

# Market-Based Valuation: Price and Enterprise Value Multiples

Test ID: 7441438

## Question #1 of 140

Question ID: 463339

An argument for using the price-to-earnings (P/E) valuation approach is that:

- ☐ A) management discretion increases the reliability of the ratio.
- ☐ B) earnings can be negative.
- ☒ C) earnings power is the primary determinant of investment value.

### Explanation

Earnings power is the primary determinant of investment value. Both remaining factors reduce the usefulness of the P/E approach.

## Question #2 of 140

Question ID: 463406

An analyst has gathered the following data about Jackson, Inc.:

- Payout ratio = 60%.
- Expected growth rate in dividends = 6.7%.
- Required rate of return = 12.5%.

What will be the appropriate price-to-book value (PBV) ratio for Jackson, based on fundamentals?

- ☐ A) 1.38.
- ☐ B) 0.58.
- ☒ C) 1.73.

### Explanation

Return on equity (ROE) =  $g / (1 - \text{payout ratio}) = 0.067 / 0.40 = 0.1675$  or 16.75%.

Based on fundamentals:

$PBV = (0.1675 - 0.067) / (0.125 - 0.067) = 1.73$ .

## Question #3 of 140

Question ID: 463438

Consider the statement: "Unlike many valuation metrics that incorporate dividend discounting, the PEG ratio may be used to value firms with zero expected dividend growth prospects." Is this statement correct?

- ☐ A) Yes, because the expected dividend growth rate is cancelled out in the computation of the PEG ratio.
- ☐ B) Yes, because the computation of the PEG ratio does not use the rate of expected dividend growth.
- ☒ C) No, because the PEG ratio is undefined for zero-growth companies.

### Explanation

The PEG ratio measures the tradeoff between P/E and expected earnings growth ( $g$ ). The formula for the PEG ratio is:  $PEG = (P/E) / g$ . Firms with zero expected earnings growth will have an infinite (or undefined) PEG ratio due to division by zero.

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### Question #4 of 140

Question ID: 463330

An analyst begins an equity analysis of Company A by estimating future cash flows, discounting them back to the present, and dividing the result by the outstanding number of shares. This analyst is *most likely* using the:

- ✓ **A) the method of forecasted fundamentals.**
- x B) technical analysis.
- x C) the method of comparables.

#### Explanation

This analysis is comparing forecasted discounted cash flows (DCF) to a fundamental variable (shares). This suggests the method for forecasted fundamentals.

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### Question #5 of 140

Question ID: 463433

Two security analysts, Ramon Long and Sri Beujeau, disagree about certain aspects of the PEG ratio. Long argues that: "unlike typical valuation metrics that incorporate dividend discounting, the PEG ratio is unique because it generates meaningful results for firms with negative expected earnings-growth." Is Long correct?

- x **A) Yes, because the expected earnings-growth rate is cancelled out in the computation of the PEG ratio.**
- ✓ **B) No, because the PEG ratio generates meaningless results for negative earnings-growth companies.**
- x C) Yes, because the computation of the PEG ratio does not use the rate of expected earnings growth.

#### Explanation

The PEG ratio is:  $PEG = (P/E) / \text{earnings growth}$ . As such, firms with negative expected earnings growth will have a negative PEG ratio, which is meaningless.

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### Question #6 of 140

Question ID: 463397

What is the justified trailing price-to-earnings (P/E) multiple of a stock that has a payout ratio of 65% if the shareholders require a return of 10% on their investment and the expected growth rate in dividends is 6%?

- ✓ **A) 17.23.**
- x B) 9.28.
- x C) 16.25.

#### Explanation

$$P_0/E_0 = (0.65 \times 1.06) / (0.10 - 0.06) = 17.225$$

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### Question #7 of 140

Question ID: 463420

Proprietary Technologies, Inc., (PTI) has a leading price-to-earnings (P/E) ratio of 28 while the median leading P/E of a peer group of companies within the industry is 38. Based on the method of comparables, an analyst would *most likely* conclude that PTI should be:

- ✓ **A) bought as an undervalued stock.**
- ✗ **B) sold short as an overvalued stock.**
- ✗ **C) sold as an overvalued stock.**

#### Explanation

The price per dollar of earnings is considerably lower than that for the median of the peer group, which implies that it may well be undervalued.

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### Question #8 of 140

Question ID: 463441

Earnings before interest, taxes, depreciation, and amortization (EBITDA) is *best* suited as a measure of:

- ✓ **A) total company value.**
- ✗ **B) debt capacity.**
- ✗ **C) equity value.**

#### Explanation

EBITDA is a pre-tax, pre-interest measure, which represents a flow to both equity and debt. Thus, it is better suited as an indicator of total company value than just equity value.

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### Question #9 of 140

Question ID: 463413

Industrial Light had earnings per share (EPS) of \$5.00 past year, a dividend per share of \$2.50, a cost of equity of 12%, and a long-term expected growth rate of 5%. What is the trailing price-to-earnings (P/E) ratio?

- ✗ **A) 7.14.**
- ✓ **B) 7.50.**
- ✗ **C) 3.75.**

#### Explanation

$$P/E = \frac{(1-b) \times (1+g)}{r-g}$$

$$1 - b = 1 - (2.50/5.00) = 0.50$$

$$P_5 / E_5 = (0.50 \times 1.05) / (0.12 - 0.05) = 7.50$$

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## Question #10 of 140

Question ID: 463344

Bill Whelan and Chad Delft are arguing about the relative merits of valuation metrics.

Whelan: "My ratio is less volatile than most, and it works particularly well when I look at stocks in cyclical industries."

Delft: "The problem with your ratio is that it doesn't reflect differences in the cost structures of companies in different industries. I like to use a metric that strips out all the fluff that distorts true company performance."

Whelan: "People can't even agree how to calculate your ratio."

Which valuation metric do the analysts *most likely* prefer?

Whelan

Delft

☒ A) Price/book EV/EBITDA

☒ B) Price/cash flow Price/book

☒ C) Price/sales Price/cash flow

### Explanation

The price/sales ratio is not very volatile, and it is of particular value when dealing with cyclical companies. The price/cash flow ratio considers the stock price relative to cash flows, ignoring the noncash gains and losses that can skew earnings. A major weakness of the price/cash flow ratio is the fact that there are different ways of calculating it, making comparisons difficult at times.

## Question #11 of 140

Question ID: 463410

Margin and Sales Trade-off for CVR, Inc. and Home, Inc., for Next Year				
Firm	Strategy	Retention Rate	Profit Margin	Sales/Book Value (SBV) of Equity
CVR, Inc.	High Margin / Low Volume	20%	8%	1.25
CVR, Inc.	Low Margin / High Volume	20%	2%	4.00
Home, Inc.	High Margin / Low Volume	40%	9%	2.00
Home, Inc.	Low Margin / High Volume	40%	1%	20.0

Note: CVR, Inc., has a book value of equity of \$80 and a required rate of return of 10%. Home, Inc., has a book value of equity of \$100 and a required rate of return of 11%.

If Home, Inc., has a required return for shareholders of 11%, what is its appropriate leading price-to-sales ( $P_0 / S_1$ ) multiple if the firm undertakes the low margin/high volume strategy?

☒ A) 0.20.

☒ B) 0.80.

☒ C) 1.00.

#### Explanation

$g = \text{Retention Rate} \times \text{Profit Margin} \times \text{SBV of equity} = 0.40 \times 0.01 \times 20.0 = 0.08.$

If profit margin is based on the expected earnings next period,

$P/S = (\text{profit margin} \times \text{payout ratio}) / (r - g) = (0.01 \times 0.60) / (0.11 - 0.08) = 0.20.$

### Question #12 of 140

Question ID: 463337

The warranted or intrinsic price multiple is called the:

☒ A) multiple implied by historical growth.

☒ B) justified price multiple.

☒ C) multiple implied by the market price.

#### Explanation

A justified price multiple is the warranted or intrinsic price multiple. It is the estimated fair value of that multiple.

### Question #13 of 140

Question ID: 463407

Margin and Sales Trade-off for CVR, Inc. and Home, Inc., for Next Year				
Firm	Strategy	Retention Rate	Profit Margin	Sales/Book Value of Equity
CVR, Inc.	High Margin / Low Volume	20%	8%	1.25
CVR, Inc.	Low Margin / High Volume	20%	2%	4.00
Home, Inc.	High Margin / Low Volume	40%	9%	2.00
Home, Inc.	Low Margin / High Volume	40%	1%	20.0

(Note: CVR, Inc., has a book value of equity of \$80 and a required rate of return of 10%. Home, Inc., has a book value of equity of \$100 and a required rate of return of 11%.)

If CVR, Inc., has a required return for shareholders of 10%, what is its appropriate leading price-to-sales (P/S) multiple if the firm undertakes the high margin/low volume strategy?

☒ A) 0.80.

☒ B) 1.46.

☒ C) 0.20.

### Explanation

$g = \text{Retention Rate} \times \text{Profit Margin} \times \text{Sales/book value of equity} = 0.20 \times 0.08 \times 1.25 = 0.02.$

If profit margin is based on the expected earnings next period,

Leading P/S =  $(\text{profit margin} \times \text{payout ratio}) / (r - g) = (0.08 \times 0.80) / (0.10 - 0.02) = 0.80.$

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## Question #14 of 140

Question ID: 463445

An analyst gathers the following information for ABC Industries:

Market Value of Debt	\$110 million
Market Value of Equity	\$90 million
Book Value of Debt	\$100 million
Book Value of Equity	\$50 million
EBITDA	\$75 million

The EV/EBITDA is *closest* to:

☒ A) 2.00.

☐ B) 2.13.

☒ C) 2.67.

### Explanation

EV uses market values for debt and equity.  $(110 + 90) / 75 = 2.67.$

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## Question #15 of 140

Question ID: 463400

The Farmer Co. has a payout ratio of 70% and a return on equity (ROE) of 14%. What will be the appropriate price-to-book value (PBV) based on fundamentals if the expected growth rate in dividends is 4.2% and the required rate of return is 11%?

☐ A) 1.50.

☒ B) 1.44.

☐ C) 0.64.

### Explanation

Based on fundamentals:

$P/BV = (0.14 - 0.042) / (0.11 - 0.042) = 1.44.$

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## Question #16 of 140

Question ID: 463371

Which of the following statements about cyclical firms is *least* accurate?

☒ A) The problems encountered when using the price-to-earnings (P/E) multiples of cyclical firms can be completely eliminated by using average or normalized earnings.

- ☐ **B)** Cyclical firms have volatile earnings, and their price-to-earnings (P/E) multiple is not very useful for valuation.
- ☐ **C)** The price-to-earnings (P/E) multiple of a cyclical firm normally peaks at the depths of recession and bottoms out at the peak of economic boom.

#### Explanation

The P/E multiples for cyclical firms are not very useful for valuation. Earnings will follow the economy, and prices will reflect expectations about the future. Thus, most of the time, the P/E multiple of a cyclical firm will peak at the depths of recession and bottom out at the peak of an economic boom. This problem can be minimized to some extent by using average or normalized earnings but will not be eliminated completely.

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### Question #17 of 140

Question ID: 463418

Proprietary Technologies, Inc., (PTI) has a leading price-to-earnings (P/E) ratio of 38 while the median leading P/E of a peer group of companies within the industry is 28. Based on the method of comparables, an analyst would *most likely* conclude that PTI should be:

- ☐ **A) bought as an undervalued stock.**
- ☐ **B) viewed as a properly valued stock.**
- ☒ **C) sold or sold short as an overvalued stock.**

#### Explanation

The price per dollar of earnings is considerably higher than that for the median of the peer group, which implies that it may well be overvalued.

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### Questions #18-23 of 140

Analysts and portfolio managers at Big Picture Investments are having their weekly investment meeting. CEO Bob Powell, CFA, believes the firm's portfolios are too heavily weighted toward growth stocks. "I expect value to make a comeback over the next 12 months. We need to get more value stocks in the Big Picture portfolios." Four of Powell's analysts, all of whom hold the CFA charter, were at the meeting - Laura Barnes, Chester Lincoln, Zelda Marks, and Thaddeus Bosley. Powell suggested Big Picture should start selecting stocks with the lowest price-to-earnings (P/E) multiples. Here are the analysts' comments:

- Barnes said numerous academic studies have shown that low P/E stocks tend to outperform those with high P/Es. She uses the P/E ratio as the basis of most of her valuation analysis. "I prefer to use the justified P/E ratio because it is inversely related to the required rate of return."
- Lincoln warned against using P/E ratios to evaluate technology stocks. He suggests using price-to-book (P/B) ratios instead, because they are useful for explaining long-term stock returns. "Book value is a good measure of value for companies with a lot of liquid assets, and it is easier to calculate than the P/E because you rarely have to adjust book value."
- Bosley prefers the price/sales (P/S) ratio and the earnings yield. "The P/S ratio is particularly useful for valuing companies in cyclical industries because it isn't affected by sharp changes in profitability caused by economic cycles."
- Marks acknowledges that the P/E ratio is a useful valuation measurement. However, she prefers using the price/free-cash-flow ratio. "Free cash flow (FCF) is more difficult to manipulate than earnings, and it has proven value as a predictor of stock returns."

Powell has provided Barnes with a group of small-cap stocks to analyze. The stocks come from a variety of different sectors and have widely different financial structures and growth profiles. She has been asked to determine which of these stocks represent attractive

values. She is considering four possible methods for the job:

- The PEG ratio, because it corrects for risk if the stocks have similar expected returns.
- Comparing P/E ratios to the average stock in the S&P 500 Index, because the benchmark should serve as a good proxy for the average small-cap stock valuation.
- Comparing P/E ratios to the median stock in the S&P 500 Index, because outliers can skew the average P/E upward.
- The P/S ratio, because it works well for companies in different stages of the business cycle.

### Question #18 of 140

Question ID: 463347

Which analyst's quote is *least* accurate?

- ☐ A) Barnes'.
- ☐ B) Bosley's.
- ☒ C) Lincoln's.

#### Explanation

Book value must be adjusted constantly, and it is generally more complicated to calculate than earnings. The other three statements are true. (Study Session 12, LOS 37.c)

### Question #19 of 140

Question ID: 463348

Barnes is contemplating the use of a price/earnings ratio to value a start-up medical technology firm. Which of the following is the *most compelling* reason not to use the P/E ratio?

- ☐ A) Earnings per share are not a good determinant of investment value for medical-technology companies.
- ☒ B) The company is likely to be unprofitable.
- ☐ C) P/E ratios for medical-technology firms with different specialties are not comparable.

#### Explanation

Earnings are the chief determinant of value for most companies, including med-tech. P/E is the most common valuation method and the best known by lay investors. Comparability of P/E ratios across industries is always problematic, but not as much so for within the med-tech industry. A start-up company is very likely to have negative earnings, which renders the P/E ratio useless. (Study Session 12, LOS 37.c)

### Question #20 of 140

Question ID: 463349

Based on their responses to Powell, which of the analysts is *most likely* concerned about earnings volatility?

- ☐ A) Bosley.
- ☐ B) Barnes.
- ☒ C) Lincoln.

#### Explanation

Book value tends to be more stable than earnings. Therefore, Lincoln's favorite valuation tool, the P/B ratio, is less volatile than the P/E. The P/S ratio tends to be less volatile than the P/E as well, but Bosley's other favorite, earnings yield, is just as volatile. The method preferred by Barnes is likely to be more volatile than the P/B ratio. (Study Session 12, LOS 37.c)



### Question #21 of 140

Question ID: 463350

Based on their responses to Powell, which of the analysts has proposed a method that has the best chance to work for determining the relative value start-up companies?

- ☐ A) Lincoln.
- ☐ B) Marks.
- ☒ C) Bosley.

#### Explanation

Start-up companies tend to be unprofitable, and also often have negative free cash flow. Book value has some predictive power for such companies, but this is also often negative for new and unprofitable companies. The price/sales ratio, one of Bosley's favorites, is the only metric that will work even if earnings, cash flows, and book value are negative. (Study Session 13, LOS 37.c)

### Question #22 of 140

Question ID: 463351

Barnes would be *least likely* to use EV/EBITDA ratio, rather than the P/E ratio, when analyzing a company that:

- ☐ A) reports a lot of depreciation expense.
- ☐ B) has a different capital structure than most of its peers.
- ☒ C) pays a dividend, and is likely to deliver little earnings growth.

#### Explanation

For companies that report a lot of depreciation expense or must be compared to companies with different levels of financial leverage, the EV/EBITDA ratio may be more useful than the P/E. For companies that pay a dividend and have little profit growth, both should work fine. Given Barnes' stated preference for the P/E ratio, she is least likely to use the EV/EBITDA ratio with the dividend-paying firm. (Study Session 12, LOS 37.c, n)

### Question #23 of 140

Question ID: 463352

Barnes is considering the four methods previously described to analyze the small-cap stocks provided to her by Powell. For which method does Barnes provide the *weakest* justification?

- ☐ A) The price/sales ratio.
- ☐ B) The mean P/E of S&P 500 companies.
- ☒ C) The PEG ratio.

#### Explanation

No valuation method will work dependably across all types of stocks. The four Barnes proposed are probably as good as any. But the PEG ratio does not correct for risk - it works as a comparison tool only if the companies have similar expected risks and returns. The other justifications are reasonable. (Study Session 12, LOS 37.c, k)

### Question #24 of 140

Question ID: 463452

Which of the following factors is a source of differences in cross-border valuation comparisons?

- ☐ A) Comparative advantage.
- ☒ B) Accounting methods.
- ☐ C) Intra-country market indicators.

Explanation

Different accounting conventions make cross-border comparisons for valuation purposes challenging.

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### Question #25 of 140

Question ID: 463423

Enhanced Systems, Inc., (ESI) has a leading price to book value (P/B) of four while the median P/B of a peer group of companies within the industry is six. Based on the method of comparables, an analyst would *most likely* conclude that ESI should be:

- ☒ A) bought as an undervalued stock.
- ☐ B) sold as an overvalued stock.
- ☐ C) viewed as a properly valued stock.

Explanation

The price per dollar of book value is considerably lower than that for the median of the peer group, which implies that it may well be undervalued.

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### Question #26 of 140

Question ID: 463411

What is the appropriate price-to-sales (P/S) multiple of a stock that has a retention ratio of 45%, a return on equity (ROE) of 14%, an earnings per share (EPS) of \$5.25, sales per share of \$245.54, an expected growth rate in dividends and earnings of 6.5%, and shareholders require a return of 11% on their investment?

- ☐ A) 0.158.
- ☒ B) 0.278.
- ☐ C) 0.227.

Explanation

Recall that profit margin is measured as  $E_0 / S_0$ . In this example, the profit margin is  $(5.25 / 245.54) = 0.0214$ . Thus:

$$P_0 / S_0 = [(E_0 / S_0)(1 - b)(1 + g)] / (r - g) = [0.0214(0.55)(1.065)] / (0.11 - 0.065) = 0.278$$

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### Question #27 of 140

Question ID: 463398

What is the justified trailing price-to-earnings (P/E) multiple of a stock that has a payout ratio of 40% if the shareholders require a return of 16% on their investment and the expected growth rate in dividends is 6%?

- ☒ A) 4.24.
- ☐ B) 6.36.
- ☐ C) 4.00.

#### Explanation

$$P_0/E_0 = (0.40 \times 1.06) / (0.16 - 0.06) = 4.24$$

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### Question #28 of 140

Question ID: 415433

An argument against using the price-to-earnings (P/E) valuation approach is that:

- ☐ A) research shows that P/E differences are significantly related to long-run average stock returns.
- ☒ B) earnings can be negative.
- ☐ C) earnings power is the primary determinant of investment value.

#### Explanation

Negative earnings render the P/E ratio useless. Both remaining factors increase the usefulness of the P/E approach.

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### Question #29 of 140

Question ID: 463391

An increase in growth will cause a price-to-earnings (P/E) multiple to:

- ☒ A) increase.
- ☐ B) decrease.
- ☐ C) there is insufficient information to tell.

#### Explanation

An increase in growth will decrease the denominator and increase the numerator in the trailing P/E expression, both of which should increase the P/E ratio:

$$P_0/E_0 = [(1 - b)(1 + g)] / (r - g)$$

*Note that the topic review does not allow for any interactive relationship between retention and growth. Thus, no explicit consideration is given to how the growth increase was generated.*

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### Question #30 of 140

Question ID: 463401

The Farmer Co. has a payout ratio of 65% and a return on equity (ROE) of 16% (assume that this is expected ROE for the upcoming year). What will be the appropriate price-to-book value (PBV) based on return differential if the expected growth rate in dividends is 5.6% and the required rate of return is 13%?

- ☐ A) 0.71.
- ☐ B) 1.48.
- ☒ C) 1.41.

#### Explanation

Based on return differential:

$$P_0 / BV_0 = (ROE_1 - g) / (r - g) = (0.16 - 0.056) / (0.13 - 0.056) = 1.41.$$

## Questions #31-32 of 140

An analyst has gathered the following fundamental data:

	<i>Firm A</i>	<i>Firm A</i>	<i>Firm B</i>	<i>Firm B</i>
Strategy	High Margin	Low Margin	High Margin	Low Margin
	Low Volume	High Volume	Low Volume	High Volume
Payout Ratio	40%	40%	40%	40%
Required Rate of Return	11%	11%	11%	11%
Growth Rate in Dividends	9%	5%	5%	7%
Sales/Book Value of Equity	1.5	4.5	1.0	3
Profit Margin	10%	2%	9%	4%
Book Value	\$150	\$150	\$125	\$125

### Question #31 of 140

Question ID: 463394

What is the price-to-sales (P/S) multiple for Firm A in the high-margin, low-volume strategy?

- ✓ A) 2.18.
- x B) 2.00.
- x C) 0.13.

#### Explanation

The P/S multiple = [Profit Margin × Payout Ratio × (1 + g)] / (r - g) = (0.10 × 0.4 × 1.09) / (0.11 - 0.09) = 2.18.

### Question #32 of 140

Question ID: 463395

What is the P/S multiple for Firm B in the low-margin, high-volume strategy?

- x A) 0.60.
- x B) 2.00.
- ✓ C) 0.43.

#### Explanation

The P/S multiple = [Profit Margin × Payout Ratio × (1 + g)] / (r - g) = (0.04 × 0.4 × 1.07) / (0.11 - 0.07) = 0.428 or 0.43.

### Question #33 of 140

Question ID: 463434

The definition of a PEG ratio is price to earnings (P/E):

- ☐ A) divided by average historical earnings growth rate.
- ☐ B) divided by the average growth rate of the peer group.
- ☒ C) divided by the expected earnings growth rate.

Explanation

The PEG ratio is P/E divided by the expected earnings growth rate.

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### Question #34 of 140

Question ID: 463342

A firm is better valued using the discounted cash flow approach than the P/E multiples approach when:

- ☒ A) earnings per share are negative.
- ☐ B) expected growth rate is very high.
- ☐ C) dividend payout is low.

Explanation

P/E multiples are not meaningful when the earnings per share are negative. While this problem can be partially offset by using normalized or average earnings per share, the problem cannot be eliminated.

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### Question #35 of 140

Question ID: 463389

An *increase* in which of the following variables will *least likely* result in a corresponding *increase* in the price-to-book value (PBV) ratio for a high-growth firm?

- ☐ A) Growth rates in earnings.
- ☒ B) Required rate of return
- ☐ C) Payout ratios.

Explanation

The PBV ratio decreases as the required rate of return increases.

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### Question #36 of 140

Question ID: 463454

Which of the following is a common momentum valuation indicator?

- ☐ A) Price to free cash flow to equity (P/FCFE).
- ☒ B) Relative strength.
- ☐ C) Dividend yield (D/P).

Explanation

Relative strength is generally considered a momentum valuation indicator.

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### Question #37 of 140

Question ID: 463343

An analyst focusing mostly on financial stocks is likely to prefer valuing stocks via the:

- ✓ **A) price/book ratio.**
- x B) dividend yield.
- x C) price/sales ratio.

#### Explanation

The price/book ratio is a preferred tool for valuing financial stocks.

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### Question #38 of 140

Question ID: 463416

An analyst is valuing a company with a dividend payout ratio of 0.35, a beta of 1.45, and an expected earnings growth rate of 0.08. A regression on comparable companies produces the following equation:

Predicted price to earnings (P/E) =  $7.65 + (3.75 \times \text{dividend payout}) + (15.35 \times \text{growth}) - (0.70 \times \text{beta})$

What is the predicted P/E using the above regression?

- ✓ **A) 9.18.**
- x B) 7.65.
- x C) 11.21.

#### Explanation

Predicted P/E =  $7.65 + (3.75 \times 0.35) + (15.35 \times 0.08) - (0.70 \times 1.45) = 9.1755$

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### Question #39 of 140

Question ID: 463421

Enhanced Systems, Inc., has a price to book value (P/B) of five while the median P/B of a peer group of companies within the industry is five. Based on the method of comparables, an analyst would *most likely* conclude that ESI should be:

- ✓ **A) viewed as a properly valued stock.**
- x B) bought as an undervalued stock.
- x C) sold or sold short as an overvalued stock.

#### Explanation

The price per dollar of book value is the same as that for the median of the peer group, which implies that it is likely properly valued.

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### Question #40 of 140

Question ID: 463437

At a regional security analysts conference, Sandeep Singh made the following comment: "A PEG ratio is a very useful valuation metric because it generates meaningful results for all equities, regardless of the rate of dividend growth." Is Singh correct?

- ✓ **A) No, because the PEG ratio generates highly questionable results for low-growth companies.**
- x **B) Yes, because the computation of the PEG ratio does include the rate of expected dividend growth.**
- x **C) Yes, because the expected dividend growth rate is cancelled out in the computation of the PEG ratio.**

Explanation

The PEG ratio measures the tradeoff between P/E and expected earnings growth ( $g$ ). The formula for the PEG ratio is:  $PEG = (P/E) / g$ . PEG ratios generate questionable results for low-growth companies. Also, the PEG ratio is undefined for companies with zero expected growth (division by zero) or meaningless for companies with negative expected earnings growth.

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**Question #41 of 140**

Question ID: 463443

Which of the following measures of cash flow is *most closely* linked with valuation theory?

- ✓ **A) Free cash flow to equity (FCFE).**
- x **B) Earnings before interest, taxes, depreciation, and amortization (EBITDA).**
- x **C) Cash flow from operations (CFO).**

Explanation

FCFE is most strongly linked to valuation theory. Both remaining proxies are in need of significant adjustment to accurately measure cash flow in valuation.

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**Question #42 of 140**

Question ID: 463392

An analyst has gathered the following data about the Garber Company:

- Payout Ratio = 60%.
- Expected Return on Equity = 16.75%.
- Required rate of return = 12.5%.

What will be the appropriate price-to-book value (PBV) ratio for the Garber Company based on return differential?

- x **A) 0.58.**
- ✓ **B) 1.73.**
- x **C) 1.38.**

Explanation

The estimated growth rate is 6.7% [ $0.1675 \times (1 - 0.60)$ ] and PBV ratio based on rate differential will be:  
 $P_0 / BV_0 = (ROE_1 - g) / (r - g) = (0.1675 - 0.067) / (0.125 - 0.067) = 1.73.$

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**Question #43 of 140**

Question ID: 463448

An analyst gathered the following data for TRK Construction [all amounts in Swiss francs (Sf)]:

Recent share price	Sf 30.00
Shares outstanding	Sf 40 million
Market value of debt	Sf 120 million
Cash and marketable securities	Sf 75 million
Investments	Sf 200 million
Net income	Sf 160 million
Interest expense	Sf 9 million
Depreciation and amortization	Sf 12 million
Taxes	Sf 48 million

The EV/EBITDA multiple for TRK Construction is *closest* to:

- ☐ A) 3.47x.
- ☐ B) 5.21x.
- ☒ C) 4.56x.

#### Explanation

EBITDA = (net income + interest + taxes + depreciation / amortization)

EV = (market value of common stock + market value of debt - cash and investments)

EBITDA = 160 + 9 + 12 + 48 = Sf 229 million

EV = (30 × 40) + 120 - 75 - 200 = Sf 1045 million

EV / EBITDA = 4.56

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## Question #44 of 140

Question ID: 463459

Leslie Singer comments to Robert Chan that Dreamtime Industries' expected dividend growth rate is 5.0%, ROE is 14%, and required return on equity ( $r$ ) is 10%. Based on a justified P/B ratio compared to a P/B ratio (based on market price per share) of 1.60, Dreamtime Industries is *most likely*:

- ☐ A) overvalued.
- ☒ B) undervalued.
- ☐ C) correctly valued.

#### Explanation

Justified P/B =  $(\text{ROE} - g) / (r - g)$ . When the expected dividend growth is 5.0%, the justified P/B =  $(0.14 - 0.05) / (0.10 - 0.05) = 1.80$ . This is greater than the market P/B of 1.60.

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## Question #45 of 140

Question ID: 463402

A firm has a payout ratio of 35%, a return on equity (ROE) of 18%, an estimated growth rate of 13%, and its shareholders require a return



of 17% on their investment. Based on these fundamentals, a reasonable estimate of the appropriate price-to-book value ratio for the firm is:

☒ A) 1.58.

☒ B) 1.25.

☒ C) 2.42.

Explanation

$$\frac{P}{BV} = \frac{ROE - g}{r - g} = \frac{0.18 - 0.13}{0.17 - 0.13} = 1.25$$

## Questions #46-51 of 140

Carol Jenkins, CFA, works as a stock analyst for Cape Cod Partners, a money-management firm that handles private accounts for high net worth clients. Jenkins' assignment is to find attractively valued stocks for client portfolios.

Jenkins believes that recent weakness in the technology sector presents an attractive opportunity. She is looking at Massive Tech, the market leader in chipsets for laptop computers, and Mouse & Associates, a tiny software developer specializing in data-storage programs. Jenkins is considering the companies' relative values in a number of ways. Statistics for Massive and Mouse are provided below:

	<i>Massive Tech</i>	<i>Mouse &amp; Associates</i>
Stock price	\$65	\$12
Trailing earnings	\$4,300	\$3.15
Market capitalization	\$130,000	\$84
Assets	\$16,250	\$7.0
Equity	\$12,000	\$5.5
Operating margin	49%	54%
Net margin	12%	22%
Depreciation	\$3,500	\$6
Amortization	\$5,675	\$1.5
Fixed investment plus borrowing	\$4,200	\$0.3
Dividends	\$3	\$0.02
Shares outstanding	2,000	7

\* All figures except stock price, dividends, and percentages are in millions.

In most cases, Jenkins values her stocks relative to a basket of stocks in the same industry in order to avoid significant fundamental differences between companies of different types. However, her picks made based on price/earnings ratios are not doing well against the market. She fears the stocks she selects are not as cheap as she originally thought, relative to her benchmark.

Jenkins also wants to improve Cape Cod's selection of software stocks. To widen the field beyond the companies she currently follows, Jenkins wants to include Canadian software stocks in Cape Cod's research universe. Differences in accounting methodologies are not a concern, but Jenkins is still concerned about the difficulty of valuing the different stocks.

Jenkins has assembled the following data about Canadian software companies:

- Most are very small.
- Most carry little debt, but about 20% are heavily leveraged.
- These companies are more likely to be unprofitable compared to U.S. companies.
- Few pay dividends, as is the case in the U.S.
- Many of the companies are government-subsidized, which leads to drastic differences in the level of operating expenses.

### Question #46 of 140

Question ID: 463425

Which of the following explanations is *least likely* to explain why Jenkins' stock picks underperform?

- ☒ A) Many stocks in the benchmark group are mispriced.
- ☒ B) Large stocks have an outsized effect on the benchmark data.
- ☒ C) She is using the mean rather than the median valuation as a benchmark.

#### Explanation

Capitalization weights are not an issue unless the benchmark is a cap-weighted index. Jenkins is using a basket of stocks in the same industry, which can be assumed to be a simple arithmetic average. Average valuations reflect outliers; medians do not. P/Es can get very high, but can never fall below zero. As such, the outliers are going to trend high, and the median is likely to be considerably lower than the mean. A stock that looks cheap relative to the mean may look expensive relative to the median. Stocks of different sizes often have different average or median valuations. Mispricing of stocks in the benchmark is always a risk. (Study Session 12, LOS 37.j)

### Question #47 of 140

Question ID: 463426

If she wants to compare Canadian software companies to U.S. software companies, it would be *most* appropriate for Jenkins to value the companies using the:

- ☒ A) price/sales ratio.
- ☒ B) price/book ratio.
- ☒ C) enterprise value/EBITDA ratio.

#### Explanation

Accounting issues are not relevant to this discussion. As such, we must consider the other characteristics of the market to choose the best method. The P/E ratio is limited in value because many of the companies do not make money. The P/S ratio doesn't work well when the companies have different cost structures, and the measure does not reflect differences in profit margins. EBITDA is less likely to be negative than earnings, but it will fall prey to differences in cost structure just as the P/E and P/S ratios will. Like EBITDA, book value is often positive even when profits are negative. The price/book ratio is best for valuing companies with small amounts of fixed assets, like software makers. In addition, the fact that most of the companies are small eliminates one of the P/B ratio's weaknesses that it can be misleading when compared firms have significantly different asset sizes. (Study Session 12, LOS 37.j)

### Question #48 of 140

Question ID: 463427

Which valuation ratio is *least* appropriate for comparing Massive and Mouse?

- ☒ A) Price/book because Massive is larger than Mouse.
- ☒ B) Price/cash flow because cash flows for small companies can be extremely volatile.
- ☒ C) Enterprise value/EBITDA because Massive and Mouse have very different debt levels.

#### Explanation

The P/B ratio's can be misleading when used to compare companies with vastly different asset bases. A large semiconductor company is likely to have lots of fixed assets, while a tiny software company may have very few assets. The P/CF ratio tends to be more stable than the P/E ratio. The P/E ratio is useless for considering companies that lose money, but that does not mean the measure has no value when earnings are positive. The EV/EBITDA ratio is effective at comparing stocks with different degrees of financial leverage. (Study Session 12, LOS 37.j)

### Question #49 of 140

Question ID: 463428

Mouse & Associates is cheaper than Massive Tech as measured by:

- ☐ A) the price/sales ratio and the price/earnings ratio.
- ☒ B) the earnings yield but not the price/book.
- ☐ C) the price/sales ratio and the dividend yield.

#### Explanation

To calculate the P/E, divide the market capitalization by the earnings. Lower is cheaper.

To calculate the P/B, divide the market capitalization by the equity. Lower is cheaper.

To calculate the P/S, determine sales by dividing the earnings by the net margin. Then divide the market capitalization by the sales. Lower is cheaper.

To calculate the earnings yield, divide the earnings by the market capitalization. Higher is cheaper.

To calculate the dividend yield, divide the dividends by the price. Higher is cheaper.

	<i>Massive Tech</i>	<i>Mouse &amp; Associates</i>
P/E	30.23	26.67
P/B	10.83	15.27
P/S	3.63	5.87
Earnings yield	3.31%	3.75%
Dividend yield	4.62%	0.17%

(Study Session 12, LOS 37.d)

### Question #50 of 140

Question ID: 463429

The price/cash flow ratio of Massive Tech, where cash flow is defined as earnings plus noncash charges, is *closest* to:

- ☒ A) 9.65.
- ☐ B) 16.67.
- ☐ C) 7.89.

#### Explanation

Cash flow = net income plus depreciation plus amortization = (\$4,300 + 3,500 + 5,675) = \$13,475 million.

P/CF = market capitalization/cash flow = (\$130,000/13,475) = 9.65. (Study Session 12, LOS 37.d)

### Question #51 of 140

Question ID: 463430

If Jenkins wants to compare foreign stocks to U.S. stocks and is concerned about differences in accounting, she should start with the:

- ☐ A) price/FCFE ratio.

- ✓ **B)** dividend yield.
- x **C)** price/book ratio.

#### Explanation

Of all the price ratios, the price/free cash flow to equity ratio is the least affected by international accounting differences. However, the dividend yield is not affected by such accounting differences at all, and represents a good starting point. Residual-income models and price/book ratios are very sensitive to accounting issues. (Study Session 12, LOS 37.o)

## Questions #52-57 of 140

Robin Alberts, CFA, is the head of research for Worth Brothers, a large investment company based in New York. Next week, a group of analysts who have just completed the Worth Brothers' management training program will begin rotating throughout the various departments and trading desks at the firm. The trainees will be split into small groups, and each group will spend four weeks in each area to learn the basic operations of each department through "hands on" experience. Also, in that time period, each department head is expected to fully evaluate each candidate in order to determine their future placement within the firm.

Alberts decides that she should begin every rotation in the research department by giving each candidate a brief review exam to test their knowledge of the general principles of credit analysis. She asks each candidate to analyze the following three scenarios and to answer two questions on each scenario.

Scenario One				
	Firm A	Firm B	Firm C	Firm D
Payout Ratio	75%	--	--	--
Required Rate of Return	12%	12%	12%	12%
Return on Equity (ROE)	20%	15%	30%	14%
Price-to-book Value (PBV) Ratio	--	3.00	0.70	3.50
Scenario Two				
Cost of Capital Measures for Brown, Inc.				
Risk-Free Rate	5%			
Expected Return on the Market	12%			
Beta	1.5			
Tax Rate	40%			
Cost of Debt	10%			
Proportion of the Firm Financed with Debt	20%			
Proportion of the Firm Financed with Equity	80%			
Scenario Three				
The Donner Company				
as of December 31, 2003				
(in \$ millions)				

Cash	38	Current Liabilities	52
Accounts Receivable	120	Long-term Bonds	123
Inventory	57	Common Stock	75
Property, Plant & Equip.	218	Retained Earnings	183
Total Assets	433	Total Liabilities & Equity	433
	2001	2002	2003
Operating Profit (EBIT)	42	38	43
Interest Expense	16	17	20
<b>Relevant Industry Ratios</b>			
Long-term Debt-to-equity Ratio: 0.52			
Current Ratio: 3.20			
Interest Coverage Ratio: 2.10			

### Question #52 of 140

Question ID: 463357

Using the information in scenario one which of the following items would *increase* firm A's PBV?

- ☒ A) Decrease ROE.
- ☒ B) Increase r.
- ☒ C) A larger spread between ROE and the required rate of return (r).

#### Explanation

To increase the PBV do one of the following:

- Increase ROE.
- Decrease r.
- Increase the spread between ROE and r.

(Study Session 10, LOS 31.d)

### Question #53 of 140

Question ID: 463358

Using the information from scenario one which of the following items would *decrease* Firm A's PBV?

- ☒ A) Increase ROE.
- ☒ B) Increase the spread between ROE and r.
- ☒ C) Increase r.

#### Explanation

To decrease the PBV do one of the following:

- Decrease ROE.

- Increase  $r$ .
- Decrease the spread between ROE and  $r$ .

(Study Session 10, LOS 31.d)

### Question #54 of 140

Question ID: 463359

Using the information in scenario two, what is the cost of equity capital of Brown, Inc.?

- ☐ A) 10.5%.
- ☐ B) 12.0%.
- ☒ C) 15.5%.

#### Explanation

Use the capital asset pricing model (CAPM) to compute the cost of equity capital as follows:

$$K_{\text{equity}} = 5\% + (1.5)(12\% - 5\%) = 15.5\%.$$

(Study Session 11, LOS 40.d)

### Question #55 of 140

Question ID: 463360

Using the information in scenario two, what is the weighted-average cost of capital (WACC) of Brown, Inc.?

- ☐ A) 9.86%.
- ☒ B) 13.60%.
- ☐ C) 14.40%.

#### Explanation

$$\begin{aligned} \text{WACC} &= (\text{proportion of firm financed with equity})(\text{cost of equity}) + (\text{proportion of firm financed with debt})(\text{cost of debt})(1 - \text{tax rate}) \\ &= (0.8)(15.5\%) + (0.2)(10\%)(1 - 0.4) = 13.6\%. \end{aligned}$$

(Study Session 11, LOS 40.d)

### Question #56 of 140

Question ID: 463361

Using the information in scenario three, what should Mansted observe about Donner's solvency and debt capitalization?

- ☐ A) Donner's solvency ratio is worse but its debt capitalization is better than the industry average.
- ☐ B) Donner's solvency ratio is better but its debt capitalization is worse than the industry average.
- ☒ C) Both Donner's solvency and debt capitalization ratios are better than the industry average.

#### Explanation

Donner's current ratio of  $(38 + 120 + 57) / 52 = 4.13$  is higher (better) than the industry average of 3.2. Donner's long-term debt-to-equity ratio of  $123 / (75 + 183) = 0.48$  is lower (better) than the industry average of 0.52. (Study Session 14, LOS 51.c)

### Question #57 of 140

Question ID: 463362

Using the information in scenario three, what should Mansted observe about Donner's ability to make its interest payments? Donner's

interest coverage ratio is:

- ✓ **A) declining (worsening) over time but is still above the industry average.**
- x B) declining (worsening) over time and is below the industry average.
- x C) rising (improving) over time and is above the industry average.

Explanation

Donner's interest coverage ratio ( $42 / 16 = 2.625$  in 2001,  $38 / 17 = 2.235$  in 2002, and 2.150 in 2003) is declining from year to year but is still above the industry average of 2.10. (Study Session 14, LOS 51.d)

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## Question #58 of 140

Question ID: 463453

In interpreting the standardized unexpected earnings (SUE) momentum measure, it can be concluded that a given size forecast error is:

- ✓ **A) more meaningful the smaller the historical size of forecast errors.**
- x B) more meaningful the larger the historical size of forecast errors.
- x C) scaled by the earnings surprise.

Explanation

A given size forecast error is more (less) meaningful the smaller (larger) the historical size of forecast errors.

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## Question #59 of 140

Question ID: 463379

A common pitfall in interpreting earnings yields in valuation is:

- x A) using underlying earnings.
- x B) using negative earnings.
- ✓ **C) look-ahead bias.**

Explanation

A common pitfall is look-ahead bias, wherein the analyst uses information that was not available to the investor when calculating the earnings yield.

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## Question #60 of 140

Question ID: 463408

An analyst has gathered the following fundamental data:

	<i>Firm A</i>	<i>Firm B</i>	<i>Firm C</i>	<i>Firm D</i>
Payout Ratio	75%			
Required Rate of Return	12%	12%	12%	12%
Return on Equity (ROE)	20%	15%	30%	14%
Price/Book Value (PBV) Ratio		3.00	0.70	3.50

What is the PBV ratio for Firm A?

- ✓ **A) 2.14.**
- x B) 0.71.
- x C) 1.25.

Explanation

The growth rate in dividends ( $g$ ) =  $ROE(1 - \text{payout ratio}) = 0.20 \times (1 - 0.75) = 0.05$  or 5%. The PBV ratio =  $(ROE - g) / (r - g) = (0.20 - 0.05) / (0.12 - 0.05) = 2.14$ .

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### Question #61 of 140

Question ID: 463331

Which of the following valuation approaches is based on the rationale that stock values differ due to differences in the expected values of variables such as sales, earnings, or related growth rates?

- ✓ **A) Method of forecasted fundamentals.**
- x B) Free cash flow to the firm.
- x C) Method of comparables.

Explanation

The method of forecasted fundamentals is based on the rationale that stock values differ due to differences in the expected values of fundamentals such as sales, earnings, or related growth rates.

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### Question #62 of 140

Question ID: 463385

The net impact of an *increase* in payout ratio on price-to-book value (PBV) ratio cannot be determined because it might also:

- x A) decrease the market value of the firm.
- ✓ B) decrease expected growth.
- x C) decrease required rate of return.

Explanation

If payout increases, the growth of the firm may slow down, because internally generated funds are not being invested in new, profitable projects. Hence, the net impact on the PBV ratio from change in payout ratio cannot be determined.

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### Question #63 of 140

Question ID: 415434

An argument against using the price-to-sales (P/S) valuation approach is that:

- x A) P/S ratios are not as volatile as price-to-earnings (P/E) multiples.
- ✓ B) P/S ratios do not express differences in cost structures across companies.
- x C) sales figures are not as easy to manipulate or distort as earnings per share (EPS) and book value.



### Explanation

P/S ratios do not express differences in cost structures across companies. Both remaining responses are advantages of the P/S ratios, not disadvantages.

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## Question #64 of 140

Question ID: 463451

Which of the following price multiples is *most* severely damaged by international accounting differences?

- ☐ A) Price to free cash flow to equity (P/FCFE).
- ☐ B) Price to cash flow from operations (P/CFO).
- ☒ C) Enterprise value to earnings before interest, taxes, depreciation, and amortization (EV/EBITDA).

### Explanation

EV/EBITDA is the most seriously affect because it is most closely tied to accounting conventions.

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## Question #65 of 140

Question ID: 463381

An increase in growth will cause a price to cash flow multiple to:

- ☒ A) increase.
- ☐ B) there is insufficient information to tell.
- ☐ C) decrease.

### Explanation

An increase in growth increases the price to cash flow ratio (CF), as indicated by the following expression:

$$P_0 / CF_0 = (1 + g) / (r - g)$$

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## Question #66 of 140

Question ID: 463380

A common justification for using earnings yields in valuation is that:

- ☐ A) earnings are more stable than dividends.
- ☐ B) earnings are usually greater than free cash flows.
- ☒ C) negative earnings render P/E ratios meaningless and prices are never negative.

### Explanation

Negative earnings render P/E ratios meaningless. In such cases, it is common to use normalized earnings per share (EPS) and/or restate the ratio as the earnings yield or E/P because price is never negative. Price to earnings (P/E) ranking can then proceed as usual.

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## Question #67 of 140

Question ID: 463440

Precision Tools is expected to have earnings per share (EPS) of \$5.00 per share in five years, a dividend per share of \$2.00, a cost of equity of 12%, and a long-term expected growth rate of 5%. What is the terminal trailing price-to-earnings (P/E) ratio in five years?

- ☐ A) 7.14.
- ☒ B) 6.00.
- ☐ C) 9.00.

### Explanation

$$P_5/E_5 = (0.40 \times 1.05) / (0.12 - 0.05) = 6.00$$

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## Question #68 of 140

Question ID: 463384

The price-to-book value (PBV) ratio for a high-growth firm will:

- ☐ A) increase as the growth rate in either the high-growth or stable-growth period decreases.
- ☒ B) increase as the growth rate in either the high-growth or stable-growth period increases.
- ☐ C) increase as the growth rate in the high-growth period increases and decrease as the growth rate in the stable-growth period increases.

### Explanation

The PBV ratio for a high-growth firm will be determined by growth rates in earnings in both the high-growth and stable-growth periods. The PBV ratio increases as the growth rate increases in either period.

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## Question #69 of 140

Question ID: 463382

A decrease in the earnings retention rate will cause a price-to-sales (P/S) multiple to:

- ☒ A) increase.
- ☐ B) remain the same.
- ☐ C) decrease.

### Explanation

A decrease in the earnings retention rate will increase the following expression for P/S due to the implied increase in the payout ratio, which is  $(1 - b)$ :

$$P_0 / S_0 = [(E_0 / S_0)(1 - b)(1 + g)] / (r - g)$$

*Note that the topic review does not allow for any interactive relationship between retention and growth. Thus, no explicit consideration is given to whether the increase in the payout ratio will cause an offsetting decrease in growth.*

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## Question #70 of 140

Question ID: 463409

A firm has a payout ratio of 40%, a profit margin of 7%, an estimated growth rate of 10%, and its shareholders require a return of 14% on their investment. Based on these fundamentals, a reasonable estimate of the appropriate price-to-sales ratio for the firm (based on trailing sales) is:

✓ **A) 0.77.**

x **B) 0.56.**

x **C) 0.70.**

Explanation

$$\frac{P}{S} = \frac{\text{payout} \times \text{profitmargin} \times (1 + g)}{r - g} = \frac{0.40 \times 0.07 \times 1.10}{0.14 - 0.10} = 0.77$$

### Question #71 of 140

Question ID: 463376

Alpha Software (AS) recently reported annual earnings per share (EPS) of \$1.75, which included an extraordinary loss of \$0.19 and an expense of \$0.10 related to acquisition costs during the accounting period, neither of which are expected to recur. Given that the most recent share price is \$65.00, what is a useful AS's trailing price to earnings (P/E) for valuation purposes?

x **A) 37.14.**

✓ **B) 31.86.**

x **C) 44.52.**

Explanation

Using an underlying earnings concept, an analyst would add back the temporary charges against earnings: \$1.75 + \$0.19 + \$0.10 = \$2.04. The resulting trailing P/E = 65.00 / 2.04 = 31.86.

### Question #72 of 140

Question ID: 463340

Analyst Ariel Cunningham likes using the price/earnings ratio for valuation purposes because studies have shown it is very effective at identifying undervalued stocks. However, she has one main problem with the statistic - it doesn't work when a company loses money. So Cunningham is considering switching to a different core valuation metric. Given Cunningham's rationale for using the price/earnings ratio, which option would be her *best* alternative?

x **A) Price/book.**

x **B) Price/cash flow.**

✓ **C) Price/sales.**

Explanation

Book value is usually positive, but not always. Cash flow is often negative. If the reason Cunningham wants to stop using the P/E ratio is that it does not work for unprofitable companies, her best option is a ratio base on sales, which are positive in all but the rarest of instances.

### Question #73 of 140

Question ID: 463456

An analyst is preparing a presentation on "Interpreting PE ratios" and has the following data:

	Portfolio %	Stock PE
Stock AAA	60%	10
Stock BBB	40%	15

Which of the following is *closest* to the weighted harmonic mean of these two PE ratios?

- ☐ A) 12.49.
- ☐ B) 11.98.
- ☒ C) 11.54.

#### Explanation

The weighted harmonic mean of the two PE ratios is a harmonic mean which is weighted by the portfolio weights.

$$1/[(0.60 \times 1/10) + (0.40 \times 1/15)] = 11.54$$

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### Question #74 of 140

Question ID: 463341

One disadvantage of using the price/sales (P/S) multiple for stock valuation is that:

- ☐ A) **P/S multiple does not provide a framework to evaluate the effects of corporate policy decisions and price changes.**
- ☐ B) profit margins are not consistent across firms within an industry.
- ☒ C) sales are relatively stable and might not change even though earnings and value might change significantly.

#### Explanation

The stability of sales (relative to earnings and book value) can be a disadvantage. For example, revenues may remain stable but earnings and book values can drop significantly due to a sharp increase in expenses.

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### Question #75 of 140

Question ID: 415429

Which of the following is NOT an advantage of using price-to-book value (PBV) multiples in stock valuation?

- ☐ A) **Book value is often positive, even when earnings are negative.**
- ☐ B) PBV ratios can be compared across similar firms if accounting standards are consistent.
- ☒ C) Book values are very meaningful for firms in service industries.

#### Explanation

Book values are NOT very meaningful for firms in service industries.

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### Question #76 of 140

Question ID: 463436

Good Sports, Inc., (GSI) has a leading price-to-earnings (P/E) ratio of 12.75 and a 5-year consensus growth rate forecast of 8.5%. What is the firm's P/E to growth (PEG) ratio?

- ✓ A) 1.50.
- x B) 150.00.
- x C) 0.67.

Explanation

The firm's PEG is  $12.75 / 8.50 = 1.50$ .

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### Question #77 of 140

Question ID: 463457

An analyst is preparing a presentation on "Interpreting PE ratios" and has the following data:

	Portfolio %	Stock PE
Stock AAA	60%	10
Stock BBB	40%	15

Which of the following is the *most appropriate* measure for calculating the portfolio P/E?

- x A) Geometric mean of the P/E's.
- x B) Arithmetic average of the P/E's.
- ✓ C) Weighted harmonic mean of the P/E's.

Explanation

The weighted harmonic mean of the 10 and 15 will give the result closest to the portfolio earnings divided by the portfolio value.

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### Question #78 of 140

Question ID: 463458

An analyst is calculating the weighted harmonic mean P/E ratio of a 2-stock portfolio. Stocks AAA and BBB have prices of \$12 and \$15, respectively, and EPS of \$1 and \$2, respectively. Which of the following is the weighted harmonic mean P/E of the portfolio *closest* to?

- ✓ A) 9.00
- x B) 9.23
- x C) 9.75

Explanation

The weighted harmonic mean is  $1/[(12/27)(1/12) + (15/27)(2/15)] = 27/3 = 9.00$  The weighted harmonic mean of the individual stocks P/Es is the best measure of the P/E for a portfolio of stocks.

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### Question #79 of 140

Question ID: 463321

Shares of TKR Construction (TKR) are selling for \$50. Earnings for the last 12 months were \$4.00 per share. The average trailing P/E ratio

for firms in TKR's industry is 15. The appropriate WACC is 12%, and the risk-free rate is 8%. Assume a growth rate of 0%. Using the method of comparables, what price is indicated for TKR?

- ☐ A) \$50.00.
- ☐ B) \$33.33.
- ☒ C) \$60.00.

#### Explanation

Using the method of comparables, TKR should be priced as  $(15 \times 4) = \$60.00$ .

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### Question #80 of 140

Question ID: 463403

The Lewis Corp. had revenue per share of \$300 in 2001, earnings per share of \$4.50, and paid out 60% of its earnings as dividends. If the return on equity (ROE) and required rate of return of Lewis are 20% and 13% respectively, what is the appropriate price/sales (P/S) multiple for Lewis?

- ☐ A) 0.18.
- ☐ B) 0.12.
- ☒ C) 0.19.

#### Explanation

Profit Margin = EPS / Sales per share =  $4.50 / 300 = 0.015$  or 1.5%.

Expected growth in dividends and earnings =  $ROE \times (1 - \text{payout ratio}) = 0.20 \times 0.40 = 0.08$  or 8%.

$P_0/S_0 = [\text{profit margin} \times \text{payout ratio} \times (1 + g)] / (r - g) = [0.015 \times 0.60 \times (1.08)] / (0.13 - 0.08) = 0.1944$ .

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### Question #81 of 140

Question ID: 463335

Which of the following statements about the method of forecasted fundamentals in price multiple valuation is *most* accurate?

- ☐ A) It relies on the Law of One Price.
- ☒ B) It relates multiples to company fundamentals using a discounted cash flow (DCF) model.
- ☐ C) It values an asset relative to a benchmark value of the multiple.

#### Explanation

The method of forecasted fundamentals relates multiples to company fundamentals using a DCF method. It does not explicitly rely on the Law of One Price. Further, it does not typically focus on benchmarks.

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### Question #82 of 140

Question ID: 463444

Which of the following is a disadvantage to using EV/EBITDA?

- ☐ A) EBITDA is useful for valuing capital-intensive businesses with high levels of depreciation and amortization.
- ☐ B) EBITDA is usually positive even when EPS is not.
- ☒ C) Since FCFF captures the amount of capital expenditures, it is more strongly linked with valuation theory than EBITDA.

Explanation

Since FCFF captures the amount of capital expenditures, it is more strongly linked with valuation theory than EBITDA. The other statements are advantages.

---

### Question #83 of 140

Question ID: 463386

All other variables held constant, the justified price-to-book multiple will *decrease* with a decrease in:

- ☒ A) expected growth rate.
- ☐ B) required rate of return.
- ☐ C) payout ratio.

Explanation

All other variables held constant, a decrease in expected growth rate will result in a decrease in the justified price-to-book multiple.

---

### Question #84 of 140

Question ID: 463417

An analyst is valuing a company with a dividend payout ratio of 0.65, a beta of 0.72, and an expected earnings growth rate of 0.05. A regression on comparable companies produces the following equation:

Predicted price to earnings (P/E) =  $7.65 + (3.75 \times \text{dividend payout}) + (15.35 \times \text{growth}) - (0.70 \times \text{beta})$

What is the predicted P/E using the above regression?

- ☐ A) 11.39.
- ☒ B) 10.35.
- ☐ C) 7.65.

Explanation

Predicted P/E =  $7.65 + (3.75 \times 0.65) + (15.35 \times 0.05) - (0.70 \times 0.72) = 10.35$

---

### Question #85 of 140

Question ID: 463374

Underlying earnings may be defined as earnings:

- ☐ A) net of capital expenditures needed to keep the business productive.
- ☒ B) that exclude non-recurring components.
- ☐ C) that include non-recurring components.

### Explanation

Underlying earnings are earnings that exclude non-recurring items. They are also known as persistent, continuing, or core earnings.

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## Question #86 of 140

Question ID: 463354

At a CFA society function, Andrew Caza comments to Nanda Dhople that the expected dividend growth rate ( $g$ ) for Zeron Enterprises Inc (ZEI) is expected increase 0.5% from 6% to 6.5%. Caza claims that since ZEI will maintain their historic dividend payout ratio ( $g$ ) of 50% and cost of equity ( $k$ ) of 10%, ZEI's P/E ratio will also increase by 0.5%. Is Caza correct?

- ✓ **A) No, ZEI's P/E ratio will increase by approximately 14.32%.**
- x B) No, ZEI's P/E ratio will decrease by approximately 14.32%.
- x C) Yes, ZEI's P/E ratio will increase by approximately 0.5%.

### Explanation

Caza is not correct.  $P/E_{ZEI} = \text{payout ratio} / (k - g)$

When the expected dividend growth is 6%,  $P/E = 0.50 / (0.10 - 0.06) = 12.50$

When the expected dividend growth is 6.5%,  $P/E = 0.50 / (0.10 - 0.065) = 14.29$

The percentage change is  $(14.29 / 12.50) - 1 = 14.32\%$ , representing a 14.32% increase.

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## Question #87 of 140

Question ID: 463431

Which of the following statements regarding the P/E to growth (PEG) valuation approach is *least* accurate? The P/E to growth (PEG) valuation approach assumes that:

- ✓ **A) stocks with higher PEGs are more attractive than stocks with lower PEGs.**
- x B) there is a linear relationship between price to earnings (P/E) and growth.
- x C) there are no risk differences among stocks.

### Explanation

The PEG valuation approach implicitly assumes there is a linear relationship between price to earnings (P/E) and growth, even though there is not a "real world" linear relationship. The analyst must be cautious when using the PEG ratio for valuation or comparison purposes especially if the growth rate is very small or very large. If earnings or the growth rate is negative the PEG ratio is meaningless. The PEG ratio does not adjust for varying levels of risk among stocks and views stocks with lower PEG ratios to be more attractive than stocks with higher PEG ratios.

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## Question #88 of 140

Question ID: 463447

Which of the following are advantages of using EV/EBITDA?

- x **A) EV/EBITDA ignores how different revenue recognition policies affect CFO.**
- x B) If working capital is growing, EBITDA will be larger than CFO.



- ✓ **C)** EBITDA is useful for valuing capital-intensive businesses with high levels of depreciation and amortization.

Explanation

EBITDA is useful for valuing capital-intensive businesses with high levels of depreciation and amortization. The other statements are disadvantages to using EV/EBITDA.

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**Question #89 of 140**

Question ID: 463442

If cash flow from operations (CFO) embeds financing-related flows, it should be adjusted by:

- ✗ **A)** subtracting capital expenditures.
- ✓ **B)** adding (net interest outflow)  $\times$  (1 - tax rate).
- ✗ **C)** subtracting (net interest outflow)  $\times$  (1 - tax rate).

Explanation

Cash flow from operations CFO should be adjusted to  $\text{CFO} + (\text{net cash interest outflow}) \times (1 - \text{tax rate})$ , if CFO embeds financing-related flows.

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**Question #90 of 140**

Question ID: 463449

An analyst gathered the following data for TRK Construction [all amounts in Swiss francs (Sf)]:

Recent share price	Sf 25.00
Shares outstanding	40 million
Market value of debt	Sf 130 million
Cash and marketable securities	Sf 65 million
Investments	Sf 250 million
Net income	Sf 150 million
Interest expense	Sf 8 million
Depreciation and amortization	Sf 11 million
Taxes	Sf 52 million

The EV/EBITDA multiple for TRK Construction is *closest* to:

- ✓ **A)** 3.69x.
- ✗ **B)** 4.12x.
- ✗ **C)** 2.47x.

Explanation

$\text{EBITDA} = (\text{net income} + \text{interest} + \text{taxes} + \text{depreciation} / \text{amortization})$

$\text{EV} = (\text{market value of common stock} + \text{market value of debt} - \text{cash and investments})$

$\text{EBITDA} = 150 + 8 + 11 + 52 = \text{Sf } 221 \text{ million}$

$$EV = (25 \times 40) + 130 - 65 - 250 = \text{Sf } 815 \text{ million}$$

$$EV / \text{EBITDA} = 3.69$$

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### Question #91 of 140

Question ID: 463461

At a CFA society function, Robert Chan comments to Li Chiao that Xanadu Industries' expected dividend growth rate is 5.5%, dividend payout ratio ( $g$ ) is 40%, and required return on equity ( $r$ ) is 12%. Based on a justified leading P/E ratio compared to an actual P/E ratio of 8.0, Xanadu Industries is *most likely*:

- ☐ A) correctly valued.
- ☐ B) undervalued.
- ☒ C) overvalued.

#### Explanation

Justified Leading P/E = payout ratio / ( $r - g$ ). When the expected dividend growth is 5.5%, the justified leading P/E =  $0.40 / (0.12 - 0.055) = 6.15$ . This is less than the actual (based on current market price) P/E of 8.0.

---

### Question #92 of 140

Question ID: 463415

An analyst is valuing a company with a dividend payout ratio of 0.55, a beta of 0.92, and an expected earnings growth rate of 0.07. A regression on comparable companies produces the following equation:

$$\text{Predicted price to earnings (P/E)} = 7.65 + (3.75 \times \text{dividend payout}) + (15.35 \times \text{growth}) - (0.70 \times \text{beta})$$

What is the predicted P/E using the above regression?

- ☐ A) 7.65.
- ☐ B) 11.43.
- ☒ C) 10.14.

#### Explanation

$$\text{Predicted P/E} = 7.65 + (3.75 \times 0.55) + (15.35 \times 0.07) - (0.70 \times 0.92) = 10.14$$

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### Question #93 of 140

Question ID: 463333

P/E multiples are often computed using the average of the multiples of comparable firms, because:

- ☒ A) it is conceptually very straightforward.
- ☐ B) it provides the most accurate results.
- ☐ C) it is very easy to find comparable firms that have the same business mix and risk and growth profiles.

#### Explanation

The use of comparable firms is quite common, because it is conceptually very straightforward. Also, it does not require the analyst to

make specific assumptions regarding growth, risk, and other variables. However, it is often difficult to find comparable firms, since even within the same industry different firms can have different business mixes and risk and growth profiles.

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### Question #94 of 140

Question ID: 463345

An argument for using the price-to-earnings (P/E) valuation approach is that:

- ☐ A) earnings can be negative.
- ☒ B) research shows that P/E differences are significantly related to long-run average stock returns.
- ☐ C) earnings volatility facilitates interpretation.

#### Explanation

Research shows that P/E differences are significantly related to long-run average stock returns. Both remaining factors reduce the usefulness of the P/E approach.

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### Question #95 of 140

Question ID: 463462

Herb McClain tells Cammy Oren that Kline Industries' expected dividend growth rate is 4.0%, ROE is 14%, and required return on equity ( $r$ ) is 10%. Based on a justified P/B ratio compared to a P/B ratio (based on market price per share) of 1.55, Kline Industries is *most likely*:

- ☐ A) overvalued.
- ☐ B) correctly valued.
- ☒ C) undervalued.

#### Explanation

Justified  $P/B = (ROE - g) / (r - g)$ . When the expected dividend growth is 4.0%, the justified  $P/B = (0.14 - 0.04) / (0.10 - 0.04) = 1.67$ . This is greater than the P/B (at market) of 1.55.

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### Question #96 of 140

Question ID: 463422

Enhanced Systems, Inc., (ESI) has a leading price to sales (P/S) of 0.18 while the median leading P/S of a peer group of companies within the industry is 0.10. Based on the method of comparables, an analyst would *most likely* conclude that ESI should be:

- ☒ A) sold or sold short as an overvalued stock.
- ☐ B) bought on margin as an undervalued stock.
- ☐ C) bought as an undervalued stock.

#### Explanation

The price per dollar of sales is considerably higher than that for the median of the peer group, which implies that it may well be overvalued.

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### Question #97 of 140

Question ID: 415387

Which of the following is a disadvantage of using price-to-sales (P/S) multiples in stock valuations?

- ☐ A) P/S multiples are more volatile than price-to-earnings (P/E) multiples.
- ☐ B) It is difficult to capture the effects of changes in pricing policies using P/S ratios.
- ☒ C) The use of P/S multiples can miss problems associated with cost control.

#### Explanation

Due to the stability of using sales relative to earnings in the P/S multiple, an analyst may miss problems of troubled firms concerning its cost control. P/S multiples are actually less volatile than P/E ratios, which is an advantage in using the P/S multiple. Also, P/S ratios provide a useful framework for evaluating effects of pricing changes on firm value.

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### Question #98 of 140

Question ID: 415435

Which of the following is a *disadvantage* of using the price-to-book value (PBV) ratio?

- ☐ A) Book value may not mean much for manufacturing firms with significant fixed costs.
- ☐ B) Firms with negative earnings cannot be evaluated with the PBV ratios.
- ☒ C) Book values are affected by accounting standards, which may vary across firms and countries.

#### Explanation

The disadvantages of using PBV ratios are:

1. Book values are affected by accounting standards, which may vary across firms and countries.
  2. Book value may not mean much for service firms without significant fixed costs.
  3. Book value of equity can be made negative by a series of negative earnings, which limits the usefulness of the variable.
- 

### Question #99 of 140

Question ID: 463336

A justified price multiple is the:

- ☐ A) multiple implied by the market price.
- ☒ B) warranted or intrinsic price multiple.
- ☐ C) multiple implied by historical growth.

#### Explanation

A justified price multiple is the warranted or intrinsic price multiple. It is the estimated fair value of that multiple.

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### Question #100 of 140

Question ID: 463378

The observation that negative price to earnings (P/E) ratios are meaningless and prices are never negative is used to justify which

valuation approach?

- ✓ **A) Earnings yield.**
- x **B) Dividend yield.**
- x **C) Dividend discount model.**

#### Explanation

The observation is used to justify the earnings yield approach. Negative P/E ratios are meaningless. In such cases, it is common to use normalized earnings per share (EPS) and/or restate the ratio as the earnings yield or E/P because price is never negative. Price to earnings (P/E) ranking can then proceed as usual.

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### Question #101 of 140

Question ID: 463387

An increase in financial leverage will cause the trailing price-to-earnings (P/E) multiple to:

- ✓ **A) decrease.**
- x **B) increase.**
- x **C) there is insufficient information to tell.**

#### Explanation

An increase in financial leverage will cause the required rate of return to increase, thereby decreasing the P/E. This is clear in the expression for trailing P/E:

$$P_0 / E_0 = [(1 - b)(1 + g)] / (r - g)$$

(Note: the topic review does not allow for any interactive relationship between leverage, return on equity (ROE), and growth. Thus, no explicit consideration is given to whether the increase in leverage would increase ROE and therefore growth through the  $g = (ROE \times \text{retention})$  relationship.)

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### Question #102 of 140

Question ID: 463435

The relative valuation model known as the PEG ratio is equal to:

- x **A) earnings per share growth rate / price-to-earnings.**
- x **B) P/E × earnings.**
- ✓ **C) price-to-earnings (P/E) / earnings per share (EPS) growth rate.**

#### Explanation

The PEG ratio is equal to the price-to-earnings ratio divided by the EPS growth rate.

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### Question #103 of 140

Question ID: 463450

Which of the following factors is NOT a source of differences in cross-border valuation comparisons?

- ☐ A) Growth opportunities.
- ☒ B) Intra-country market indicators.
- ☐ C) Cultures.

Explanation

Intra-country market indicators are not, by definition, cross-border.

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### Question #104 of 140

Question ID: 463332

Which of the following statements about the method of comparables in price multiple valuation is CORRECT?

- ☐ A) It assumes that cash flows are related to fundamentals.
- ☒ B) It values an asset relative to a benchmark value of the multiple.
- ☐ C) It relates multiples to company fundamentals using a discounted cash flow (DCF) model.

Explanation

The method of comparables involves using a price multiple to evaluate whether an asset is valued properly *relative* to a benchmark value of the multiple. It makes no explicit assumptions about fundamentals and does not rely on a DCF model.

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### Question #105 of 140

Question ID: 463414

A firm's return on equity (ROE) is 14%, its required rate of return is 10%, and its expected growth rate is 8%. What is the firm's justified price-to-book value (P/B) based on these fundamentals?

- ☒ A) 3.00.
- ☐ B) 2.75.
- ☐ C) 2.00.

Explanation

The firm's justified price-to-book value =  $(ROE - g) / (r - g) = (0.14 - 0.08) / (0.10 - 0.08) = 3.00$

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### Question #106 of 140

Question ID: 463383

An increase in return on equity (ROE) will cause a price-to-book (P/B) multiple to:

- ☒ A) increase.
- ☐ B) decrease.
- ☐ C) there is insufficient information to tell.

Explanation

An increase in ROE should increase the price to book (P/B) ratio:

$$P_0 / B_0 = (ROE - g) / (r - g)$$

## Questions #107-112 of 140

Lucas Davenport, CFA, has been assigned the task of doing a valuation analysis of Sanford Systems Inc. Sanford is currently trading at \$15 per share. Exhibits 1 and 2 present a summary of Sanford's financial statements for 2007 and 2008.

Davenport has previously completed a FCFE valuation, which yielded a value of \$11.18 per share based on FCFE per common share in 2008 of \$0.85.

### Exhibit 1: Sanford Systems Balance Sheets as of 12/31/2008 (in US\$ millions)

	<u>2007</u>	<u>2008</u>
Cash and equivalents	\$325	450
Accounts receivable	850	870
Inventory	<u>1,000</u>	<u>1,050</u>
Total current assets	\$2,175	\$2,370
Gross fixed assets	13,600	15,900
Accumulated depreciation	<u>2,300</u>	<u>2,900</u>
Net fixed assets	11,300	13,000
Total assets	<u>\$13,475</u>	<u>\$15,370</u>
Accounts payable	\$1,500	\$1,520
Notes payable	300	550
Accrued taxes and expenses	=====	=====
Total current liabilities	\$1,800	\$2,070
Long-term debt	\$5,575	\$6,111
Common stock	100	100
Additional paid-in capital	-----	-----
Retained earnings	<u>6,000</u>	<u>7,089</u>
Total shareholders' equity	<u>\$6,100</u>	<u>\$7,189</u>
Total liabilities and shareholders' equity	<u>\$13,475</u>	<u>\$15,370</u>

### Exhibit 2: Sanford Systems Income Statements for 2007 and 2008 (in US\$ millions)

<u>2007</u>	<u>2008</u>
-------------	-------------

Total revenues	\$12,000	\$13,100
Operating costs and expenses	<u>9,400</u>	<u>9,600</u>
EBITDA	\$2,600	\$3,500
Depreciation and amortization	<u>500</u>	<u>600</u>
EBIT	\$2,100	\$2,900
Interest expense	<u>500</u>	<u>585</u>
Income before taxes	\$1,600	\$2,315
Taxes (40%)	<u>640</u>	<u>926</u>
Net income	<u>\$960</u>	<u>\$1,389</u>
Dividends	\$280	\$300
Change in retained earnings	\$680	\$1,089
EPS	\$1.92	\$2.78
DPS	\$0.56	\$0.60
# of shares outstanding (millions)	500	500

Davenport determines that the company follows IFRS rules, and compiles the following industry price-to-adjusted (per share) CFO data, where adjusted CFO is equal to cash flow from operations from the statement of cash flows plus after-tax cash interest expense.

### Exhibit 3: Industry Data

	<i>Trailing</i>	<i>Beta</i>	<i>Consensus 5-Year</i>
	<i>P/Adjusted CFO per share</i>		<i>Earnings Growth</i>
Industry Median	2.0x	1.20	9.9%
Sanford		1.25	9.2%

Davenport would also like to make international price multiple comparisons and is contemplating using one or more of the following ratios: price-to-sales, price-to-earnings, price-to-book, price-to-adjusted cash flow from operations, and enterprise value-to-EBITDA.

Davenport decides to use a single-stage residual income model to estimate the value of Sanford, in addition to the FCFE framework he used earlier. He estimates Sanford's long-term perpetual growth rate in residual income at 5 percent, its return on new investments to be 20 percent, weighted average cost of capital to be 10.4 percent based on the target debt-to-asset ratio, and the required return on equity to be 14 percent.

Finally, Davenport solves the following equation for T, given the other inputs (where the index is the S&P 500), and determines that T = 3.6.



$$\ln\left(\frac{\text{Sanford P/E}}{\text{Index P/E}}\right) = T \times \ln\left(\frac{1 + \text{Sanford short-term growth rate} + \text{Sanford dividend yield}}{1 + \text{Index growth rate} + \text{Index dividend yield}}\right)$$

### Question #107 of 140

Question ID: 463324

Sanford's economic value added (EVA®) for 2008 is *closest to*:

- ✓ A) \$356.80
- x B) \$567.80
- x C) \$1,383.20

#### Explanation

EVA is equal to net operating profit after tax (NOPAT) minus the dollar weighted average cost of capital (\$WACC).

$$\text{NOPAT} = \text{EBIT}(1 - t) = \$2,900(1 - 0.4) = \$1,740$$

$$\text{Invested capital} = \text{LTD} + \text{SH equity} = \$6,111 + \$7,189 = \$13,300$$

$$\text{\$WACC} = \$13,300 \times 0.104 = \$1,383.20$$

$$\text{EVA} = \$1,740 - \$1,383.20 = \$356.80$$

(Study Session 12, LOS 38.a)

### Question #108 of 140

Question ID: 463325

Based on a comparison of the actual trailing P/FCFE ratio compared to the justified trailing P/FCFE ratio (based on Davenport's FCFE valuation model) for 2008, Sanford is:

- ✓ A) **overvalued because the actual P/FCFE ratio is greater than the justified P/FCFE ratio for 2008.**
- x B) undervalued because the actual P/FCFE ratio is less than the justified P/FCFE ratio for 2008.
- x C) correctly valued because the actual P/FCFE ratio is equal to the justified P/FCFE ratio for 2008.

#### Explanation

Sanford's actual P/FCFE ratio is the current market price of \$15 divided by FCFE for 2008:

$$\text{P/FCFE} = \frac{\$15.00}{\$0.85} = 17.6x$$

The justified P/FCFE ratio is the value derived from the FCFE valuation model (\$11.18) divided by FCFE for 2008:

$$\text{justified P/FCFE} = \frac{\$11.18}{\$0.85} = 13.1x$$

Based on this analysis, Sanford is overvalued on an absolute basis (NOT relative to the industry benchmark) because the actual P/FCFE ratio is greater than the justified P/FCFE ratio. (Study Session 10, LOS 31.b)

### Question #109 of 140

Question ID: 463326

Based on a comparison of the actual trailing P/adjusted CFO ratio compared to the industry median trailing P/adjusted CFO per share ratio for 2008, Sanford:

- ✓ **A) is overvalued relative to the industry benchmark because Sanford's P/adjusted CFO ratio is higher than the industry median, despite slightly higher systematic risk and lower 5-year earnings growth.**
- x **B)** may be undervalued relative to the industry benchmark because Sanford's P/adjusted CFO ratio is higher than the industry median, despite slightly higher systematic risk and lower 5-year earnings growth.
- x **C)** is correctly valued relative to the industry benchmark because Sanford's P/adjusted CFO ratio is equal to the industry median, despite slightly higher systematic risk and lower 5-year earnings growth.

#### Explanation

Sanford's adjusted CFO is equal to net income plus depreciation minus the increase in net working capital (excluding cash and notes payable) plus after-tax interest expense:

$$\text{adjusted CFO} = \$1,389 + \$600 - \$50 + \$585(1 - 0.4) = \$2,290$$

$$\text{adjusted CFO/share} = \frac{\$2,290}{500} = \$4.58$$

$$\text{P/adjusted CFO} = \frac{\$15}{\$4.58} = 3.3x$$

Sanford is overvalued relative to the industry benchmark because its P/adjusted CFO ratio is higher than the industry median of 2.0, despite slightly higher systematic risk (as measured by beta) and a lower 5-year earnings growth forecast. (Study Session 12, LOS 37.m)

### Question #110 of 140

Question ID: 463327

Which of the following market multiples is *most* appropriate for Davenport to use in international valuation comparisons?

- ✓ **A) Price-to-adjusted CFO.**
- x **B)** Price-to-sales.
- x **C)** Enterprise value-to-EBITDA.

#### Explanation

Using relative valuation methods that require the use of comparable firms is challenging in an international context due to differences in accounting methods, cultures, risk, and growth opportunities. Further, benchmarking is difficult because price multiples for individual firms in the same industry vary widely internationally, and country market price multiples can vary significantly. Common differences in international accounting treatment fall into several categories: goodwill, deferred income taxes, foreign exchange adjustments, R&D, pension expense, and tangible asset revaluations.

The usefulness of all price multiples is affected to some degree by differences in international accounting standards. The least affected are price-to-cash flow ratios (including P/adjusted CFO), while P/B, P/E, P/S, P/EBITDA, and EV/EBITDA will be more seriously affected because they are more affected by management's choice of accounting methods and estimates. (Study Session 12, LOS 35.o)

### Question #111 of 140

Question ID: 463328

The value per share of Sanford's common equity, based on a single-stage residual income model, is *closest* to:

- ✓ **A) \$23.96.**
- x **B)** \$21.24.

☐ C) \$22.44.

#### Explanation

Book value per share for 2008 is:

$$BVPS_{2008} = \frac{\$7,189}{500} = \$14.38$$

The value of the common equity according to the single-stage residual income model is:

$$V_{2008} = 14.38 + \left( \frac{0.20 - 0.14}{0.14 - 0.05} \right) \times 14.38 = 23.96$$

(Study Session 12, LOS 38.f)

### Question #112 of 140

Question ID: 463329

For purposes of this question only, assume Sanford's ROE is 20%, its current market price is \$25, and the cost of equity is 14%.

Sanford's implied growth rate in residual income is *closest to*:

☐ A) 5.23%.

☐ B) 5.11%.

☒ C) 5.88%.

#### Explanation

$$BVPS = 7,189 / 500 = \$14.38$$

The implied growth rate can be calculated as:

$$g = r - \left[ \frac{B_0 \times (ROE - r)}{V_0 - B_0} \right]$$

$$g = 0.14 - \left[ \frac{14.38 \times (0.20 - 0.14)}{25 - 14.38} \right]$$

$$g = 5.88\%$$

(Study Session 12, LOS 38.g)

### Question #113 of 140

Question ID: 463396

What is the justified leading price-to-earnings (P/E) multiple of a stock that has a retention ratio of 60% if the shareholders require a return of 16% on their investment and the expected growth rate in dividends is 6%?

☐ A) 6.36.

☒ B) 4.00.

☐ C) 4.24.

#### Explanation

$$\text{Justified Leading P/E} = P_0/E_1 = 1 - b / r - g = \text{Payout ratio} / r - g = 0.40 / (0.16 - 0.06) = 4.00$$

## Question #114 of 140

Question ID: 463372

The goal of normalizing earnings is to adjust for:

- ☐ A) non-cash charges.
- ☒ B) cyclical elements.
- ☐ C) seasonal elements.

### Explanation

The goal of normalizing earnings is to adjust for cyclical elements.

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## Question #115 of 140

Question ID: 463390

An increase in profit margin will cause a price-to-sales (P/S) multiple to increase if:

- ☒ A) the growth rate in sales does not decrease proportionately.
- ☐ B) the required rate of return increases.
- ☐ C) there is insufficient information to tell.

### Explanation

An increase (decrease) in the profit margin increases (decreases) the growth rate if sales do not decrease (increase) proportionately. Increases in the required rate of return would decrease the P/S ratio. This is clear in the expression for trailing P/S:

$$P_0 / S_0 = [(E_0 / S_0)(1 - b)(1 + g)] / (r - g)$$

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## Question #116 of 140

Question ID: 463353

The trailing price-to-earnings (P/E) ratio is defined as:

- ☐ A) price to next period's expected earnings.
- ☐ B) the average P/E over the last five years.
- ☒ C) price to most recent earnings.

### Explanation

The trailing P/E ratio is price to most recent realized earnings.

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## Question #117 of 140

Question ID: 463377

The average return on equity (ROE) earnings normalization method relies on:

- ☐ A) average earnings per share (EPS) over the most recent cycle.
- ☒ B) average ROE over the most recent cycle.
- ☐ C) the earnings yield.

### Explanation

The average return on equity normalization method normalizes EPS as the average ROE over the most recent full cycle multiplied by book value per share.

## Question #118 of 140

Question ID: 463322

An analyst begins an equity analysis of Company A by noting the following ratios from three companies in the same industry:

	EPS	PE
Company A	\$1.60	10.0
Company B	\$2.10	12.5
Company C	\$5.80	13.0

This analyst is *most likely* using:

- ☐ A) the method of forecasted fundamentals.
- ☒ B) the method of comparables.
- ☐ C) technical analysis.

### Explanation

The analysis is comparing ratios of three companies in the same industry. The Law of One Price states that similar assets should have comparable prices.

## Questions #119-124 of 140

Beachwood Builders merged with Country Point Homes on December 31, 2003. Both companies were builders of mid-scale and luxury homes in their respective markets. On December 31, 2013, because of tax considerations and the need to segment the businesses between mid-scale and luxury homes, Beachwood decided to spin-off Country Point, its luxury home subsidiary, to its common shareholders. Beachwood retained Bernheim Securities to value the spin-off of Country Point to its shareholders.

The following information is available to Bernheim's investment bankers:

- Country Point's allocated common equity was \$55.6 million as of December 31, 2013.
- Beachwood paid no dividends and has no preferred shareholders.
- Country Point's free cash flow (FCF) is expected to grow 7% after 2017.
- The current risk-free rate is 6%. The market risk premium is 11%.
- Beachwood Builders had 5 million common shares as of December 31, 2013.
- Country Point's cost of capital is equal to its return on equity at year-end (rounded to the nearest percentage point).
- Country Point did not have any long-term debt allocated from Beachwood.

The following data for Country Point is also available for analysis

\$ (in millions)	2013	2014(E)	2015(E)	2016(E)	2017(E)

Net Income	10	15	20	25	30
Depreciation	5	6	5	6	5
Change in Capital Expenditures	7	8	9	10	12
Change in Working Capital	0	0	0	0	0

There are three comparable companies in Country Point's peer group: Upscale Homes, Custom Estates and Chateau One.

Company	Forward P/E	Five-Year EPS Growth Forecast	Forward PEG
Upscale Homes	10.0	12.5%	0.80
Custom Estates	15.0	15.0%	1.00
Chateau One	20.0	17.5%	1.14

### Question #119 of 140

Question ID: 463364

Bernheim's investment bankers have determined the value of Country Point to be \$162.6 million. As part of the spin-off, Beachwood issued to its common shareholders two shares in Country Point for each Beachwood share that its current shareholders held. The appropriate initial offering price per share of the shares that Beachwood's shareholders receive is *closest* to:

- ☒ A) \$32.50.
- ☐ B) \$14.45.
- ☒ C) \$16.26.

#### Explanation

Since the shareholders receive two shares for every share they currently hold, each Beachwood common shareholder will receive two common shares of Country Point. At December 31, 2013, Beachwood had 5 million shares. Therefore, 10 million common shares were issued for the spin-off. The spin-off was valued at \$162.6 million; dividing by 10 million, we arrive at a spin-off value per share of \$16.26 (= \$162.6 million / 10 million).

(LOS 29.k)

### Question #120 of 140

Question ID: 463365

Immediately after the spin-off, Country Point's book value per share is *closest* to:

- ☐ A) \$11.12.
- ☒ B) \$5.56.
- ☐ C) \$16.25.

#### Explanation

The allocated common equity or book value of Country Point was \$55.6 million at year-end 2013 and 10 million shares were allocated for the spin-off. The book value would be \$55.6 million / 10 million = \$5.56 per share.

(LOS 37.d)

### Question #121 of 140

Question ID: 463366

Assume for this question that the initial offering price per share of the Country Point shares is \$16.26. Based on this initial offering price of the spin-off, the estimated price-to-book (P/B) ratio of Country Point is *closest* to:

- ☐ A) 2.00 times.
- ☒ B) 2.92 times.
- ☐ C) 1.46 times.

#### Explanation

The P/B ratio is determined by taking the spin-off price and dividing it by the book value per share (BVPS). Hence, the ratio is  $\$16.26 \text{ per share spin-off price} / \$5.56 \text{ BVPS} = 2.92 \times \text{book}$ .

(LOS 37.d)

### Question #122 of 140

Question ID: 463367

Based on Bernheim's careful analysis, firms comparable to Country Point trade at a P/B ratio of 3.5 times. The expected price per share of the spin-off based on this P/B ratio and assuming a liquid and efficient market for Country Point's common shares is *closest* to:

- ☐ A) \$38.92.
- ☐ B) \$56.88.
- ☒ C) \$19.46.

#### Explanation

Based on the comparable P/B ratio of 3.5 times, we can simply multiply the book value of \$5.56 by 3.5 to arrive at \$19.46.

(LOS 37.d)

### Question #123 of 140

Question ID: 463368

Imagine that the current market price of Country Point at December 31, 2013 is \$20.00 per share. If the average trailing P/E for luxury home builders is 15x, Country Point is *most accurately* described as:

- ☐ A) undervalued.
- ☒ B) overvalued.
- ☐ C) fairly valued.

#### Explanation

The earnings per share is  $\$10 \text{ million} / 10 \text{ million shares} = \$1.00 \text{ per share}$ . The trailing P/E for Country Point is  $\$20.00 \text{ per share} \text{ divided by } \$1.00 \text{ EPS}$  which equals 20x. Relative to the industry the Country Point's trailing P/E is higher. Assuming no differences in fundamentals among Country Point's peers, this comparison suggests that Country Point is overvalued at a market price of \$20.00.

(LOS 37.r)

### Question #124 of 140

Question ID: 463369

Imagine that the current market price for Country Point is \$20.00 and the firm's estimated five-year earnings growth rate is 15.0%. The two most attractive companies among the four peer companies based on price-earnings-growth ratio (PEG) as of December 31, 2013 are:

- ☐ A) Chateau One and Country Point.
- ☐ B) Custom Estates and Chateau One.
- ☒ C) Upscale Homes and Country Point.

Explanation

Country Point's forward earnings per share is \$15 million/10 million shares = \$1.50 per share. The forward P/E for Country Point is \$20.00 per share divided by \$1.50 EPS which equals 13.3x. The forward PEG is 13.3x divided by 15 which equals 0.89. PEG ratios less than one are an indicator of an attractive company. The two companies with the lowest PEG ratios are Upscale Homes and Country Point, both company's ratios are less than 1.

(LOS 35.k)

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### Question #125 of 140

Question ID: 463455

Which of the following is NOT a common momentum valuation indicator?

- ☒ A) Dividend yield.
- ☐ B) Earnings surprise.
- ☐ C) Relative strength.

Explanation

Dividend yield is not generally considered a momentum valuation indicator.

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### Question #126 of 140

Question ID: 463404

What is the appropriate justified trailing price-to-earnings (P/E) multiple of a stock that has a payout ratio of 40% if shareholders require a return of 15% on their investment and the expected growth rate in dividends is 5%?

- ☒ A) 4.20.
- ☐ B) 3.80.
- ☐ C) 6.30.

Explanation

$$P_0/E_0 = (0.40 \times 1.05) / (0.15 - 0.05) = 4.20$$

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### Question #127 of 140

Question ID: 463412

A firm's return on equity (ROE) is 15%, its required rate of return is 12%, and its expected growth rate is 7%. What is the firm's justified price to book value (P/B) based on these fundamentals?

- ☐ A) 1.71.
- ☐ B) 0.63.
- ☒ C) 1.60.



### Explanation

$$P_0/B_0 = (ROE - g) / (r - g) = (0.15 - 0.07) / (0.12 - 0.07) = 1.60$$

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## Question #128 of 140

Question ID: 463355

At a CFA society function, Robert Chan comments to Li Chiao that the expected dividend growth rate for Xanadu Industries has decreased 0.5% from 6.0% to 5.5%. Chan claims that since Xanadu will maintain their historic dividend payout ratio of 40% and required return on equity ( $r$ ) of 12%, Xanadu's justified leading P/E ratio based on forecasted fundamentals will also decrease by 0.5%. Is Chan correct?

- ☐ A) Yes, Xanadu's justified leading P/E ratio will increase by approximately 0.5%.
- ☐ B) No, Xanadu's justified leading P/E ratio will increase by approximately 7.8%.
- ☒ C) No, Xanadu's justified leading P/E ratio will decrease by approximately 7.8%.

### Explanation

Chan is not correct.  $P/E_{\text{Xanadu}} = \text{payout ratio} / (r - g)$

When the expected dividend growth is 6%,  $P/E = 0.40 / (0.12 - 0.06) = 6.67$

When the expected dividend growth is 5.5%,  $P/E = 0.40 / (0.12 - 0.055) = 6.15$

The percentage change is  $(6.15 / 6.67) - 1 = -7.80\%$ , representing a 7.80% decrease.

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## Question #129 of 140

Question ID: 463334

The value of a firm, calculated using the discounted cash flow (DCF) method, will be closest to the valuation using P/E multiples when P/E multiples are estimated using:

- ☐ A) historical P/E multiples.
- ☒ B) fundamental data.
- ☐ C) P/E multiples of comparable firms.

### Explanation

In the DCF valuation method, an analyst makes specific assumptions about each variable, such as growth, risk, payout, etc. The valuation using P/E multiples will be closest to the one obtained using the DCF approach when fundamental data -- for growth, risk, payout, etc. -- is used to estimate P/E multiples.

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## Question #130 of 140

Question ID: 463419

Proprietary Technologies, Inc., (PTI) has a leading price-to-earnings (P/E) ratio of 28 while the median leading P/E of a peer group of companies within the industry is 28. Based on the method of comparables, an analyst would *most likely* conclude that PTI should be:

- ☐ A) sold or sold short as an overvalued stock.
- ☐ B) bought as an undervalued stock.
- ☒ C) viewed as a properly valued stock.

### Explanation

The price per dollar of earnings is the same as that for the median of the peer group, which implies that it is likely properly valued.

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## Question #131 of 140

Question ID: 463432

For which of the following firms is the Price/Earnings to Growth (PEG) ratio *most* appropriate for identifying undervalued or overvalued equities?

Firm A: Expected dividend growth = 6%; Cost of equity = 12%; price-to-earnings (P/E) = 12.

Firm B: Expected dividend growth = -6%; Cost of equity = 12%; price-to-earnings (P/E) = 12.

Firm C: Expected dividend growth = 1%; Cost of equity = 12%; price-to-earnings (P/E) = 12.

☒ A) Firm B.

☒ B) Firm C.

☒ C) Firm A.

### Explanation

The formula for the PEG ratio is:  $PEG = (P/E) / g$ . It measures the tradeoff between P/E and expected dividend growth ( $g$ ). For traditional growth firms, PEG ratios fall between 1 and 2. The general rule is that PEG ratios above 2 are indicative of overvalued firms (expensive), and PEG ratios below 1 are indicative of firms that are undervalued (cheap).

Firm A: PEG = 2, indicating a stock that is appropriately priced.

Firm B: The PEG ratio of firms with negative expected dividend growth is negative, which is meaningless. For Firm B, PEG = -2.

Firm C: Firms with very low expected dividend growth are likely to have PEG ratios that unrealistically indicate overvalued stocks. For Firm C, PEG = 12.

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## Question #132 of 140

Question ID: 463388

An increase in return on equity (ROE) will cause a price-to-earnings (P/E) multiple to:

☒ A) decrease.

☒ B) there is insufficient information to tell.

☒ C) increase.

### Explanation

An increase in ROE will increase growth through the  $g = (ROE \times \text{retention})$  relation. Thus, as growth increases, the following expression for trailing P/E should increase:

$$P_0/E_0 = [(1 - b)(1 + g)] / (r - g)$$

*Note that the topic review does not allow for any interactive relationship between leverage, ROE, and growth. Thus, no explicit consideration is given to whether the increase in ROE results from risk-increasing leverage that could cause an offsetting increase in the required rate of return.*

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### Question #133 of 140

Question ID: 463460

Robert Chan comments to Leslie Singer that Converted Industries' expected dividend growth rate is 5.0%, dividend payout ratio ( $g$ ) is 45%, and required return on equity ( $r$ ) is 10%. Based on a justified trailing P/E ratio compared to the stock's trailing P/E ratio at market of 9.0, Converted Industries is *most likely*:

- ☒ A) undervalued.
- ☐ B) overvalued.
- ☐ C) correctly valued.

#### Explanation

Justified trailing P/E = payout ratio \* (1 +  $g$ ) / ( $r - g$ ). When the expected dividend growth is 5.0%, the justified trailing P/E =  $0.45 * (1 + 0.05) / (0.10 - 0.05) = 9.45$ . This is greater than the market P/E of 9.0.

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### Question #134 of 140

Question ID: 463338

The multiple indicated by applying the discounted cash flow (DCF) model to a firm's fundamentals is necessarily the:

- ☐ A) result of calculating retention/(required rate of return - growth) for the overall market.
- ☐ B) same as the average industry multiple.
- ☒ C) justified price multiple.

#### Explanation

A justified price multiple is the warranted or intrinsic price multiple. It is the estimated fair value of that multiple. The question is limited to an individual firm and does not necessarily apply to the market or an industry.

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### Question #135 of 140

Question ID: 463373

A method commonly used to normalize earnings is the method of:

- ☒ A) historical average earnings per share (EPS).
- ☐ B) average return on assets.
- ☐ C) comparables.

#### Explanation

A common method in normalizing earnings uses the historical average EPS.

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### Question #136 of 140

Question ID: 463375

Glad Tidings Gifts (GTG) recently reported annual earnings per share (EPS) of \$2.25, which included an extraordinary loss of \$0.17 and an expense of \$0.12 related to acquisition costs during the accounting period, neither of which are expected to recur. Given that the most recent share price is \$50.00, what is a useful GTG's trailing price to earnings (P/E) for valuation purposes?

- ✓ A) 19.69.
- x B) 25.51.
- x C) 22.22.

Explanation

Using an underlying earnings concept, an analyst would add back the temporary charges against earnings:  $\$2.25 + \$0.17 + \$0.12 = \$2.54$ .  
The resulting trailing P/E =  $50.00 / 2.54 = 19.69$ .

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**Question #137 of 140**

Question ID: 463439

A common price to earnings (P/E) based method for estimating terminal value in multi-stage models is the:

- x A) dividend yield approach.
- ✓ B) fundamentals approach.
- x C) P/E to growth (PEG) approach.

Explanation

It is common to restate the Gordon growth model price as a multiple of expected future book value per share or earnings per share (EPS).

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**Question #138 of 140**

Question ID: 463405

What is the appropriate leading price-to-earnings (P/E) multiple of a stock that has a projected payout ratio of 40% if shareholders require a return of 15% on their investment and the expected growth rate in dividends is 5%?

- x A) 13.20.
- x B) 6.30.
- ✓ C) 4.00.

Explanation

$$P_0/E_0 = 0.40 / (0.15 - 0.05) = 4.00$$

*Note that the leading P/E omits  $(1 + g)$  in the numerator, which is present in the formula for the trailing P/E.*

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**Question #139 of 140**

Question ID: 463399

The following data was available for Morris, Inc., for the year ending December 31, 2001:

- Sales per share = \$150.
- Earnings per share = \$1.75.
- Return on Equity (ROE) = 16%.
- Required rate of return = 12%.

If the expected growth rate in dividends and earnings is 4%, what will the appropriate price-to-sales (P/S) multiple be for Morris?

☐ A) 0.109.

☐ B) 0.037.

☒ C) 0.114.

#### Explanation

Profit Margin = EPS / Sales per share =  $1.75 / 150 = 0.01167$  or 1.167%.

Payout ratio =  $1 - (g / \text{ROE}) = 1 - (0.04 / 0.16) = 0.75$  or 75%.

$P_0 / S_0 = [\text{profit margin} \times \text{payout ratio} \times (1 + g)] / (r - g) = [0.01167 \times 0.75 \times 1.04] / (0.12 - 0.04) = 0.11375$ .

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### Question #140 of 140

Question ID: 463446

An analyst gathered the following data for TRK Construction [all amounts in Swiss francs (Sf)]:

Recent share price	Sf 22.00
Shares outstanding	40 million
Market value of debt	Sf 140 million
Cash and marketable securities	Sf 55 million
Investments	Sf 300 million
Net income	Sf 140 million
Interest expense	Sf 7 million
Depreciation and amortization	Sf 10 million
Taxes	Sf 56 million

The EV/EBITDA ratio for TRK Construction is *closest* to:

☒ A) 3.12x.

☐ B) 2.52x.

☐ C) 3.49x.

#### Explanation

EBITDA = (net income + interest + taxes + depreciation / amortization)

EV = (market value of common stock + market value of debt - cash and investments)

EBITDA =  $140 + 7 + 10 + 56 = \text{Sf } 213$  million

EV =  $(22 \times 40) + 140 - 55 - 300 = \text{Sf } 665$  million

EV / EBITDA = 3.12