose to do so, there are off-balance-sheet issues to consider. I'm in the process of capitalizing the operating leases but so far have only calculated the adjusted long-term debt/equity ratio for 2009." It is shown in Exhibit 4.

Exhibit 4 Aeolus Controls, AG Long-Term Debt/Equity Ratios		
	Unadjusted	After Capitalization of Operating Leases
2009	17%	23%

Finally, Spaulding said that she was worried about the company's recent capital allocation decisions and earnings sustainability, as she suspects that the top-performing segments are being allocated a smaller proportion of capital expenditures than their proportion of total assets. She presents her findings in Exhibit 5.

Exhibit 5 Aeolus Controls, AG Segments Data						
	EBIT Margin		Segment Assets as a % of Total Assets		Segment Capex as a % of Total Capex	
	2010	2009	2010	2009	2010	2009
Home Comfort	13.8	13.6	7.2	7.2	29.0	35.9
Industrial & Building	20.5	20.4	25.7	29.0	6.4	4.4
Transportation Refrigeration	14.5	14.2	67.1	63.8	64.6	59.7

37. Which of the following accounting policies of the company would *most likely* lead Spaulding to be concerned about low quality earnings? The company's:
- A. revenue recognition practices.
  - B. change in depreciation methods.
  - C. classification of the early retirement expense.

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38. Based on Exhibit 3, which of the following statements is most appropriate?
- A. The company experienced more cash earnings than accounting earnings in 2010.
  - B. Tomlinson's comment about the bias in the cash flow to operating income ratio is correct.
  - C. The company's earnings quality has improved in 2010 according to the cash-flow-based accruals ratio.
39. Using 2010 data, if the company wished to pay off all of its debt while maintaining its current reinvestment policy, the number of years it would take to do so is closest to:
- A. 1.5.
  - B. 1.7.
  - C. 2.3.
40. Using the lease information in Exhibits 1 and 2, the company's adjusted long-term debt/assets ratio as of the end of December, 2010 is *closest* to:
- A. 10.1%.
  - B. 10.5%.
  - C. 10.8%.
41. The interest coverage ratio for 2009 after capitalizing the operating leases is *closest* to:
- A. 14.7.
  - B. 15.3.
  - C. 19.2.
42. During 2010, the company *most likely* allocated its capital expenditures on a growth basis to which operating segment?
- A. Home Comfort
  - B. Industrial & Building
  - C. Transportation Refrigeration

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## Peter Langer Case Scenario

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Peter Langer is a credit analyst with a national credit rating agency and is preparing a credit rating for a new client, Masson Enterprises Inc (Masson). Masson operates a chain of 250 retail stores specializing in the hardware and home renovation market. The mid-sized stores are located in suburban malls in the American North West. In 2009, Masson built a large distribution center near Seattle, Washington, U.S.A. that the company uses to supply the stores with its products, many of which are made in China. In 2010, Masson made an acquisition of a small regional chain of stores, which resulted in an increase in both assets and debt.

The home renovation industry has been particularly hard hit by an economic slowdown that started in 2010. Because Masson's year-end is October 31, the slowdown only had a small impact on 2010 results, but the full effect will be reflected in the 2011 results. Langer's assistant, Evelyn Aubry, has prepared projected results for 2011 for Masson based on third-quarter results and other information she obtained from the company. Masson prepares its financial statements according to U.S. GAAP.

With his concerns about the effects of the economic slowdown and the acquisition on Masson's financial results, Langer is trying to determine the appropriate credit rating for Masson. To start his analysis, Langer summarizes key information for the last two years along with Aubry's projections for 2011, see Exhibit 1.

**Exhibit 1**  
**Masson Enterprises Inc.**  
**Years Ended October 31**  
**(all figures \$ millions except ROE)**

Year	Sales	Net Income	Total Assets	Total Liabilities	Total Equity	ROE
2011p*	4,820	160	2,410	945	1,465	10.9%
2010	4,720	170	2,482	1,177	1,305	13.0%
2009	4,605	175	2,110	975	1,135	15.4%
*projections including the expected sale of the distribution center						

During a meeting, Aubry brings to Langer's attention two transactions undertaken in 2011:

1. A large portion of Masson's centralized purchases is received at the distribution center in December and January, so that they are available to be shipped to the stores for the home renovation market's peak season, spring. In anticipation of an increasing volume of purchases from China and to protect against the weakening U.S. dollar, Masson purchased futures contracts on the yuan.
2. Masson has announced that at the end of the final quarter of fiscal 2011, it will sell its distribution center to Sequoia Corporation (Sequoia), an enterprise established, but not controlled, by Masson.

Langer and Aubry discuss how she reflected the sale of the distribution center in her financial projections and its impact on Masson's ratios.

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Aubry explains:

- Masson is selling the distribution center for \$200 million and thus will record a \$30 million gain, which I reflected in my projections as an increase in net income in 2011. There will be no taxes on this gain due to the availability of loss carry forwards.
- The \$10 million in annual rent expense Masson will pay to Sequoia for use of the center is the same as the annual depreciation expense they were taking on the center. Because the sale is at the end of the fiscal year, I took a full year's depreciation for 2011.
- Masson plans to use the proceeds from the sale to pay off debts, so I reduced the total liabilities.
- The net book value of the center would have been \$170 million at year-end, so by removing it from the balance sheet, the company shows an increase in its asset turnover and thus its ROA.

Langer responds:

I believe, based on the terms of the agreement, that Sequoia will qualify as a variable interest entity (VIE) and Masson will be considered the primary beneficiary.

He summarizes the terms of sale as follows:

1. Masson has signed a 14-year lease for the center with Sequoia. The agreed-upon fair value of the center, for the transfer, is \$200 million, which Masson intends to use to pay down long-term debt.
2. Sequoia is financing the purchase of the center through borrowing arrangements totaling \$192 million with a group of financial institutions. The land and building are pledged as collateral against these loans, and Masson will provide unconditional guarantees as well.
3. In return for the guarantees, Masson is eligible to appoint the majority of the directors to Sequoia's board.
4. Masson will receive the majority of the profits of Sequoia and absorb the majority of the losses, if any.

He further continues:

If it is a VIE, I wonder what revisions would be necessary to your projections and how they would affect our ratio calculations (which are all based on year-end balances).

- 
43. The *most* appropriate way to account for the gains or losses on the futures contract that Masson bought is to record them in:
- A. other comprehensive income on a permanent basis.
  - B. net income in the period in which the gains and losses occur.
  - C. other comprehensive income, with recognition in net income when the transaction occurs.

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44. Based on Aubry's projected information, how will the 2011 ratio of cash flow from operations to net income be affected as a result of the sale of the distribution center, compared to if the sale has not occurred? If the center is sold, the ratio will *most likely* be:
- A. lower.
  - B. higher.
  - C. the same.
45. Based on Aubry's projected information, if the company does not sell the distribution center, Masson's 2011 total debt to assets ratio would be *closest* to:
- A. 36.6%.
  - B. 44.4%.
  - C. 47.5%.
46. Which of the terms of the sale of the distribution center outlined by Langer is *least likely* a reason that Sequoia would qualify as a variable interest entity (VIE) of Masson?
- A. 1
  - B. 2
  - C. 3
47. If Langer is correct in his belief about Sequoia, the *most* appropriate accounting treatment by Masson will be to:
- A. consolidate Sequoia.
  - B. disclose the arrangements in the notes to the financial statements only.
  - C. use the equity method to report Masson's proportional interest in the enterprise.
48. If Langer is correct in his belief about Sequoia being a VIE, the revised projected ROE for Masson in 2011 would be *closest* to:
- A. 8.9%.
  - B. 9.1%.
  - C. 10.9%.

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## National Plastics Case Scenario

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National Plastics Corp. is a leading manufacturer of high-quality injection-molded plastic packaging materials used in various industries, primarily in the food and beverage industry. In late November 2010, the company received approval for two important patent applications—one providing for improved tamper protection for plastic containers and another for an improved biodegradable plastic film that allows for better food preservation.

On 4 January 2011, Haines Foods and Snacks, Inc. launched a hostile takeover bid for all of the shares of National at \$30 per share (which was a \$5 premium in excess of the pre-bid price). Haines Foods is a national supplier of deli and dairy products. If its bid is successful, it plans to continue to operate National as a wholly owned subsidiary.

Zenith ThermoPlastics Inc. produces plastic containers and bags that are used in the food and beverage industry. Keith Whelan, who is both chief executive officer and chief financial officer of Zenith, had been in discussions with National to either purchase or license its newly patented technologies. As a possible alternative, in view of the Haines bid, Whelan began to consider having Zenith make its own takeover bid for National.

Whelan provided National's most recent financial statements, as indicated in Exhibits 1 to 3, to one of his assistants, Mike Noth, with directions to calculate National's free cash flow as a first step in determining the maximum value that Zenith should be willing to pay for National's shares, using the discounted cash flow approach.

**Exhibit 1**  
**National Plastics Corp.**  
**Selected Financial Data**

(\$ millions, except per share amounts)

For Year Ending 31 December	2010
Revenues	\$ 1,614
Cost of goods sold	841
Selling, general, and administrative expense	436
Earnings before interest, taxes, depreciation, and amortization (EBITDA)	337
Depreciation expense	61
Operating income	276
Interest expense	47
Pretax income	229
Income tax (32%)	73
Net income	\$ 156
Number of outstanding shares (millions)	60
2010 Earnings per share	\$ 2.60
2010 Dividends paid (millions)	\$ 37
2010 Dividends per share	\$ 0.62

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**Exhibit 2**  
**National Plastics Corp.**  
**Consolidated Balance Sheets**  
**(\$ millions)**

<b>At 31 December</b>	<b>2010</b>	<b>2009</b>
Cash and cash equivalents	\$ 8	\$ 5
Other current assets	315	295
Total current assets	323	300
Long-term assets, net	1,203	1,130
Total assets	<u>\$ 1,526</u>	<u>\$ 1,430</u>
Current liabilities	\$ 696	\$ 670
Long-term debt	562	611
Common stockholders' equity	268	149
Total liabilities and stockholders' equity	<u>\$ 1,526</u>	<u>\$ 1,430</u>

**Exhibit 3**  
**Other Financial Information for National Plastics Corp.**  
**31 December 2010**

Effective tax rate	32.0%
Cost of equity	12.0%
Weighted-average cost of capital	9.0%

Noth soon returns and points out that the free cash flows from National will differ in future years as a result of its new patents—just as Zenith wanted to license the technology, he suggests that other plastic firms would also be interested. Noth also suggests that since National has a lower debt-to-equity ratio than the rest of the industry, it could support more debt, and he has adjusted the weighted-average cost of capital accordingly. Noth's projected cash flows and other estimates are provided in Exhibit 4.

<b>Exhibit 4</b>					
<b>Estimates and Assumptions of Mike Noth</b>					
<b>Used in Valuing National Plastics as of January 2011</b>					
<b>(all numbers in \$ millions except WACC)</b>					
	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Thereafter</b>
End-of-year free cash flow to firm	170	165	180	195	Growth at 5% per annum
Weighted-average cost of capital	10.5%				
Total debt immediately following acquisition	650				

After a discussion about the appropriate cash flow estimates and discount rates to use in determining the value of National to Zenith, Whelan decided that Zenith should make a mixed offer for all of National's shares for \$35 per share, consisting of \$23 in cash and Zenith common stock with an exchange ratio of 0.24. The details of the offer are found in Exhibit 5.

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Exhibit 5		
Details of Zenith's Planned Tender Offer for All of National Plastics' Common Shares		
	National Plastics	Zenith ThermoPlastics
Pre-merger price	\$25/share	\$50/share
Shares outstanding	60 million	100 million
Tender offer	Zenith will pay \$35 per share for National, consisting of \$23 in cash and Zenith common shares with an exchange ratio of 0.24.	
Post-merger	Following the merger, Zenith's shares are expected to be priced at \$53/share.	
Synergies from merger	Zenith believes that most of the synergies arising from the merger result from National's new patents.	

Because National and Zenith are both based in the United States, Whelan also decided to have Noth calculate the pre- and post-acquisition Herfindahl–Hirschman Index (HHI) for the industry. Noth's HHI calculations were 1,910 pre-acquisition and 2,170 post-acquisition. Based on the HHI values, Whelan concluded that:

- the industry is currently highly concentrated,
- but under applicable U.S. law, an increase in the HHI of less than 300 should not generate any governmental challenges to block the acquisition of National.

When Whelan presented Zenith's proposed takeover to his board the following day, one of the directors made the following comments:

1. While I am certainly in favor of this takeover, I think we would achieve the greatest value from the acquisition if we offer more stock and less cash.
2. Over the next few years, this merger should be good for our company, as the empirical evidence from merger studies indicates that acquirers normally outperform their peers during the three years following a merger.

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49. If Haines Foods is successful in its attempt to acquire National Plastics, the business combination is *best* classified as which type of merger?

- A. Vertical, forward
- B. Vertical, backward
- C. Horizontal, conglomerate

50. National's free cash flow to the firm (FCFF) (in millions) for 2010 is *closest* to:

- A. \$104.
- B. \$121.
- C. \$182.

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51. Based on Noth's assumptions in Exhibit 4, the most that Zenith should be willing to pay for each share of National is *closest* to:
- A. \$40.
  - B. \$51.
  - C. \$60.
52. Based on Zenith's proposed tender offer and information in Exhibit 5, the synergy arising from this merger (in millions) is *closest* to:
- A. \$643.
  - B. \$943.
  - C. \$1,063.
53. The *most* accurate interpretation of Whelan's conclusions concerning the pre- and post-acquisition HHI is that they are:
- A. both correct.
  - B. incorrect in regard to the industry being highly concentrated.
  - C. incorrect in regard to the increase in HHI necessary to trigger a governmental challenge to the acquisition.
54. Which of the following statements made by the member of the Board of Directors is *most* accurate?
- A. Statement 1 only
  - B. Statement 2 only
  - C. Neither statement 1 nor 2

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## Western Investments Analytics Case Scenario

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Western Investment Analytics specializes in the valuation of thinly traded equities. Harriet Hilliard, one of Western's analysts, is currently working to establish the value of Hattie's Apparel, a small textile and clothing wholesaler headquartered in the southern United States. Hattie's Apparel is a publicly traded company; however, in a typical week fewer than 1,000 shares trade. Triway Textiles, Inc. is a NASDAQ-listed stock that very closely resembles Hattie's Apparel's business activities but is far more actively traded.

Exhibit 1 provides summary financial and economic data relating to Hattie's Apparel and Triway Textiles along with Hilliard's estimates of the responsiveness (i.e., the betas) of the companies to the factors of the Fama–French model [equity risk premium factor (RMRF); market capitalization factor (SMB); and book-to-market factor (HML)]. Exhibit 1 also includes a published estimate of the CAPM equity beta for Triway. Since Hattie's Apparel does not have a published estimate of its CAPM equity beta, as few analysts follow the stock, Hilliard computes it, noting the difference in leverage between Triway Textiles and Hattie's Apparel.

<b>Exhibit 1</b> <b>Hattie's Apparel and Triway Textiles</b> <b>Selected Financial Information</b>		
	<b>Hattie's Apparel</b>	<b>Triway Textiles</b>
Debt beta	0.00	0.00
Debt-to-equity ratio (market values)	45%	38%
Pretax cost of debt	9%	8%
Marginal tax rate	32%	32%
RMRF beta	0.82	0.75
SMB beta	0.75	0.00
HML beta	0.15	0.05
CAPM equity beta		0.75
Assumed constant growth rate ( $g$ )	3%	2.5%
Most recent price ( $P_0$ )	\$45.00	\$115.48
Most recent dividend ( $D_0$ )	\$2.75	8.45
Payout ratio	40%	55%

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Exhibit 2 provides Hilliard's estimates of market information relating to her analysis. Western's analysts typically use three models to estimate the required return on equity for the companies they evaluate: the Gordon growth dividend discount model (DDM), the capital asset pricing model (CAPM), and the Fama–French model (FFM). Nonetheless, in her work, Hilliard prefers to use the DDM-based estimate of the required return on equity when she calculates the weighted-average cost of capital (WACC) for companies such as Hattie's Apparel.

<b>Exhibit 2</b> <b>Additional Market Information</b>	
U.S. T-bill rate	1%
Equity risk premium	8%
Market capitalization factor	2%
Book-to-market factor	4%

Matthew Colbaugh, Hilliard's supervisor, recommends to Hilliard that she add two approaches to her analytical tool bag.

- First, he suggests using the Pastor–Stambaugh model (PSM) extension of the FFM.
- Second, he suggests that he would like to see a comparison of Hattie's Apparel's P/E-to-growth ratio (PEG) to Triway Textile's PEG. "Even if you base the PEG analysis on current prices, earnings, and estimates of growth rather than their forward-looking equivalents, the relative PEG of Hattie's Apparel compared to that of Triway Textiles is of interest to me," states Colbaugh.

Colbaugh also criticizes Hilliard's use of the published CAPM equity beta for Triway. Lastly, Colbaugh suggests that applying Blume's adjustment to Triway's published CAPM equity beta would improve the *ex ante* properties of her analysis.

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55. Using the information reported in Exhibit 1 and the approach Hilliard uses, the equity beta for Hattie's Apparel is *closest* to:

- A. 0.71.
- B. 0.79.
- C. 0.84.

56. Using the information reported in Exhibit 1 and Exhibit 2, the Fama–French estimate of the required return on equity for Hattie's Apparel is *closest* to:

- A. 8.0%.
- B. 8.7%.
- C. 9.7%.

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57. Using the values reported in Exhibit 1 and Hilliard's preferred approach, the WACC for Hattie's Apparel is *closest* to:
- A. 6.2%.
  - B. 7.9%.
  - C. 8.3%.
58. If Hilliard adopts Colbaugh's first recommendation regarding the use of additional analytical models, which of the following will she *most likely* incorporate into her analysis? An estimate of risk pertaining to:
- A. liquidity.
  - B. time horizon.
  - C. business cycle.
59. If Hilliard adopts the second recommendation of Colbaugh regarding additional analytical models, which of the following *best* describes the result? The metric suggested by Colbaugh:
- A. shows Hattie's Apparel is less attractive than Triway Textiles.
  - B. assumes that the relationship between P/E and growth is nonlinear.
  - C. fails to capture differences in risk between Hattie's Apparel and Triway Textiles.
60. According to the last suggestion made by Colbaugh, the CAPM equity beta for Triway Textiles is *closest* to:
- A. 0.83.
  - B. 0.86.
  - C. 0.92.

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