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## Chartered Financial Analyst Level 2

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## Topic Break Down

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## QUESTION NO: 1

A client of Colby Nash, CFA, wants to add an alternative asset class to his portfolio. However, the client is concerned that any investment in hedge funds may be far riskier and generate lower returns than is generally expected. Nash believes the client's attitude toward hedge funds was influenced by negative press coverage regarding fraud perpetrated by a few funds. Nash decided to conduct his own research on the risk/reward characteristics of hedge funds. Nash generated a report (shown in Exhibit 1) comparing several hedge fund strategies and a traditional investment benchmark; the S&P 500 index. Each hedge fund strategy is represented by an individual fund, which is used to measure risk and return over a ten year period. Nash also created a correlation matrix between hedge funds and the S&P 500 index, shown in Exhibit 2.

**Exhibit 1: Hedge Fund Comparison**

<i>Hedge Fund</i>	<i>Return</i>	<i>St. Dev.</i>	<i>Beta</i>	<i>Maximum Drawdown</i>
Long/Short Equity	14.6%	9.1%	0.1	-10.3%
Fixed Income Arbitrage	6.0%	4.1%	0.0	-14.4%
Equity Market Neutral	8.1%	3.2%	0.6	-9.7%
Distressed Securities	12.1%	5.6%	0.4	-12.8%
S&P 500 index	10.4%	15.5%	—	-44.7%

**Exhibit 2: Hedge Fund Correlation Matrix**

<i>Correlation Matrix</i>	<i>LSE</i>	<i>FIA</i>	<i>EMN</i>	<i>DS</i>	<i>SP</i>
Long/Short Equity (LSE)	1.00	—	—	—	—
Fixed Income Arbitrage (FIA)	0.07	1.00	—	—	—
Equity Market Neutral (EMN)	0.35	0.07	1.00	—	—
Distressed Securities (DS)	0.58	0.35	0.16	1.00	—
S&P 500 index (SP)	0.66	0.01	0.12	0.39	1.00

In addition to the statistics presented in the exhibits above, Nash created a hedge fund index to evaluate each fund's performance. Nash recognized the fact that several shortcomings exist in creating an adequate hedge fund index. To that end, Nash created an index in which all the hedge funds included in the index agreed to provide data that can be verified by Nash. Nash also set up strict rules for inclusion and removal of hedge funds into and out of the hedge fund index.

As a further improvement to his research, Nash created a positive risk-free rate benchmark to evaluate each hedge fund. However, his review of academic research indicated that the positive risk-free rate benchmark is only appropriate for a limited number of hedge fund strategies. The current risk-free rate is 4%.

Nash conducted a personal interview with the portfolio manager of the Fixed Income Arbitrage hedge fund. The portfolio manager disclosed that he exploited pricing inefficiencies between fixed income securities while hedging exposure to interest rate risk. The portfolio manager utilizes a convergence trading strategy, which assumes that the price difference between

two similar assets will narrow in the future. The portfolio manager is willing to invest in illiquid bonds if the opportunity presents itself.

in reviewing the correlation matrix (Exhibit 2), Nash concluded that the Fixed Income Arbitrage hedge fund would be an ideal addition to his client's current traditional investment portfolio. Nash's rationale was that a low correlation between the hedge fund and the S&P 500 index will assure that the fund's returns will be positive when the returns of the index are negative.

After reviewing Nash's research, the Director of Research at his firm inquired why he did not examine the value at risk (VAR) measure for the various hedge fund strategies. Nash stated that VAR is an ineffective statistical measure of risk when a hedge fund has high turnover or frequent changes in its strategy. In addition, Nash stated his belief that when the only input is historical data, VAR does not provide a reliable estimate of future risk.

Nash evaluated the hedge fund strategies using the positive risk-free rate benchmark. The positive risk-free rate benchmark would be most appropriate for:

- A. Long/Short Equity hedge funds.
- B. Fixed Income Arbitrage hedge funds.
- C. Equity Market Neutral hedge funds.

**ANSWER: C**

**Explanation:**

The positive risk-free rate benchmark can be justified by the fact that arbitrage strategies should be market neutral. A market neutral fund should earn the risk-free rate. The Equity Market Neutral hedge fund employs a strategy that is closest to a pure risk-free arbitrage. The investor expects the manager to use her skill to generate a return greater than the risk-free rate. It should be understood that the Equity Market Neutral hedge fund manager must take on some type of risk to generate excess returns. (Study Session 13, LOS 49-b)

**QUESTION NO: 2**

Sentinel News is a publisher of over 100 newspapers around the country, with the exception of the Midwestern states. The company's CFO, Harry Miller, has been reviewing a number of potential candidates (both public and private companies) that would provide Sentinel News entrance into the Midwestern market. Recently, the founder of Midwest News, a private newspaper company, passed away. The founder's family members are inclined to sell their 80% controlling interest. The family members are concerned that Midwest News's declining newspaper circulation is not cyclical, but rather permanent. The family members would reinvest the cash proceeds from the sale of Midwest News into a diversified portfolio of stocks and bonds. Miller's staff collects the financial information shown in Exhibit 1.

**Exhibit 1: Midwest News's Financial Information**

Total assets	\$92.5 million
Total debt	\$0
Total equity	\$79.5 million
Shares outstanding	1.5 million
Revenues	\$251.5 million
Net income	\$19.5 million

Miller noted that Midwest News does not pay a dividend, nor does the company have any debt. The most comparable publicly traded stock is Freedom Corporation. Freedom, however, has significant radio and television operations. Freedom's estimated beta is 0.90, and 40% of the company's capital structure is debt. Freedom is expected to maintain a payout ratio of 40%. Analysts are forecasting the company will earn \$3.00 per share next year and grow their earnings by 6% per year. Freedom has a current market capitalization of \$15 billion and 375 million shares outstanding. Freedom's current market value equals its intrinsic value.

Miller's staff uses current expectations to develop the appropriate equity risk premium for Midwest News. The staff uses the Gordon growth model (GGM) to estimate Midwest's equity risk premium.

The equity risk premium calculated by the staff is provided in Exhibit 2.

Miller believes the best method to estimate the required return on equity Midwest News is the build-up method. All relevant information to determine Midwest News's required return on equity is presented in Exhibit 2.

**Exhibit 2: Required Return Estimate Factors**

Risk free rate	3.5%
Equity risk premium	4.0%
Small size premium	3.5%
Specific-company premium	2.0%
Marketability premium	2.8%
Beta	1.2
Growth rate	3.0%

Miller considered two different valuation models to determine the price of Midwest News's equity: a single-stage free cash flow model and a single-stage residual income model.

Based on Exhibit 2 and using the build-up method, Midwest News's required return on equity is closest to:

- A. 13.0%.
- B. 13.8%.
- C. 15.8%.

**ANSWER: A**

**Explanation:**

= risk-free rate + equity risk premium + size premium + specific-company premium

$$r_i = 3.5\% + 4.0\% + 3.5\% + 2.0\% = 13.0\%$$

Control premium and marketability

premium adjustments are not usually made in the required return on equity calculation, but rather directly to the estimated value. (Study Session 10, LOS 35.d)

## QUESTION NO: 3

Gary Smith, CFA, has been hired to analyze a specialty tool and machinery manufacturer,

Whitmore Corporation (WMC). WMC is a leading producer of specialty machinery in the United States. At the end of 2006, WMC purchased York Tool Company (YTC), an Australian firm in a similar line of business. YTC has partially integrated its marketing functions within WMC but still maintains control of its operations and secures its own financing. Following is a summary of the income statement and balance sheet for YTC (in millions of Australian dollars - AUD) for the past three years as well as exchange rate data over the same period.

manager has explained that real interest rates in India over the last three years have been 2.00%, 2.50%, and 3.00%, respectively, while nominal interest rates have been 34.64%, 29.15%, and

25.66%, respectively. Smith requests more time to analyze the Indian subsidiary.

Which of the following statements related to the consolidation of WMC's Indian subsidiary is least likely correct?

- A. The Indian economic environment meets the criteria to be classified as a hyperinflationary economy.
- B. IAS standards would allow WMC to translate the inflation-indexed value of nonmonetary assets of the Indian subsidiary at the current exchange rate.
- C. WMC can reduce potential translation losses from the Indian subsidiary by issuing debt denominated in U.S. currency and purchasing net fixed assets for the subsidiary.

**ANSWER: C**

**Explanation:**

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

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

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

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

U.S. accounting standards allow the use of the temporal method, with the functional currency being the parents reporting currency, when a foreign subsidiary is operating in a hyperinflationary environment. IAS accounting standards allow the parent to translate an inflation-adjusted value of the nonmonetary assets and liabilities of the foreign subsidiary at the current inflation rate, removing most of the effects of high inflation on the value of the nonmonetary assets and liabilities in the reporting currency. In a hyperinflationary environment, the parent company can reduce translation losses by reducing its net monetary assets or increasing its net monetary liabilities. In order to do this, the parent should issue debt denominated in the subsidiary's local currency and invest the proceeds in fixed assets for the subsidiary to use in its operations. (Study Session 6, LOS 23-0)

## QUESTION NO: 4

Explanation: capitalization rate =  $R_0$  = discount rate - growth rate

$$MV_0 = \frac{NOI}{r - g} = \frac{NOI}{R_0}$$

Office building:

$$R_0 = \frac{NOI}{MV_n} = \frac{600,000}{8,000,000} = 0.075$$

discount rate = capitalization rate + growth rate =  $0.075 + 0.03 = 0.105$

Warehouse:

$$R_0 = \frac{NOI}{MV_n} = \frac{600,000}{10,000,000} = 0.06$$

discount rate = capitalization rate + growth rate =  $0.06 + 0.05 = 0.11$

Hotel:

$$R_0 = \frac{NOI}{MV_n} = \frac{900,000}{9,000,000} = 0.10$$

discount rate = capitalization rate + growth rate =  $0.10 + 0.07 = 0.17$

The lowest discount rate is the office building property. (Study Session 13, LOS 46.a)

**Exhibit 1**

<i>Property Type</i>	<i>Net operating income</i>	<i>Growth rate</i>	<i>Property value</i>	<i>Loan-to-Value</i>
Raw land	N.A.	N.A.	\$5 million	50%
Office building	\$600,000	3%	\$8 million	50%
Warehouse	\$600,000	5%	\$10 million	70%
Hotel	\$900,000	7%	\$9 million	70%

After reviewing the potential real estate investments generated by Kellogg, Atwell decided against all of the choices. Instead, Atwell requested a detailed report on the investment merits of an apartment complex. In Exhibit 2, Kellogg details the operating income of a targeted apartment complex investment. Atwell will make an equity contribution of \$1,000,000. The loan-to-value ratio for the apartment complex investment would be 75%.

**Exhibit 2**

<i>Year</i>	<i>Operating Income</i>	<i>Tax Payable</i>
1	\$400,000	\$40,000
2	\$420,000	\$42,000
3	\$441,000	\$44,000
4	\$463,000	\$46,000
5	\$486,000	\$49,000
<b>After-tax equity reversion</b>	<b>\$2,000,000</b>	

An adviser from Kellogg states that Atwell should purchase the apartment complex because the net present value of the investment is positive. The adviser also states, however, that the investment's IRR is less than Atwell's required rate of return. After reviewing the historical financial statements of the potential hotel investment, the advisor notes its erratic net operating income. In fact, the hotel generated several years of growing cash flow followed by two negative years and then a return back to a positive cash flow.

The band-of-investment method can be used to derive the market rate of capitalization. Based on

Exhibit 1, and given that the return of capital to the lender is 0.02185, the equity dividend rate (required cash-on-cash return) component of the band-of-investment method for the hotel investment is closest to:

- A. 9.0%.
- B. 9.5%.

C. 10.0%.

**ANSWER: B**

**Explanation:**

$$\text{Hotel cap rate} = \frac{900,000}{9,000,000} = 0.10$$

return on funds = cost of loan = 8% (given)

$$\text{return of capital to lender} = \frac{i}{(1+i)^n - 1} = \frac{0.08}{(1+0.08)^{20} - 1} = 0.02185 \text{ (given)}$$

mortgage constant = return on funds + return of capital to lender

$$\text{mortgage constant} = 0.08 + 0.02185 = 0.10185$$

	<i>Split</i>	<i>Rate</i>	<i>Weighted</i>
Loan	0.70	0.10185	0.07130
Equity	0.30	?	0.02870
<b>Total</b>			<b>0.10</b>

$$\text{Equity dividend rate} = \frac{0.02870}{0.3} = 0.09567$$

(Study Session 13, LOS 46.b)

**QUESTION NO: 5**

Bryan Stephenson is an equity analyst and is developing a research report on Iberia Corporation at the request of his supervisor. Iberia is a conglomerate entity with significant corporate holdings in various industries. Specifically, Stephenson is interested in the effects of Iberia's investments on its financial performance and has decided to focus on two investments: Midland Incorporated and Odessa Company.

Midland Incorporated

On December 31, 2007, Iberia purchased 5 million common shares of Midland Incorporated for €80 million. Midland has a total of 12.5 million common shares outstanding. The market value of Iberia's investment in Midland was €89 million at the end of 2008 and €85 million at the end of 2009. For the year ended 2008, Midland reported net income of €30 million and paid dividends of €10 million. For the year ended 2009, Midland reported a loss of €5 million and paid dividends of €4 million.

During 2010, Midland sold goods to Iberia and reported 20% gross profit from the sale. Iberia sold all of the goods to a third party in 2010.

## Odessa Company

On January 2, 2009, Iberia purchased 1 million common shares of Odessa Company as a longterm investment. The purchase price was €20 per share and on December 31, 2009, the market price of Odessa was €17 per share. The decline in value was considered temporary. For the year ended 2009, Odessa reported net income of €750 million and paid a dividend of €3 per share. Iberia considers its investment in Odessa as an investment in financial assets.

In addition, Iberia has a number of foreign investments, so Stephenson's supervisor has asked him to draft a report on accounting methods and ratio analysis. The following are statements from Stephenson's research report.

Statement 1: Under U.S. GAAP, firms are required to use proportionate consolidation to account for joint ventures.

Statement 2: In general, if the parent's consolidated net income is positive, the equity method reports a higher net profit margin than the acquisition method.

What amount should Iberia recognize in its 2009 income statement as a result of its investments in Midland and Odessa?

- A. €1 million profit.
- B. €2 million profit.
- C. €3 million loss.

**ANSWER: A**

## Explanation:

Since Iberia owns 40% of Midland (5 million shares owned / 12.5 million total shares outstanding), the equity method is used. Under the equity method, Iberia reports its pro-rata share of Midland's net income (€5 million loss x 40% = €2 million loss). Changes in market value are ignored under the equity method.

Iberia's investment in Odessa is classified as available-for-sale since the investment is considered long-term. Dividend income from available-for-sale securities is recognized in the income statement (€3 dividend x 1 million shares = €3 million). The changes in market value are reported in shareholders' equity.

Investment income from Midland and Odessa is €1 million (€3 million dividend income from Odessa - €2 million pro-rata loss from Midland). (Study Session 5, LOS 21.a)

## QUESTION NO: 6

General Investments is considering the purchase of a significant stake in Pacific Computer Components (PCC). Although PCC has stable production output, the company is located in a developing country with an uncertain economic environment.

Since the monetary environment is particularly worrisome, General has decided to approach the valuation of PCC from a free cash flow model using real growth rates. In real rate analysis, General uses a modified build-up method for calculating the required real return, specifically:

required real return = country real rate + industry adjustment + company adjustment

Elias Sando, CFA, an analyst with General, estimates the following information for PCC:

Domestic inflation rate = 8.738%

Nominal growth rate = 12.000%

Real country return = 3.000%

Industry adjustment = 3.000%

Company adjustment = 2.000%

Additionally, Exhibit 1 reports information from PCC's financial statements for the year just ended (stated in LC).

## Exhibit 1: Selected Financial Statement Information for PCC

Investment in fixed capital	LC3,200,000
Investment in working capital	LC400,000
New borrowing	LC2,400,000
Debt repayment	LC2,000,000
Depreciation	LC3,500,000
Interest expense	LC5,000,000
Net income	LC7,000,000
Tax rate	34%
Dividends	LC0

PCC generally maintains relatively constant proportions of equity and debt financing and is expected to do so going forward.

Sando has gathered information on earnings before interest, taxes, depreciation, and amortization (EBITDA) and is contemplating its direct use in another cash flow approach aimed at valuing PCC. Consider the following two statements regarding EBITDA:

Statement 1: EBITDA is not a good proxy for free cash flow to the firm (FCFF) because it does not incorporate the importance of the depreciation tax shield nor does it reflect the investment in working capital or in fixed capital.

Statement 2: EBITDA is also a poor proxy for FCFE.

Suppose that PCC initiates a cash dividend, with a target payout ratio of 25% of net income. What is the likely magnitude of the effect of the new cash dividend and the net change in the outstanding debt on future FCFE, all else equal?

**A.** The dividend has a large effect, and the debt change has a small effect.

- B. The dividend has a large effect, and the debt change has no effect.
- C. The dividend has no effect, and the debt change has a small effect.

**ANSWER: C**

**Explanation:**

Dividend policy change: A change in dividend policy will have no direct impact on future FCFE. Note that dividend payments are a use of equity cash flows, not a reduction in FCFE. It is possible that an increase in dividends could reduce the long-term growth rate of the firm, thus reducing firm value. However, holding all other factors constant, an increase in dividends will not affect FCFE forecasts.

Net change in debt. The increase in debt, LC400,000, will increase future interest expense and decrease future FCFE, but the amount is small relative to net income of LC7,000,000. (Study Session 12, LOS 4I.h)

**QUESTION NO: 7**

Frank Hoskins and Paul Lanning are economists for a large U.S. investment advisory firm, Platinum Advisors. Hoskins and Lanning use their independent research on U.S. stocks and international stocks to provide advice for the firm's network of advisors. As the senior economist at Platinum, Hoskins is a partner in the firm and is Lanning's supervisor. Lanning has worked for Platinum for the past four years. At a lunch meeting, the two economists discuss the usefulness of economic theory, economic data, and the resulting forecasts of the global economic and stock market activity.

Hoskins is investigating the growth prospects of the country of Maldives. Maldives is a formerly communist country with a population of 3 million located in Eastern Europe. The Maldivian government had been aggressive in instituting political reform and encouraging the growth of financial markets. However, due to a recent insider trading scandal and resulting stock market volatility, the Maldivian government is considering restrictions on further stock market growth and the establishment of a national securities regulator. Hoskins states that these developments are not encouraging for future economic growth.

Lanning is examining the country of Petra. Petra is a country of 25 million located in South

America and rich with natural resources including oil. The recently elected president of Petra, Carlos Basile, has announced that he would like to diversify the country's economy away from natural resources while nationalizing the oil industry. Lanning states that these changes would not be beneficial for the future growth of the Petrian economy.

One of the many items they study when examining an economy or stock market is the economic information released by governments and private organizations. Hoskins and Lanning use this information to determine the effects on economic growth and the appropriate portfolio allocations to the bond and stock markets. Examining information for Maldives, Hoskins has learned that the Maldivian private sector has embarked on an ambitious plan to increase labor productivity by purchasing more machinery for its factories. The private sector feels compelled to do this because Maldives has historically relied too heavily on labor as the main input into production. Plotting the productivity curve for Maldives, Hoskins states that labor productivity should increase because the productivity curve will shift upward and to the right.

Lanning is examining the historical record of economic growth in Petra. He has gathered the data in Exhibit 1 to determine potential economic growth.

**Exhibit 1: Economic Data for Petra from 2001 to 2007 (in U.S. \$)**

Real GDP per labor hour in 2001	\$20.00
Capital per labor hour in 2001	\$35.00
Average increase in fiscal spending 2001–2007	4.20%
Average growth in taxes 2001–2007	3.20%
Real GDP per labor hour in 2007	\$21.50
Capital per labor hour in 2007	\$36.80

Hoskins is also examining data for the country of Semeria. Semeria is an emerging country that has benefited from recent changes in the political environment as well as technological advances. Its economy is growing rapidly, and changes in the Smerian economy and society have resulted in more opportunities for women. The Smerian economy has experienced 17 consecutive quarters of positive growth in GDP, which is unprecedented in Smerian history. Interest rates have increased over time because businesses have been borrowing heavily to invest in new machinery and technologies. Most economists are forecasting further increases in interest rates in Semeria.

It has long been Platinum's policy that its economists use long-term economic growth trends to forecast future economic growth, stock returns, and dividends in a country. Lanning is examining the economy of Tiberia. Tiberia has a population of 11 million and is located in northern Africa. Its economy is diversified, and its main exports are agricultural products and heavy machinery. The country's economy has been growing at an annual rate of 6.2% for the past ten years, in part because of technological advances in the manufacture of heavy equipment. These advances involve the use of computer-operated welding machines that have made the manufacture of heavy equipment less expensive. Lanning is worried, however, that the 6.2% GDP growth rate may not be sustainable and is considering advising Platinum's portfolio managers to decrease their portfolio allocations in the country. Before doing so, he will consult with Hoskins.

Hoskins' statement on Maldavian labor productivity and its productivity curve is:

- A. incorrect, because labor productivity is not affected in this scenario.
- B. incorrect, because labor productivity will decrease as a result of the low skilled labor force.
- C. incorrect, because although labor productivity will increase, the increase will result from a movement along the productivity curve.

**ANSWER: C**

**Explanation:**

Hoskins reasoning is incorrect because although labor productivity will increase, the increase will result from a movement along the productivity curve. An upward shift in the productivity curve requires an advancement in technology. (Study Session 4, LOS 14.c)

**QUESTION NO: 8**

Rogert Markets is the nation's third largest retail grocery chain, and usually has the largest or second largest market share in every city in which it competes. In its most successful large cities, Rogert has as much as a 25% market share, although its share is sometimes greater in small cities. Rogert is known for its excellent customer service and has a wide variety of grocery selections in almost every part of its stores. Its profit margins on sales are slightly above industry averages, and its return on assets and return on equity are above average.

Rogert has an equity beta of 0.78 and a debt-to-capital ratio of approximately 50%. Recent economic difficulties, including higher commodity prices and higher unemployment, resulted in lower profit margins for Rogert. Still, Rogert's decline in profit margin was less than for its competitors. Rogert did not experience substantial losses of sales from customers switching to lower-priced competitors as its market share remained substantially constant.

Zephine Markets is one of Rogert's smaller competitors. Zephine operates in roughly 15% of the same cities as Roger. Zephine is publicly traded, and one of the members of Rogert's board of directors has asked the staff to evaluate an acquisition of Zephine. The staff believes that Zephine is slightly underpriced and that it could be acquired for a 20% premium over its current price. In recommending against the acquisition, staff member Pierre Chiraq says:

"I agree that eliminating Zephine as a rival would probably enhance our profit margins. However, I am skeptical about this acquisition. First, because our market share is almost never dominant, much of the benefit of eliminating a smaller rival will be shared by our other rivals. They will freeride on our investment. Second, if our profit margins do increase, we will eventually attract new rivals into our markets. And finally, our cost of capital should increase substantially because the firm will be diversifying horizontally instead of vertically, increasing the firm's risk."

Over the last several years, grocery industry growth has tended to follow the general economy. The competitors in the industry, like Rogert, compete for market share in a stable industry. The industry's cyclical behavior has shown stable performance in both the ups and downs of the business cycle.

In assessing Rogert's competitive position, Chiraq makes comments about the threat of new entrants:

"My concern about new entrants into our business is low for several reasons. Economies of scale are achievable at a low size of operations relative to that of our firm. Our brand identity is high in the markets in which we compete. And, finally, access to distribution channels is difficult to achieve in the grocery business. While there are many competitive forces that concern me, new entrants is low on my list."

Finally, the staff discusses industry changes that might have a negative effect on Rogert's industry position. Three phenomena are mentioned that could have such an effect. They are:

1. Industry growth rates are low and declining;
2. Several suppliers are sponsoring national television advertisements for their products;
3. The government has approved a new method of extending the shelf life of fruits and vegetables.

Chiraq's concerns about new entrants into Rogert's business is least likely correct regarding:

- A. economies of scale.
- B. brand identity.
- C. access to distribution channels.

**ANSWER: A**

**Explanation:**

Chiraq is incorrect about economies of scale. The fact that economics of scale are available for firms much smaller than Rogert would make it easier for new entrants to enter the business. (Study Session 11, LOS 37-b)

## QUESTION NO: 9

Matthew Emery, CFA, is responsible for analyzing companies in the retail industry. He is currently reviewing the status of Ferguson Department Stores, Inc. (FDS). FDS has recently gone through extensive restructuring in the wake of a slowdown in the economy that has made retailing particularly challenging. As part of his analysis, Emery has gathered information from a number of sources.

Ferguson Department Stores, Inc.

FDS went public in 1969 following a major acquisition, and the Ferguson name quickly became one of the most recognized in retailing. Ferguson had been successful through most of its first 30 years in business and has prided itself on being the one-stop shopping destination for consumers living on the West Coast of the United States. Recently, FDS began to experience both top and bottom line difficulties due to increased competition from specialty retailers who could operate more efficiently and offer a wider range of products in a focused retailing sector. When the company's main bank reduced FDS's line of credit, a serious working capital crisis ensued, and the company was forced to issue additional equity in an effort to overcome the problem. FDS has a cost of capital of 10% and a required rate of return on equity of 12%. Dividends are growing at a rate of 8%, but the growth rate is expected to decline linearly over the next six years to a long-term growth rate of 4%. The company recently paid an annual dividend of \$1.

At the end of 2008, FDS announced that it would be expanding its retail operations, moving to a warehouse concept, and opening new stores around the country. FDS also announced it would close some existing stores, write-down assets, and take a large restructuring charge. Upon reviewing the prospects of the firm, Emery issued an earnings per share forecast for 2009 of \$0.90. He set a 12-month share price target of \$22.50. Immediately following the expansion announcement, the share price of FDS jumped from \$14 to \$18.

### Exhibit 1: Summary Income Statement, Ferguson Department Stores, Inc. (U.S. \$ millions, except per share data and shares outstanding)

	2008	2007
Sales	\$6,435.9	\$6,322.7
Cost of goods sold, operating, administrative, and selling expenses	6,007.9	5,875.9
Depreciation and amortization	148.7	146.6
Interest expense	59.8	59.5
Unusual items—expense	189.1	5.0
Earnings before tax	30.4	235.7
Income taxes—current	49.3	7.5
Income taxes—future	(71.1)	93.5
	(21.8)	101.0
Net earnings for the year	\$52.2	\$134.7
Earnings per share: Basic	\$0.49	\$1.26
Fully diluted	\$0.49	\$1.26
Weighted average shares outstanding	106,530,610	106,530,610

In 2008, FDS also reported an unusual expense of \$189.1 million related to restructuring costs and asset write downs.

**Exhibit 2: Selected Industry Information for 2008**

Estimated earnings growth rate	0.10
Mean trailing price/earnings (P/E) ratio	22.50
Mean price/sales (P/S) ratio	0.50

In response to questions from a colleague, Emery makes the following statements regarding the merits of earnings yield compared to the P/E ratio:

Statement 1: For ranking purposes, earnings yield may be useful whenever earnings are either negative or close to zero.

Statement 2: A high E/P implies the security is overpriced.

Given Emery's dividend forecast for FDS, is the H-model the appropriate valuation model to use to value FDS?

A. Yes.

B. No, the H-model is appropriate when the dividend growth rate declines at a linear rate for a short period of time during stage one, followed by a 1 -year suspension in dividends before the previous dividend is reinstated, and then dividends grow at a long-term constant rate.

C. No, the H-model is appropriate when the dividend growth rate grows during the first stage followed by a period of stable growth in dividends in stage two, followed by a dividend growth rate that declines linearly in perpetuity.

**ANSWER: A**

**Explanation:**

The key assumption underlying the H-model is that the dividend growth rate declines linearly from a high rate in the first stage to a long-term level growth rate. (Study Session 11, LOS 40.j)

**QUESTION NO: 10**

Yummy Doughnuts (YD) sells a variety of doughnuts and other related items through both company-owned locations and franchise locations. YD has experienced significant growth over the past five years. However, barriers to entry are low and competition is increasing.

Linda Haas, CFA, follows YD for Gibraltar Capital. Gibraltar Capital prides itself on its thorough fundamental analysis of investment opportunities. The company uses a bottom-up approach to the investment process. Haas's security selection process utilizes residual income models to determine a stock's intrinsic value. Haas obtains YD's 2008 financial statements shown in Exhibit 1. In addition, Haas provides supporting information about YD's financials and other related material found in Exhibit 2.

Haas notes that the multi-stage residual equity income model captures more detail in calculating YD's intrinsic value. An assumption of the model is that ROE fades to the cost of equity over time, which is known as a persistence factor (varying from 0 to 1). Identify which characteristic indicates a higher persistence of abnormal earnings.

- A. Low dividend payout.
- B. Low price to earnings ratio.
- C. High dividend yield.

**ANSWER: A**

**Explanation:**

It is difficult for a company to maintain a high ROE because of competition. The persistence factor will be lower for those companies. A company that has a low dividend payout has greater growth opportunities than a company with a high dividend payout. The greater growth opportunities should support a higher persistence factor. (Study Session 13, LOS 43.J)

**QUESTION NO: 11**

Frank Hoskins and Paul Lanning are economists for a large U.S. investment advisory firm, Platinum Advisors. Hoskins and Lanning use their independent research on U.S. stocks and international stocks to provide advice for the firm's network of advisors. As the senior economist at Platinum, Hoskins is a partner in the firm and is Lanning's supervisor. Lanning has worked for

Platinum for the past four years. At a lunch meeting, the two economists discuss the usefulness of economic theory, economic data, and the resulting forecasts of the global economic and stock market activity.

Hoskins is investigating the growth prospects of the country of Maldavia. Maldavia is a formerly communist country with a population of 3 million located in Eastern Europe. The Maldavian government had been aggressive in instituting political reform and encouraging the growth of financial markets. However, due to a recent insider trading scandal and resulting stock market volatility, the Maldavian government is considering restrictions on further stock market growth and the establishment of a national securities regulator. Hoskins states that these developments are not encouraging for future economic growth.

Lanning is examining the country of Petra. Petra is a country of 25 million located in South

America and rich with natural resources including oil. The recently elected president of Petra, Carlos Basile, has announced that he would like to diversify the country's economy away from natural resources while nationalizing the oil industry. Lanning states that these changes would not be beneficial for the future growth of the Petrian economy.

One of the many items they study when examining an economy or stock market is the economic information released by governments and private organizations. Hoskins and Lanning use this information to determine the effects on economic growth and the appropriate portfolio allocations to the bond and stock markets. Examining information for Maldavia, Hoskins has learned that the Maldavian private sector has embarked on an ambitious plan to increase labor productivity by purchasing more machinery for its factories. The private sector feels compelled to do this because Maldavia has historically relied too heavily on labor as the main input into production. Plotting the productivity curve for Maldavia, Hoskins states that labor productivity should increase because the productivity curve will shift upward and to the right.

Lanning is examining the historical record of economic growth in Petra. He has gathered the data in Exhibit 1 to determine potential economic growth.

**Exhibit 1: Economic Data for Petra from 2001 to 2007 (in U.S. \$)**

Real GDP per labor hour in 2001	\$20.00
Capital per labor hour in 2001	\$35.00
Average increase in fiscal spending 2001–2007	4.20%
Average growth in taxes 2001–2007	3.20%
Real GDP per labor hour in 2007	\$21.50
Capital per labor hour in 2007	\$36.80

Hoskins is also examining data for the country of Semeria. Semeria is an emerging country that has benefited from recent changes in the political environment as well as technological advances. Its economy is growing rapidly, and changes in the Semerian economy and society have resulted in more opportunities for women. The Semerian economy has experienced 17 consecutive quarters of positive growth in GDP, which is unprecedented in Semerian history. Interest rates have increased over time because businesses have been borrowing heavily to invest in new machinery and technologies. Most economists are forecasting further increases in interest rates in Semeria.

It has long been Platinum's policy that its economists use long-term economic growth trends to forecast future economic growth, stock returns, and dividends in a country. Lanning is examining the economy of Tiberia. Tiberia has a population of 11 million and is located in northern Africa. Its economy is diversified, and its main exports are agricultural products and heavy machinery. The country's economy has been growing at an annual rate of 6.2% for the past ten years, in part because of technological advances in the manufacture of heavy equipment. These advances involve the use of computer-operated welding machines that have made the manufacture of heavy equipment less expensive. Lanning is worried, however, that the 6.2% GDP growth rate may not be sustainable and is considering advising Platinum's portfolio managers to decrease their portfolio allocations in the country. Before doing so, he will consult with Hoskins.

Are the statements made by Hoskins and Lanning regarding the future growth of the Maldavian and Petrian economies likely to be correct or incorrect?

- A. Both are correct.
- B. Only Hoskins is correct.
- C. Only Lanning is correct

**ANSWER: A**

**Explanation:**

Hoskins statement is likely to be correct. If the Maldavian government is considering restrictions on further stock market growth, then this will limit future economic growth. Economic growth is dependent in part on markets, because markets facilitate business transactions between buyers and sellers. The establishment of a securities regulator may or may not be neutral for the economy, but this is not explicitly mentioned in the topic review as a factor influencing economic growth.

Lanning's statement is also likely to be correct. If the president of Petria nationalizes the oil industry, then private property will be seized and property rights will not have been respected. Without property rights, firms and individuals have little incentive to make investments that could lead to future economic growth. The diversification of the economy, while perhaps

good for the long-term health of the economy, is not explicitly mentioned in the topic review as a factor for economic growth. (Study Session 4, LOS 14.e)

## QUESTION NO: 12 - (SIMULATION)

### SIMULATION

Ota L'Abbe, a supervisor at an investment research firm, has asked one of the junior analysts, Andreas Hally, to draft a research report dealing with various accounting issues.

Excerpts from the request are as follows:

- "There's an exciting company that we're starting to follow these days. It's called Snowboards and Skateboards, Inc. They are a multinational company with operations and a head office based in the resort town of Whistler in western Canada. However, they also have a significant subsidiary located in the United States."
- "Look at the subsidiary and deal with some foreign currency issues including the specific differences between the temporal and all-current methods of translation, as well as the effect on financial ratios."
- "The attached file contains the September 30, 2008, financial statements of the U.S. subsidiary. Translate the financial statements into Canadian dollars in a manner consistent with U.S. GAAP." The following are statements from the research report subsequently written by Hally:

Statement 1: Subsidiaries whose operations are well integrated with the parent will use the all-current method of translation.

Statement 2: Self-contained, independent subsidiaries whose operating, investing, and financing activities are primarily located in the local market will use the temporal method of translation.

Other information to be considered

Fiscal 2007 (average)	1.44
Fiscal 2008 (average)	1.35
October 1, 2004	1.50
September 30, 2007	1.48
June 30, 2008	1.37
September 30, 2008	1.32

- Beginning inventory for fiscal 2008 had been purchased evenly throughout fiscal 2007. The company uses the FIFO inventory value method.
- Dividends of USD 25,000 were paid to the shareholders on June 30, 2008.
- All of the remaining inventory at the end of fiscal 2008 was purchased evenly throughout fiscal 2008.
- All of the PP&E was purchased, and all of the common equity was issued at the inception of the company on October 1, 2004. No new PP&E has been acquired, and no additional common stock has been issued since then. However, they plan to purchase new PP&E starting in fiscal 2009.
- The beginning retained earnings balance for fiscal 2008 was CAD 1,550,000.

- The accounts payable on the fiscal 2008 balance sheet were all incurred on June 30, 2008.
- The U.S. subsidiary's operations are highly integrated with the main operations in Canada.
- The remeasured inventory for 2008 using the temporal method is CAD 810,000.
- All monetary asset and liability balances are the same as they were at the end of the 2007 fiscal year, except that long-term debt was USD 467,700.
- Costs of goods sold under the temporal method in 2008 is CAD 1,667,250.

Suppose the parent uses the all-current method to translate the subsidiary for fiscal 2008. Will return on assets and net profit margin in U.S. dollars before translation be the same as, or different than, the translated Canadian dollar ratios?

Return on assets

- A. Same
- B. Different
- C. Different

Net profit margin

- Same
- Different
- Same

**ANSWER: Answer:**

**Explanation:**

**Answer: Answer:**

Return on assets prior to translation will be different than the ratio after translation because the numerator (net income) is translated at the average rate, and the denominator (assets) is translated at the current rate using the all-current method.

Net profit margin will be the same because both the numerator (net income) and the denominator (sales) are translated at the average rate using the all-current method. (Study Session 6, LOS 23d)

## QUESTION NO: 13

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

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

<b>Konker Industries</b>			
<b>Income Statement</b>	<b>20X8</b>	<b>Balance Sheet</b>	<b>20X8</b>
<i>(\$ in thousands)</i>		<i>(\$ in thousands)</i>	
Gross Sales	55,435	Cash and equivalents	457
Sales discounts, returns and allowances	1,352	Short term marketable securities	927
Net Sales	54,083	Accounts receivable (net)	47,740
Cost of goods sold	26,500	Inventories	20,963
SG&A expenses	15,625	PP&E (net of depreciation)	25,371
Depreciation expense	1,082	Total assets	95,458
Earnings before interest and taxes	10,876		
Interest expense	693	Accounts payable	24,994
Earnings before taxes	10,183	Other current liabilities	1,209
Taxes (tax rate 40%)	4,073	Long term debt	21,770
Net income	6,110	Total liabilities	47,973
		Common stock	40,314
Dividends	5,046	Retained earnings	7,171
Net addition to retained earnings	1,064	Total liabilities and shareholders equity	95,458

Konker has an operating lease for several of its large machining tools. The lease term expires in five years, and the annual lease payments are \$2 million. The applicable interest rate on the operating lease is 9%. Yoakam believes that the operating lease should be capitalized and treated as a finance lease. For purposes of adjusting the financial statements, Yoakam believes that the machining tools should be depreciated using straight-line depreciation with a salvage value of \$3 million.

At the beginning of 20X8, Konker formed a qualified special purposes entity (QSPE) and sold a portion of its accounts receivables to the QSPE. The total amount of accounts receivables sold to the QSPE was \$13.5 million. Yoakam has noted in his research that the Financial Accounting Standards Board (FASB) is considering the elimination of qualified special purposes entities.

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

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

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

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

- A. Konker is growing the Industrial division over time.
- B. the operating ROA of the Capital division has fallen over the last year.
- C. the ratio of the Capex percent change to the asset percentage is significantly less than one for the Defense division.

**ANSWER: A**

**Explanation:**

The fact that Konker is growing the Industrial division most rapidly (highest capex percent to asset percent ratio) is a likely cause for concern and further investigation, since this division has the lowest operating return on assets. The decrease in the operating ROA for the Capital division is not particularly troublesome as it mirrors the pattern for the other divisions and likely just reflects year-to-year variation in profitability. The fact that the percent of capex for the Defense division is less than its percent of total assets is not a primary cause for concern since that division has a lower operating ROA, and growth in capital assets likely follows contract awards in the defense industry, rather than drives business. Also, the apparent overinvestment in the Industrial division will decrease the capex percent for other divisions, other things equal. (Study Session 7, LOS

26.b)

**QUESTION NO: 14**

Bill Henry, CFA, is the CIO of IS University Endowment Fund located in the United States. The Fund's total assets are valued at \$3.5 billion. The investment policy uses a total return approach to meet the return objective that includes a spending rate of 5%. In addition, the policy constraints established make tax-exempt instruments an inappropriate investment vehicle. The Fund's current asset mix includes an 18% allocation to private equity. The private equity allocation is shown in Exhibit 1.

**Exhibit 1: IS University Endowment Fund's Private Equity Investments**

<i>Private Equity</i>	<i>Percentage allocation</i>
Venture Capital	12%
Buyouts	56%
Special Situations	32%

The private equity allocation is a mixture of funds with different vintages. For example, within the venture capital category, investments have been made in five different funds. Exhibit 2 provides detail about the Alpha Fund with a vintage year of 2006 and committed capital of \$195 million.

**Exhibit 2: \$195 million Venture Capital Alpha Fund (\$Millions)**

<i>Year</i>	<i>Called-Down</i>	<i>Mgmt Fees</i>	<i>Operating Results</i>
2006	\$30	\$0.45	-\$10
2007	\$25	\$0.83	\$55
2008	\$75	\$1.95	\$75

The Alpha Fund is considering a new investment in Targus Company. Targus is a start-up biotech company seeking \$9 million of venture capital financing. Targus's founders believe that, based on the company's new drug pipeline, a company value of \$300 million is reasonable in five years. Management at Alpha Fund views Targus Company as a risky investment and is using a discount rate of 40%. After a thorough analysis of Targus's future prospects, Alpha Fund's management believes that there is a possible 15% risk of failure for the company.

Using the single period NPV method (venture capital method), the post-money valuation of Targus Company is closest to:

- A. \$45 million.
- B. \$50 million.
- C. \$55 million.

**ANSWER: C**

**Explanation:**

Post-money valuation =  $V/(1 + r)^t$

$V = \$300$  million;  $r = 40\%$ ;  $t = 5$  years

Post-money valuation = 300 millions / (1 + 0.4)<sup>5</sup> = 55.78 million

(Study Session 13.LOS47.J)

**QUESTION NO: 15**

Lena Pilchard, research associate for Eiffel Investments, is attempting to measure the value added to the Eiffel Investments portfolio from the use of 1-year earnings growth forecasts developed by professional analysts.

Pilchard's supervisor, Edna Wilms, recommends a portfolio allocation strategy that overweights neglected firms. Wilms cites studies of the "neglected firm effect," in which companies followed by a small number of professional analysts are associated with higher returns than firms followed by a larger number of analysts. Wilms considers a company covered by three or fewer analysts to be "neglected."

Pilchard also is aware of research indicating that, on average, stock returns for small firms have been higher than those earned by large firms. Pilchard develops a model to predict stock returns based on analyst coverage, firm size, and analyst growth forecasts. She runs the following cross-sectional regression using data for the 30 stocks included in the Eiffel Investments portfolio:  $R_i = b_0 + b_1 \text{COVERAGE}_i + b_2 \text{LN}(\text{SIZE}_i) + b_3(\text{FORECAST}_i) + e_i$

where:

$R_i$  = the rate of return on stock  $i$

$\text{COVERAGE}_i$  = one if there are three or fewer analysts covering stock  $i$ , and equals zero otherwise

$\text{LN}(\text{SIZE}_i)$  = the natural logarithm of the market capitalization

(stock price times shares outstanding) for stock  $i$ , units in millions

$\text{FORECAST}_i$  = the 1-year consensus earnings growth rate forecast for stock  $i$

Pilchard derives the following results from her cross-sectional regression:

**Exhibit 1: Results of Pilchard's Cross-Sectional Regression**

<i>Variable</i>	<i>Coefficient</i>	<i>T-statistic</i>
Constant	0.060	1.56
COVERAGE	0.050	3.20
LN(SIZE)	-0.003	-2.50
FORECAST	0.200	2.85

The standard error of estimate in Pilchard's regression equals 1.96 and the regression sum of squares equals 400.

Wilrus provides Pilchard with the following values for analyst coverage, firm size, and earnings growth forecast for Eggmann Enterprises, a company that Eiffel Investments is evaluating.

Holding firm size and consensus earnings growth forecasts constant, the estimated average difference in stock returns between neglected and non-neglected firms equals:

- A. 3%.
- B. 5%.
- C. 7%.

**ANSWER: B**

**Explanation:**

The slope on the dummy variable (COVERAGE), which is 0.05 or 5%. equals the change in average returns between neglected and non-neglected firms after controlling for SIZE and FORECAST. (Study Session 3, LOS 12.f)

**QUESTION NO: 16**

The board members for Kazmaier Foods have gathered for their quarterly board of directors meeting. Presiding at the meeting is the Chairman and CEO for Kazmaier, Phil Hinesman. The other eight members of the board are also present, including Allen Kazmaier, the brother of Kazmaier's founder; Elaine Randall, Executive Vice President for Emerald Bank, which Kazmaier uses to obtain short-term financing; and Bill Schram, Kazmaier's President and Chief Operating Officer. Each of the directors was elected to serve on the board for a 4-year term. They were elected two at a time over the past three years. With the exception of Hinesman, Allen Kazmaier, Randall, and Schram, board members had no ties to Kazmaier prior to joining the board and had no personal relationships with management. In addition to the regular board meetings, the five independent board members get together annually, in a meeting separate from the regular board meetings, to discuss the company's operations.

Item 1 on the board meeting agenda is a discussion about the importance of corporate governance and how Kazmaier can improve its corporate governance system. Hinesman begins the discussion by saying, "A strong system of corporate governance is important to our shareholders. Studies have shown that, on average, companies with strong corporate governance systems have higher measures of profitability than companies with weak corporate governance systems." Randall adds her comment to the discussion: "The lack of an effective corporate governance system increases risk for our investors. If we do not have the appropriate checks and balances in place, our investors may be exposed to the risk that information used to make decisions about our firm is misleading or incomplete, as well as the risk that mergers or acquisitions the firm enters into will benefit management at the expense of shareholders."

After a lengthy discussion, the board agrees on five separate recommendations that will enhance its current system of corporate governance. One of these recommendations is to change the function and structure of the board's audit committee. Currently the audit committee consists of Matthew Bortz, David Smith, and Ann Williams—three independent directors who each have backgrounds in finance and accounting. The board agrees that one more member should be added to the committee and that the committee should expand its list of responsibilities.

Item 2 on the agenda for the board of directors' meeting is a report from Kazmaier's Chief Financial Officer, Doug Layman. The following information was included in the material that was distributed to each board member before the meeting:

Current share price: \$40.00

Shares outstanding: 56, 250,000

Estimated earnings: \$112.5 million

Planned capital spending: \$150 million

Target debt-to-equity ratio 1 to 1

Cost of equity: 8.0%

Constant growth rate: 5.2%

Layman tells the board that his analysis indicates that, based on a constant-growth dividend discount model, the initiation of an \$0.80 per share dividend would reduce the cost of equity by 1.2% and increase the value of the firm's stock, assuming that earnings, the cost of debt, and the constant growth rate don't change.

Item 3 on the agenda is the sale of Kazmaier's condiment packaging division to Sautter Packaging and Supply Company. Layman believes the sale will net the company \$50 million, payable in cash. After discussing the pros and cons of selling the division, the directors agree that the sale is in the best interests of the company and its shareholders. The directors then move to a vote, and the sale of the condiment packaging division is approved unanimously. The committee then moves on to discuss what to do with the proceeds from the sale. Williams suggests that paying out the \$50 million to shareholders as a special dividend would continue to give the firm flexibility in how it uses its excess cash. Smith tells the board that a share repurchase can be thought of as an alternative to a cash dividend, and that if the tax treatment between the two alternatives is the same, investors should be indifferent between the two. After debating the merits of special dividends and stock repurchases, Kazmaier's board authorizes the proceeds from the sale of the condiment packaging division to be used for the purchase of \$50 million worth of outstanding shares.

An external agency recently included Kazmaier in a review of corporate governance systems to determine whether or not the structure of the board of directors was consistent with corporate governance best practices. The agency scored companies based on the following criteria:

Criterion 1: Composition of the board of directors.

Criterion 2: Chairman of the board of directors.

Criterion 3: Method of electing the board.

Criterion 4: Frequency of separate sessions for independent directors.

Each of the four criteria was weighted equally, with the firm receiving a positive mark for being in compliance with corporate governance best practice.

A month after the board meeting, the price of Kazmaier stock is still at \$40 per share, and the sale of Kazmaier's condiment packaging division does not go through. In order to finance the approved share repurchase, Kazmaier is forced to borrow funds. Schram states, "I am concerned that the cost of the debt used to repurchase shares may cause a reduction in earnings per share."

Jennifer Nagy, a vice president in Kazmaier's finance division, tells Schram not to be concerned about using debt to finance the share repurchase because the rationale behind the repurchase is sound. Nagy then writes down some of the common rationales for share repurchases and hands them to Schram.

Rationale 1: Repurchasing shares can prevent the EPS dilution that comes from the exercise of employee stock options.

Rationale 2: Management can use a share repurchase to alter the company's capital structure by decreasing the percentage of equity.

Rationale 3: Like a dividend increase, a share repurchase is a way to send a signal to investors that Kazmaier's management believes the outlook for the company's future is strong.

Which of the following pairs of recommendations would be best in helping Kazmaier's audit committee comply with corporate governance best practices?

- A.** The internal audit staff of the firm should report directly to the audit committee, and the committee should meet with auditors at least once annually without management present.
- B.** At least 75% of the audit committee members should be independent, and all of the committee members should have a background in finance and accounting.
- C.** All of the audit committee members should be independent and should meet with management at least annually to discuss findings in internal audits.

**ANSWER: C**

**Explanation:**

Using a target debt-to-equity ratio of 1:1, the \$150 million in capital spending will be financed with \$75 million in internal equity and \$75 million in debt. The total dividend is the remaining internal equity of  $\$112.5 - \$75 = \$37.5$  million, or  $\$37.5 / 56.25 = \$0.67$  per share. (Study Session 8, LOS 29-j)

**QUESTION NO: 17**

Samuel Edson, CFA, portfolio manager for Driver Associates, employs a multifactor model to evaluate individual stocks and portfolios. Edson examines several possible risk factors and finds two that are priced in the marketplace. These two factors are investor sentiment (IS) risk and business cycle (BC) risk. Edson manages three equity portfolios (A, B and C) and derives the following relationships for each portfolio, as well as for the S&P 500 stock market index:

$$\begin{aligned}
 R_A &= 0.1750 + 2.0F_{IS} + 1.5F_{BC} & (1) \\
 R_B &= 0.0940 + 0.5F_{IS} + 0.8F_{BC} & (2) \\
 R_C &= 0.1550 + 1.25F_{IS} + 1.15F_{BC} & (3) \\
 R_{S\&P} &= 0.1475 + 1.5F_{IS} + 1.25F_{BC} & (4)
 \end{aligned}$$

where:

$R_A$ ,  $R_B$ ,  $R_C$  and  $R_{S\&P}$  = the returns for portfolios A, B, C, and the S&P 500 market index, respectively

Portfolios A and B are well-diversified, while C is a less than fully diversified, value-oriented portfolio. FJS is the surprise in investor sentiment, and FBC is the surprise in the business cycle. Surprises in the risk factors are defined as the difference between the actual value and the predicted value.

Exhibit 1 provides data for the actual and predicted values for the investor sentiment and business cycle risk factors.

**Exhibit 1: Risk Factor Values**

<i>Factor</i>	<i>Actual Value</i>	<i>Predicted Value</i>
Investor sentiment	1%	2%
Business cycle	2%	3%

Driver Associates also provides Edson with the following multifactor equations on three additional portfolios (D, E, and F):

$$R_D = -0.09 + 1.0F_{IS} + 0.0F_{BC} \quad (5)$$

$$R_E = 0.08 + 0.0F_{IS} + 1.0F_{BC} \quad (6)$$

$$R_F = 0.16 + 1.5F_{IS} + 1.25F_{BC} \quad (7)$$

Driver Associates uses a two-factor Arbitrage Pricing Model to develop equilibrium expected returns for individual stocks and portfolios:

$$E(R) = \text{risk free rate} + b_1\lambda_1 + b_2\lambda_2 \quad (8)$$

where:

$b_1$  = sensitivity of the portfolio return to changes in risk factor 1

$b_2$  = sensitivity of the portfolio return to changes in risk factor 2

$\lambda_1$  = risk premium associated with risk factor 1

$\lambda_2$  = risk premium associated with risk factor 2

Valry instructs Edson to use the two-factor Arbitrage Pricing Model to examine Driver Associates' well-diversified balanced Portfolio P, which has an Investor Sentiment factor sensitivity equal to 1.25 and a Business Cycle factor sensitivity equal to 1.10. According to Driver Associates's Arbitrage Pricing Model, the expected return for Portfolio P equals:

- A. 8.3%.
- B. 10.8%.
- C. 13.3%.

**ANSWER: C****Explanation:**

According to the Arbitrage Pricing Model, the expected return equals: risk free rate +  $R + b_2RP_2$  where  $R$  is the risk premium for factor  $i$ . Portfolio D is designed to have sensitivity equal to one to the investor sentiment risk factor and sensitivity equal to zero to the business cycle risk factor. Similarly, Portfolio E is a portfolio designed to have sensitivity equal to zero to the investor sentiment risk factor and sensitivity equal to one to the business cycle risk factor. Portfolios that have a sensitivity equal to 1.0 to one factor and zero sensitivity to the remaining factors are called "factor portfolios." Therefore, Portfolio D is the investor sentiment factor portfolio and Portfolio E is the business cycle factor portfolio. According to the multifactor equations, the expected return (intercept) for the investor sentiment factor portfolio (D) equals 9% and for the business cycle factor portfolio (E) equals 8%. Risk premiums are defined as the difference between the expected return on the appropriate factor portfolio and the risk-free rate. The risk-free rate is 5% (the longterm government bond yield). Therefore, the investor sentiment risk premium equals  $0.09 - 0.05 = 0.04$ . Similarly, the business cycle risk premium equals  $0.08 - 0.05 = 0.03$ . Therefore, the expected return for Portfolio P equals  $0.05 + 1.25(0.04) + 1.1(0.03) = 13.3\%$ . (Study Session 18, LOS 64.1)

**QUESTION NO: 18**

Fashion Inc. is a major U.S. distributor of high quality women's jewelry and accessories. The company's growth in recent years has been moderately above the industry average. However, competition is intensifying as a number of overseas competitors have entered this mature market. Although Fashion has been a publicly held company for many years, members of senior management and their families control 20% of the outstanding common stock. Martin Silver, the Chief Executive Officer, has been under intense pressure from both internal and external large shareholders to find ways to increase the company's future growth.

Silver has consulted with the company's investment bankers concerning possible merger targets. The most promising merger target is Flavoring International, a distributor of a broad line of gourmet spices in the United States and numerous other countries. In recent years, Flavoring's earnings growth rate has been above competitors' and also has exceeded Fashion's experience. Superior income growth is projected to continue over at least the next five years. Silver is impressed with the appeal of the company's products to upscale customers, its strong operating and financial performance, and Flavoring's dynamic management team. He is contemplating retirement in three years and believes that Flavoring's younger, more aggressive senior managers could boost the combined company's growth through increasing Fashion's operating efficiency and expanding Fashion's product line in countries outside the United States. Alan Smith, who is Silver's key contact at the investment banking firm, indicates that a key appeal of this merger to Flavoring would be Fashion's greater financial flexibility and access to lower cost sources of financing for expansion of its products in new geographic areas. Fashion has a very attractive performance based stock option plan. Flavoring's incentive plan is entirely based on cash compensation for achieving performance goals. Additionally, the 80% of Fashion's stock not controlled by management interests is very widely held and trades actively. Flavoring became a publicly held company three years ago and doesn't trade as actively.

Silver has asked Smith to prepare a report summarizing key points favoring the acquisition and an acceptable acquisition price. In preparing his report, Smith relies on the following financial data on Fashion, Flavoring, and four recently acquired food and beverage companies.

- A.** The fair acquisition price developed for Flavoring reflects a market based valuation approach, an advantage compared to discounted cash flow valuations, which are based on assumptions that do not incorporate market valuations.
- B.** The acquisition prices for recently acquired companies provide a reasonable approximation of their realistic intrinsic values.
- C.** The fair acquisition price developed for Flavoring is a realistic estimate of potential value to Fashion given that forecasts of future performance are unavailable.

**ANSWER: A**

**Explanation:**

This is a key reason to use the comparable value method, particularly when contrasted with the use of discounted cash flow valuations. Acquisition prices are not necessarily approximations of intrinsic values. A price developed based on comparable transactions does not always indicate the potential value of the acquisition to the purchaser. (Study Session 9, LOS 31.i)

**QUESTION NO: 19**

Lorenz Kummert is a junior equity analyst who is following Schubert, Inc. (Schubert), a small publicly traded company in the United States. His supervisor, Markus Alter, CFA, has advised him to use the residual income model to analyze Schubert.

In his preliminary report to Alter, Kummert makes the following statements:

Statement 1: Residual income models are appropriate when expected free cash flows are negative for the foreseeable future.

Statement 2: Residual income models are not applicable when cash flows are volatile.

Kummert has determined Schubert's cost of equity, cost of debt, and weighted average cost of capital (WACC) to be 12.8%, 8.4%, and 11.9%, respectively. The current price of the stock is \$35 per share and there are 130,000 shares outstanding. The relevant tax rate is 30%, and return on equity (ROE) is expected to be 13%.

Summarized financial information about Schubert for 2008 is provided in Exhibits I and II.

**Exhibit I: Schubert, Inc. Balance Sheet on December 31, 2008**

Cash	\$ 125,000	Accounts payable	\$ 426,000
Accounts receivable	975,000	Accrued liabilities	774,000
Inventory	1,215,000	Long-term debt	6,211,000
Fixed assets (net)	9,277,000		
		Common shares	2,100,000
		Retained earnings	2,081,000
Total assets	\$11,592,000	Total liabilities and equity	\$11,592,000

**Exhibit II: Schubert, Inc. Income Statement for the year ended December 31, 2008**

Sales	\$9,423,000
Cost of sales	4,580,000
Selling, general, and administrative	1,230,000
Depreciation	1,745,000
Interest Expense	522,000
Income tax expense	403,800
Net income	\$942,200

Based on his analysis of several years of financial statements, Kummert notes that 2008 was an exceptionally profitable year for Schubert, and that its dividend payouts are usually low because the funds are mainly reinvested in the firm to promote growth. Furthermore, there are very few nonrecurring items on the income statement. Upon review of Kummert's preliminary report, Alter concurs with his analysis of the financial statements but reminds him that Schubert's long-term debt is currently trading at 95% of its book value. He also cautions Kummert that violations of the clean surplus relation can bias the results of the residual income model.

The consensus annual EPS estimate for 2009 is \$6.15, and the dividend payout ratio for 2009 is estimated at 5%.

Which of the following amounts are closest to the economic value added (EVA) and market value added (MVA) of Schubert, respectively?

EVA ;MVA

- A. \$71,000 ;\$58,000
- B. \$23,000 ;\$369,000
- C. \$294,000 ;\$369,000

**ANSWER: A**

**Explanation:**

Economic value added (EVA) is calculated as follows:

$$\text{\$WACC} = \text{WACC} \times \text{invested capital}$$

Note that invested capital = net working capital + net fixed assets OR book value of long-term debt + book value of equity

$$= 0.119 \times (\$6,211,000 + \$2,100,000 + \$2,081,000) = \$1,236,648$$

$$\text{EVA} = \text{NOPAT} - \text{\$WACC}$$

$$= \text{EBIT}(1 - t) - \text{\$WACC}$$

$$= \$1,868,000(1 - 0.30) - \$1,236,648$$

$$= \$70,952$$

Market value of the company = market value of the equity + market value of the debt

$$= (\$35 \times 130,000) + (0.95 \times 6,211,000)$$

$$= \$10,450,450$$

Market value added (MVA) = market value - invested capital

$$= \$10,450,450 - (\$6,211,000 + \$2,100,000 + \$2,081,000) = \$58,450$$

{Study Session 12, LOS 43.a)

**QUESTION NO: 20**

Russell Larson, CFA, is an investment analyst for Sentry Properties, Inc., a group of wealthy investors that is currently interested in purchasing Riviera Terrace, a 60- unit apartment complex in Southeastern Florida. The current owners of Riviera Terrace have agreed to sell the property for \$40,000,000. Larson estimates that Riviera Terrace's net operating income for the first year after the sale is finalized will be \$4,200,000, and it is expected to maintain its historic annual growth rate of 5%.

At Sentry's request, Larson will evaluate the investment in Riviera Terrace over a 5-year horizon using selling prices of \$45,000,000 and \$60,000,000.

During the due diligence process, Larson has determined that the average selling price for apartment complexes similar to Riviera Terrace is \$1,250,000 per unit, with annual net operating income equal to \$ 135,000 per unit. Larson has also determined that net operating income is typically 80% of gross income.

Larson has collected the following information to aid in his evaluation of Riviera Terrace.

- The property will be fully depreciated at a rate of \$ 1,250,000 per year over 32 years.
- Rental contracts are expected to be reissued on the date the sale is completed.
- Sentry has arranged to finance the investment with a 30-year, 7% interest-only loan, with monthly payments and a face value equal to 80% of the initial investment.
- Selling expenses will be 7% of the gross selling price.
- The capital gains tax rate is 15%, the tax on recaptured depreciation is 28%, and the tax rate on ordinary income is 40%.
- Sentry Properties' required return on equity is 20%.
- The interest rate on U.S. government bonds after adjustments for real estate based tax savings = 5.0%.
- The premium investors require for the illiquidity of real estate investments = 2.5%.
- The average real estate return net of appreciation = 1.25%.
- The real estate investment risk premium = 3.0%.
- The average internal rate of return for properties that are comparable to Riviera Terrace is 22%.

As part of the diligence process, Larson deems it to be appropriate to estimate the market value of Riviera Terrace using capitalization rates based on the market extraction and built-up methods.

One of the partners in Sentry Properties has also asked Larson to estimate the market value of Riviera Terrace using: (1) the direct income capitalization approach and (2) the gross income multiplier approach.

There are several indicators that the Florida real estate market may take a downward turn over the next five years. With this in mind, Larson determines that there is a reasonable chance that Sentry will have to terminate its investment in Riviera Terrace at the end of year 3 at the initial purchase price of \$40,000,000. Under this scenario, he estimates the equity reversion after tax (ERAT) in year 3 to be \$4,934,000. Cash flow after tax in years 1 and 2 are \$1,676,000 and \$1,802,000, respectively.

In the scenario in which Sentry will sell Riviera Terrace for \$60,000,000 at the end of the investment horizon, the total tax liability is closest to:

- A. \$1,750,000.
- B. \$2,370,000.
- C. \$4,120,000.

**ANSWER: B**

**Explanation:**

- Accumulated depreciation =  $5 \times \$1,250,000 = \$6,250,000$
- "When net selling price > original cost, recaptured depreciation = accumulated depreciation (Study Session 13, LOS 45.c)"