

Question #1 of 114

Big Sky Ranches reported the following for the end of its fiscal year:

- Revenues = \$40.8 million.
- Pretax income = \$8.6 million.
- Assets = \$53.2 million.
- Liabilities = \$27.8 million.
- Dividends per share = \$0.35.
- Shares outstanding = 8 million.
- Tax rate = 35%.

The beta for Big Sky Ranches is 1.2, the current risk-free rate is 4.5%, and the expected return on the market is 12.5%. What is the value of the shares using a single-stage residual income model?

- A) \$8.10.
- B) \$23.23.
- C) \$11.28.



Explanation

After tax earnings = Pretax earnings \times (1 - T) = 8.6 million \times (1 - 0.35) = \$5.59 million

EPS = After tax earnings/shares outstanding = \$5.59 million / 8 million = \$0.70

Retention ratio = (0.70 - 0.35) / 0.70 = 0.50 or 50%

Equity = Assets - liabilities = \$53.2 million - \$27.8 million = \$25.4 million

Book value per share = Total equity/shares outstanding = \$25.4 million / 8 million = \$3.18

ROE = \$0.70 / \$3.18 = 0.22 or 22%

g = retention ratio \times ROE = (0.50) \times 0.22 = 0.11 or 11.00%

Expected return = 0.045 + [0.125 - 0.045]1.2 = 0.1410 or 14.10%

$$V_0 = \$3.18 + \left(\frac{0.22 - 0.141}{0.141 - 0.11} \times \$3.18 \right) = \$11.28$$

(Study Session 11, Module 32.3, LOS 32.f)

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Question #2 of 114

Market value added is calculated as:

- A) net operating profit after taxes minus a charge for total capital.
- B) market value of the company minus total capital.
- C) market value of the company minus a charge for equity capital.



Explanation

Market value added is the market value of the company minus total capital. It is used to measure the effect on value of management's decisions since the firm's inception.

(Study Session 11, Module 32.1, LOS 32.a)

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Question #3 of 114

Using the following information, calculate the required return on equity using the expanded CAPM.

<i>Income return on bonds</i>	6.0%
<i>Capital return on bonds</i>	2.0%
<i>Long-term Treasury yield</i>	3.5%
<i>Beta</i>	1.4
<i>Equity risk premium</i>	6.0%
<i>Small stock premium</i>	4.0%
<i>Company-specific risk premium</i>	3.0%
<i>Industry risk-premium</i>	2.0%
<i>Pretax cost of debt</i>	11.0%
<i>Optimal Debt/Total Cap</i>	16%
<i>Current Debt/Total</i>	7%
<i>Debt/Total Cap for public firms in industry</i>	33%
<i>Tax Rate</i>	30%

A) 15.9%.

B) 11.9%.

C) 18.9%.

**Explanation**

The required return on equity using the CAPM is: $3.5\% + 1.4(6\%) = 11.9\%$.

Note that the risk-free rate is the Treasury yield, not the returns for bonds in general.

Using the expanded CAPM, a small stock premium and company-specific risk premium are added: $11.9\% + 4\% + 3\% = 18.9\%$.

(Study Session 11, Module 33.2, LOS 33.h)

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Question #4 of 114

Which of the following *best* describes the use of FCFF and FCFE when used in private firm valuation?

- A) FCFE is usually favored if the firm is going to change its capital structure because the cost of equity is less sensitive to leverage changes than the WACC. ✗
- B) FCFE is usually favored if the firm is going to change its capital structure because the equityholders are usually the investors requesting the valuation. ✗
- C) FCFF is usually favored if the firm is going to change its capital structure because the WACC is less sensitive to leverage changes than the cost of equity. ✓

Explanation

Free cash flow to the firm (FCFF) can be used to value the firm as a whole and free cash flow to equity (FCFE) can be used for equity. FCFF is usually favored if the firm is going to significantly change its capital structure. The reason is that the discount rate used for FCFF valuation, the weighted average cost of capital (WACC), is less sensitive to leverage changes than the discount rate used for FCFE valuation, the cost of equity. Thus, the FCFF valuation will not vary as much as the FCFE valuation.

(Study Session 11, Module 33.2, LOS 33.e)

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Question #5 of 114

An investor is considering the purchase of Robust Econometrics, Inc., which has a price-to-book (P/B) value ratio of 4.50. Return on equity (ROE) is expected to be 14%, the current book value per share (BVPS) is Sf22.50, and the cost of equity is 12%. The growth rate implied by the current P/B ratio is *closest* to:

- A) 11.43%. ✓
- B) 12.57%. ✗
- C) 8.00%. ✗

Explanation

The P/B ratio of 4.50 and the current BVPS of Sf22.50 imply a market price of Sf101.25 (4.5×22.5). This implies a growth rate of:

$$g = r - \frac{B_0 \times (ROE - r)}{V_0 - B_0} = 0.12 - \frac{\text{Sf } 22.50 \times (0.14 - 0.12)}{\text{Sf } 101.25 - \text{Sf } 22.50} = 0.1143 = 11.43\%$$

(Study Session 11, Module 32.3, LOS 32.g)

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Question #6 of 114

The present value of Raver Industries' projected residual income (RI) for the next five years is £60 per share. Beyond that time horizon, a key analyst projects that the firm will sustain a RI of £11 per share, which is the RI for year 5. Given a cost of equity of 12%, what is the terminal value of the stock as of year 5?

- A) £91.67.
- B) £560.00.
- C) £500.00.

**Explanation**

The stock's terminal value as of year 5 is:

$$TV = 11.00 / 0.12 = 91.67$$

(Study Session 11, Module 32.4, LOS 32.h)

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Question #7 of 114

Which of the following *best* describes the implementation of private company valuation standards?

- A) Industry groups mandate compliance.
- B) Compliance is usually at the discretion of the appraiser.
- C) The federal government mandates compliance.

**Explanation**

One of the challenges involved with the implementation of appraisal standards is that compliance is usually at the discretion of the appraiser because most buyers are still unaware of their existence.

(Study Session 11, Module 33.4, LOS 33.I)

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Question #8 of 114

A common adjustment in calculating economic value added (EVA[®]) is to:

- A) capitalize and amortize research and development expenses.
- B) add back deferred taxes.
- C) treat capital leases as operating leases.

**Explanation**

It is common to capitalize and amortize research and development (R&D) expenses and add R&D expenses back to earnings. Deferred taxes are eliminated to pick up only cash taxes. Operating leases are treated as capital leases.

(Study Session 11, Module 32.1, LOS 32.a)

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Paul Smith is an analyst performing valuations for Lumber Limited. Smith has been given a project to value Timber Industries, a firm that Lumber Limited is considering acquiring. Smith is aware that a number of characteristics distinguish private and public companies, and that these characteristics must be considered during his process of valuing Timber Industries. A number of issues complicate Smith's valuation: Timber Industries pays its CEO well below a market-based compensation figure, leases a warehouse at an above-market rate, and owns a vacant office building that is not needed for core operations. Smith is also aware that discounts and premiums based on control and marketability must be considered in his valuation of Timber Industries.

Question #9 of 114

Compared to a public company, it is *most likely* that as a private company Timber Industries will have greater:

- A) concerns related to taxes.
- B) quality and depth of management.
- C) focus on the short-term.



Explanation

Private firms may be more concerned with taxes than public firms due to the impact of taxes on private equity owners/managers. Private firms are likely to have lower quality and depth of management, as private firms are likely to be smaller and thus may not be able to attract as many qualified applicants as public firms. Private firms are more likely to focus on the long-term than public companies, since in most private firms, external shareholders have less influence and the firm is able to take a longer-term perspective.

(Study Session 11, Module 33.4, LOS 33.k)

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Question #10 of 114

Which of the following is the *most accurate* statement related to estimating the discount rate for Smith's valuation of Timber Industries:

- A) Timber Industries should be valued using the WACC for Timber Industries, not the WACC of the acquirer Lumber Limited.
- B) It is more straightforward to estimate the discount rate for early stage firm than a mature firm like Timber Industries.
- C) As a private firm, Timber Industries can more easily obtain cheap debt financing than a public firm.



Explanation

When acquiring a private firm, some acquirers will incorrectly use their own (lower) cost of capital, rather than the higher rate appropriate for the target, and arrive at a value for the target company that is too high. A private firm may have less access to debt financing than a public firm. It is particularly difficult to estimate the discount rate for firms in an early stage of development.

(Study Session 11, Module 33.4, LOS 33.k)

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Question #11 of 114

One valuation method that Smith is considering for Timber Industries involves using a growing perpetuity formula to estimate the value of intangible assets, and then adding this value to the values of working capital and fixed assets. This method is *most accurately* described as the:

- A) free cash flow method.
- B) capitalized cash flow method.
- C) excess earnings method.

**Explanation**

The excess earnings method values tangible and intangible assets separately; this method is useful for small firms and when there are intangible assets to value. In the free cash flow method, a firm is valued by discounting a series of discrete cash flows plus a terminal value. In the capitalized cash flow method, a firm is valued by discounting a single cash flow by the capitalization rate.

(Study Session 11, Module 33.4, LOS 33.k)

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Question #12 of 114

The asset-based approach to private company valuation that Smith is considering for Timber Industries is *most likely* to be appropriate in the case of a:

- A) mature company with many intangible assets.
- B) finance firm such as a bank.
- C) firm with strong profits and growth potential.

**Explanation**




The asset-based approach is usually not used for most going concerns, but is appropriate for troubled firms, finance firms, investment companies, firms with few intangible assets, and natural resource firms. It values equity as the asset value of a firm minus the debt value of the firm.

(Study Session 11, Module 33.4, LOS 33.k)

Related Material

Question #13 of 114

In order to estimate normalized earnings for Timber Industries, which of the follow items is *most likely* to require Smith to make an upward adjustment to SG&A? The fact that Timber Industries:

- A) owns a vacant office building that is not needed for core operations. 
- B) leases a warehouse at an above-market rate. 
- C) pays its CEO well below a market-based compensation figure. 

Explanation

Normalized earnings should be calculated by adjusting SG&A as follows: 1) Because the market rate of the CEO's compensation is higher, SG&A expenses should be increased to reflect a normalized compensation expense. 2) Because the market lease rate is lower, SG&A expenses should be lowered to reflect a normalized lease rate. 3) Because the office building is non-core, SG&A expenses should be reduced accordingly (as should depreciation expense).




(Study Session 11, Module 33.4, LOS 33.k)

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Question #14 of 114

Which of the following statements related to discounts and premiums to benchmark for Smith's private company valuation of Timber Industries is *most accurate*:

- A) A discount for lack of control should be applied when the comparable company values are for public shares, and the target company valuation is for a controlling interest. 
- B) A control premium should be added when the comparable values are for the sale of an entire company, and the valuation is being done for a minority interest in the target company. 
- C) A discount for lack of marketability should be applied when the comparables are based on public shares, and the interest in the target company is a minority interest in a private firm. 

Explanation

Discounts for lack of marketability are applied when the comparables are based on highly marketable securities, such as public shares, and the interest in the target company is less marketable, as in the case of a minority interest in a private firm. A discount for lack of control is applied when the comparable values are for the sale of an entire company, and the valuation is being done for a minority interest in the target company. A control premium is added when the comparable company values are for public shares or other minority interests, and the target company valuation is for a controlling interest.

(Study Session 11, Module 33.4, LOS 33.k)

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Question #15 of 114

The asset-based approach values a firm based on:

- A) fair values.
- B) investment values.
- C) book values.



Explanation

The asset-based approach values firm equity as the fair value of its assets minus the fair value of its liabilities.

(Study Session 11, Module 33.3, LOS 33.j)

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Question #16 of 114

An analyst is considering the purchase of Rylinks, Inc., which has a price to book value (P/B) ratio of 6.00. Return on equity (ROE) is expected to be 13%, current book value per share is \$13.00, and the cost of equity is 11%. What growth rate is implied by the current P/B rate?

- A) 10.60%.
- B) 0.40%.
- C) 11.00%.



Explanation

The P/B ratio of 6.00 and the current book value per share of \$13.00 imply a current market price of \$78.00. This implies a growth rate of:

$$g = r - \{[B_0(ROE - r)] / [V_0 - B_0]\} = 0.11 - \{[13.00(0.13 - 0.11)] / [78.00 - 13.00]\} = 0.1060 = 10.60\%.$$

Note that the reading in the curriculum does not provide this expression directly.

(Study Session 11, Module 32.3, LOS 32.g)

Related Material

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Question #17 of 114

An argument against using the residual income (RI) valuation approach is that:

- A) the models focus on economic rather than just on accounting profitability.
- B) terminal value does not dominate total present value as is the case in dividend and free cash flow valuation models.



C) the models rely on accounting data that can be manipulated by management.



Explanation

An argument against using the RI approach is that the models rely on accounting data that can be manipulated by management. Both remaining responses are arguments in favor of the approach.

(Study Session 11, Module 32.5, LOS 32.i)

Related Material

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Question #18 of 114

Using the following figures, calculate the value of the firm using the excess earnings method (EEM).

<i>Working capital</i>	\$600,000
<i>Fixed assets</i>	\$2,300,000
<i>Normalized earnings</i>	\$340,000
<i>Required return for working capital</i>	5%
<i>Required return for fixed assets</i>	13%
<i>Growth rate of residual income</i>	4%
<i>Discount rate for intangible assets</i>	18%

A) \$3,073,199.

B) \$3,027,111.

C) \$2,981,714.



Explanation

The answer is calculated using the following steps.

Step 1: Calculate the required return for working capital and fixed assets.

Given the required returns in percent, the monetary returns are:

$$\text{Working Capital: } \$600,000 \times 5\% = \$30,000.$$

$$\text{Fixed Assets: } \$2,300,000 \times 13\% = \$299,000.$$

Step 2: Calculate the residual income.

After the monetary returns to assets are calculated, the residual income is that which is left over in the normalized earnings:

$$\text{Residual Income} = \$340,000 - \$30,000 - \$299,000 = \$11,000.$$

Step 3: Value the intangible assets.

Using the formula for a growing perpetuity, the discount rate for intangible assets, and the growth rate for residual income:

$$\text{Value of Intangible Assets} = (\$11,000 \times 1.04) / (0.18 - 0.04) = \$81,714.$$

Step 4: Sum the asset values to arrive at the total firm value.

$$\text{Firm Value} = \$600,000 + \$2,300,000 + \$81,714 = \$2,981,714.$$

(Study Session 11, Module 33.2, LOS 33.f)

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Question #19 of 114

The present value of GB Industries' projected residual income (RI) for the next five years is 70 per share. Beyond that time horizon, a key analyst projects that the firm will sustain a RI of 15 per share, which is the RI for year 5. Given a cost of equity of 12%, what is the terminal value of the stock as of year 5?

A) £500.00.



B) £125.00.



C) £560.00.



Explanation

The stock's terminal value as of year 5 is:

$$\text{TV} = 15.00 / 0.12 = 125.00$$

(Study Session 11, Module 32.4, LOS 32.h)

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Question #20 of 114

Cognitive Products (CP) designs decision-making software. The book value of its assets is \$3.2 billion, which is financed with \$2.0 billion in equity and \$1.2 billion in debt. Its before-tax cost of debt is 6.5%, while its relevant tax rate is 34%. CP has a cost of equity of 12.46%. Its abbreviated income statement is:

Earnings before interest and taxes (EBIT)	\$213,000,000
Interest expense	(30,000,000)
Pretax income	183,000,000
Income tax expense	(62,220,000)
Net income	\$120,780,000

The residual income (RI) for CP is *closest* to:

A) – \$128,420,000.

B) – \$128,369,000.

C) – \$128,471,000.

Explanation

The dollar-based equity charge is:

$$\text{equity charge} = \text{equity capital} \times \text{cost of equity} = \$2.0 \text{ billion} \times 0.1246 = \$249,200,000.$$

RI is calculated as:

Net Income	\$120,780,000
(Less) Equity charge	(249,200,000)
RI	–\$128,420,000

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #21 of 114

An argument for using the residual income (RI) valuation approach is that residual income valuation:

A) reduces the problem of terminal value dominating total value.

B) encourages company managers to maximize ROI.

C) facilitates comparisons between divisions.

Explanation

Terminal value does not dominate total present value as is the case in dividend and free cash flow valuation models. Both remaining responses are arguments against using the RI approach.

(Study Session 11, Module 32.5, LOS 32.i)

Related Material[SchweserNotes - Book 3](#)

Question #22 of 114

Which of the following approaches to private company valuation uses discounted cash flow analysis?

A) The income approach.



B) The asset-based approach.



C) The market approach.

**Explanation**

The income approach values a firm as the present value of its future income. The asset-based approach values a firm as its assets minus liabilities. The market approach values a firm using the price-multiples from the sales of comparable assets.

(Study Session 11, Module 33.1, LOS 33.d)

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Question #23 of 114

A private business is being valued for the purpose of determining the appropriate level of performance-based managerial compensation. This private company valuation would be *best* described as a:

A) Litigation-related valuation



B) Transaction-related valuation



C) Compliance-related valuation

**Explanation**

Transaction-related valuations may be performed for reasons related to venture capital financing, an IPO, a sale of the firm, bankruptcy, or performance-based managerial compensation. Compliance-related valuations are performed for financial reporting and tax purposes. Litigation-related valuations may be required for shareholder suits, damage claims, lost profits, or divorces.

(Study Session 11, Module 33.1, LOS 33.b)

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Question #24 of 114

An analyst is considering the purchase of Delphos Machinery, which has a price-to-book value (P/B) ratio of 8.00. Return on equity (ROE) is expected to be 14%, current book value per share is \$12.00, and the cost of equity is 11%. What growth rate is implied by the current P/B rate?

A) 11.00%.



B) 10.57%.



C) 8.43%.



Explanation

The P/B ratio of 8.00 and the current book value per share of \$12.00 imply a current market price of \$96.00. This implies a growth rate of:

$$g = r - [B_0(ROE - r)] / (V_0 - B_0) = 0.11 - [12.00(0.14 - 0.11)] / (96.00 - 12.00) = 0.1057 = 10.57\%.$$

(Note: the curriculum does not provide this expression directly.)

(Study Session 11, Module 32.3, LOS 32.g)

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Question #25 of 114

Given the following figures, calculate the normalized EBITDA for a financial and strategic buyer.

Reported EBITDA	\$4,500,000
Current Executive Compensation	\$700,000
Market-Based Executive Compensation	\$620,000
Current SG&A expenses	\$6,300,000
SG&A expenses after synergistic savings	\$5,600,000
Current Lease Rate	\$300,000
Market-Based Lease Rate	\$390,000

The normalized EBITDA for each type of buyer is:

<u>Financial</u>	<u>Strategic</u>
<u>Buyer</u>	<u>Buyer</u>

A) \$4,670,000 \$5,370,000



B) \$4,190,000 \$4,890,000



C) \$4,490,000 \$5,190,000



Explanation

Both strategic and financial buyers will attempt to reduce executive compensation to market levels by \$80,000 (\$700,000 – \$620,000). They will also have to pay a higher lease rate of \$90,000 (\$390,000 – \$300,000). So the adjustment for both buyers to generate normalized EBITDA is $\$4,500,000 + \$80,000 - \$90,000 = \$4,490,000$.

However, only a strategic buyer will be able to realize synergistic savings of \$700,000 (\$6,300,000 – \$5,600,000). So normalized EBITDA for a strategic buyer is \$5,190,000 and for a financial buyer it is \$4,490,000.

(Study Session 11, Module 33.2, LOS 33.e)

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Question #26 of 114

Analyst Brett Melton, CFA, is looking at two companies. Happy Cow Dairies has volatile cash flows, and its free cash flow is often negative. The company pays no dividends. Glitter and Gold, a maker of girls' clothing, has a fairly steady stream of earnings and cash flows but takes a lot of charges against equity. Is the residual income model suitable for valuing the two companies?

	<u>Happy Cow Dairies</u>	<u>Glitter and Gold</u>	
A) No	No		✗
B) No	Yes		✗
C) Yes	No		✓

Explanation

Residual income models work for companies with no dividends and volatile or negative cash flows. They do not work, however, when the clean surplus relation does not hold, as is the case when companies take charges against equity.

(Study Session 11, Module 32.5, LOS 32.j)

Related Material

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Question #27 of 114

Continuing residual income is defined as the:

- A) permanent as opposed to the transitory part of residual income. ✗
- B) residual income that is expected beyond the initial forecast time horizon. ✓
- C) residual income that forces the net present value to zero. ✗

Explanation

Continuing residual income is defined as the residual income that is expected beyond the initial forecast time horizon. It comes into play when RI is forecast for a defined time horizon and a terminal value based on continuing RI is estimated at the end of that time frame.

(Study Session 11, Module 32.4, LOS 32.h)

Related Material

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Question #28 of 114

An analyst values a private company using a price multiple based on recent sales of comparable assets. This approach to private company valuation is *best* described as the:

- A) asset-based approach
- B) market approach
- C) income approach



Explanation

Under the market approach, a firm is valued using price multiples based on recent sales of comparable assets. Under the income approach, a firm is valued according to the present value of its expected future income. Under the asset-based approach, the value of a firm is calculated as the firm's assets minus its liabilities.

(Study Session 11, Module 33.1, LOS 33.d)

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Geremiah Analytics provides litigation consulting services to the intellectual property industry. They specialize in patent infringement liability and software valuation. Mariah Hofstedt, CFO of Geremiah, projects that the firm will earn \$3 million pre-tax income this year. Additional selected financial data on Geremiah are presented below.

Table 1: Selected Financial Data for Geremiah Analytics

Total assets	\$40 million
Debt/assets	60%
Average coupon on debt	8%
Cost of equity	12%
Tax rate	40%

Hofstedt has not been happy with the firm's financial performance. She would like to increase return on equity (ROE) and improve revenue growth, and is considering various ways to deploy Geremiah's cash flow in order to meet these two goals. One possibility is using some of Geremiah's cash flow to make a strategic acquisition.

Hofstedt has been looking at a smaller boutique firm, Logiciels LaMarre, which provides consulting services to the software industry. Hofstedt and a Geremiah Analytics valuation team have performed a preliminary valuation on

Logiciels LaMarre using a free cash flow to equity (FCFE) model. However, Theodore LaMarre, CEO of Logiciels LaMarre, is not pleased with the resultant valuation that Geremiah has placed on his firm.

Rather than argue about the inputs of the free cash flow (FCF) model, LaMarre takes the position that FCFE is an inappropriate model for valuing Logiciels LaMarre. He cites the firm's rapid growth and resultant need for capital investment as reasons that valuing the firm on projections of FCFE is not reliable.

LaMarre wants Geremiah to value Logiciels LaMarre using the residual income approach. LaMarre tells Hofstedt, "Valuation with residual income models is less sensitive to forecast error than valuation with FCFE models because residual income valuations rely on current book value."

Hofstedt feels substantial disagreement with LaMarre's approach on a variety of grounds. She views his arguments as negotiating ploys to raise the acquisition price of his firm, and does not agree with his assessment of the FCF valuation her team has developed. On a theoretical basis, Hofstedt considers the residual income approach an inappropriate tool for valuing a firm like Logiciels LaMarre. Hofstedt tells LaMarre, "It's not appropriate to use a residual income model to value Logiciels LaMarre because the impact of your currency translation gains and losses in shareholder equity causes the clean surplus accounting relation to be violated."

LaMarre ignores her concern and persists in his argument. He asserts, "The fact that our terminal value can be calculated with a high degree of certainty makes the use of a residual value model more appropriate than use of a FCFE model." Hofstedt counters that the residual income approach is not in LaMarre's interest. She points out, "Value tends to be recognized later in a residual income approach than in a FCFE approach."

There is, however, one point on which LaMarre and Hofstedt agree. They both recognize that competitive forces in the industry will drive the current high ROE of Logiciels LaMarre down to the cost of equity capital over time. Hofstedt concludes, "Given the assumption of a decline in ROE, we should use a persistence factor between zero and one." LaMarre disagrees, saying, "The assumption about ROE means that the present value of the continuing residual income at Logiciels LaMarre is the current residual income divided by the cost of equity capital."

Question #29 of 114

Regarding their statements about the impact of the clean surplus accounting relation and terminal value on when it is appropriate to use a residual income model, who is correct?

	<u>LaMarre</u>	<u>Hofstedt</u>	
A) Correct	Incorrect		✗
B) Correct	Correct		✗
C) Incorrect	Correct		✓

Explanation

LaMarre is incorrect because residual income models are appropriate when terminal value is highly uncertain. Hofstedt is correct that a residual income approach is not appropriate if the clean surplus accounting relation is violated, for example by currency translation gains and losses going straight into equity.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #30 of 114

A higher dividend payout ratio and higher ROE would *most likely* have what impact on Logiciels LaMarre's persistence factor?

	<u>ROE</u>	<u>Dividend payout ratio</u>	
A) Lower	Lower		✓
B) Lower	Higher		✗
C) Higher	Lower		✗

Explanation

A higher persistence factor is associated with a low dividend payout ratio, and vice versa. A high return on equity is associated with a lower persistence factor.

(Study Session 11, Module 32.1, LOS 32.a)

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Question #31 of 114

Regarding their statements about the forecast error in residual income models and when they recognize value, who is correct?

	<u>LaMarre</u>	<u>Hofstedt</u>	
A) Correct	Correct		✗
B) Correct	Incorrect		✓
C) Incorrect	Incorrect		✗

Explanation

LaMarre is correct that residual income models are less subject to forecast error than FCFE models because a large portion of intrinsic value in a residual income model is current book value. Hofstedt is incorrect because residual income models tend to recognize value earlier, not later, than other present value based approaches.


(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #32 of 114

Which of the following is *least likely* to characterize the difference between a residual income model and a FCFE model?

A) Terminal value represents a higher proportion of intrinsic value in a residual income model than in a dividend discount model (DDM). 

B) Inputs to a residual income model are more easily manipulated by management. 

C) A residual income model is applicable to a firm that does not have FCF. 

Explanation

Terminal value represents a lower, not higher, proportion of intrinsic value in a residual income model than in other present value based approaches. A residual income model is applicable to a firm that does not have FCF and relies on accounting data that is generally easily found. However, the accounting data used in a residual income model are more easily manipulated by management than cash flow data.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

[SchweserNotes - Book 3](#)

Question #33 of 114

The residual income of Geremiah Analytics is *closest* to:

A) \$120,000. 

B) -\$120,000. 

C) \$1,080,000.00 

Explanation

Geremiah's after-tax income is $(\$3 \times (1 - 0.40)) = \1.8 million. They have $(\$40 \times 0.60) = \24 million in debt and $(\$40 \times (1 - 0.60)) = \16 million in equity. Their equity charge is $(\$16 \times 0.12) = \1.92 million. Their residual income is $(\$1.8 - \$1.92) = -\$0.12$ million, or -\$120,000.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #34 of 114

Regarding their statements about ROE and residual income, who is correct?

LaMarre

Hofstedt

A) Correct Incorrect 

B) Correct Correct 

C) Incorrect Correct 

Explanation

LaMarre is incorrect because the present value of the continuing residual income for a firm is equal to the current value divided by the return on equity when residual income continues indefinitely, which is not the case if ROE declines to the return on equity capital. Hofstedt is correct that ROE declining to the cost of equity capital implies a decline in residual income and thus a persistence factor between zero and one.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #35 of 114

The present value of Forman Electronics' projected residual income (RI) for the next five years is £80 per share. Beyond that time horizon a key analyst projects that the firm will sustain a RI of £17 per share, which is the RI for year 5. Given a cost of equity of 13%, what is the terminal value of the stock as of year 5?

A) £500.00.



B) £19.96.



C) £130.77.

**Explanation**

The stock's terminal value as of year 5 is:

$$TV = 17.00 / 0.13 = 130.77$$

(Study Session 11, Module 32.4, LOS 32.h)

Related Material

[SchweserNotes - Book 3](#)

Question #36 of 114

Which statement *best* describes the relationship between the residual income model and the free cash flow to equity model?

A) They both discount a future stream of cash flows.



B) Intrinsic value calculated by both should be the same if the assumptions are the same.



C) They do not rely on accounting assumptions.

**Explanation**

Theoretically the intrinsic value calculated by both should be the same, but since they use different approaches the values are often different in practice. Residual income relies on book value and discounts income, not cash flow.

(Study Session 11, Module 32.5, LOS 32.i)

Related Material

[SchweserNotes - Book 3](#)

Question #37 of 114

Which of the following characteristics of a company would make it unsuitable for residual income valuation analysis?

- A) Free cash flows are negative and likely to remain so for some time.
- B) Book-value estimates are not reliable.
- C) The forecast of terminal value is not reliable.



Explanation

Residual income models can handle negative free cash flows and poor forecasts for terminal value. However, poor book-value estimates render the statistic less useful.

(Study Session 11, Module 32.5, LOS 32.j)

Related Material

[SchweserNotes - Book 3](#)

Question #38 of 114

An investor is considering the purchase of Microscopics, which has a price to book value (P/B) ratio of 4.00. Return on equity (ROE) is expected to be 12%, current book value per share is \$12.00, and the cost of equity is 10%. What growth rate is implied by the current P/B rate?

- A) 9.33%.
- B) 0.67%.
- C) 10.00%.



Explanation

The P/B ratio of 4.00 and the current book value per share of \$12.00 imply a current market price of \$48.00. This implies a growth rate of:

$$g = r - \{[B_0(ROE - r)] / \{V_0 - B_0\}\} = 0.10 - \{[12.00(0.12 - 0.10)] / \{48.00 - 12.00\}\} = 0.0933 = 9.33\%.$$

Note that the reading in the curriculum does not provide this expression directly.

(Study Session 11, Module 32.3, LOS 32.g)

Related Material

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Question #39 of 114

An appraiser must determine the value of an asset for tax purposes. Which of the following is the *most likely* standard of value the appraiser will use?

A) Fair value for financial reporting.



B) Fair market value.



C) Market value.



Explanation

Fair market value is used for tax purposes in the U.S. and based on an arm's length transaction. Though similar to fair market value, fair value for financial reporting is used for financial not tax reporting. Market value is used in real estate and other real asset appraisals.

(Study Session 11, Module 33.1, LOS 33.c)

Related Material

[SchweserNotes - Book 3](#)

Question #40 of 114

An analyst is examining the stock of three companies. Given the information below, which of them is *most likely* to be the stock of a private firm?

<i>Firm</i>	<i>Restrictions on Sale of Stock?</i>	<i>DLOM</i>	<i>Stock Ownership of 5 Largest Owners</i>
A	Yes	0%	28%
B	No	5%	35%
C	Yes	15%	64%

A) Firm C.



B) Firm B.



C) Firm A.



Explanation

The stock most likely to be that of a private firm is Firm C. Compared to public stock, private firm stock often has agreements that prevent shareholders from selling, is less liquid (discounts for lack of marketability (DLOM) of C is 15%), and control is usually concentrated in the hands of a few shareholders (stock ownership of largest owners of Firm C is 64%).

(Study Session 11, Module 33.1, LOS 33.a)

Related Material

[SchweserNotes - Book 3](#)

Question #41 of 114

Assume a minority shareholder holds 10% of a private firm's equity, with the CEO holding the other 90%. Using normalized earnings, the value of the firm's equity is estimated at \$20 million. The CEO refuses to sell the firm and the minority shareholder cannot sell their interest easily. A discount for lack of marketability (DLOM) of 15% will be applied. A discount for lack of control (DLOC) will also be estimated. Using reported earnings instead of normalized earnings provides an estimated firm equity value of \$19 million. Which of the following is *closest* to the value of the minority shareholder's equity interest?

A) \$1,700,000.



B) \$1,615,000.



C) \$1,900,000.



Explanation

Given these figures, the value of the minority shareholder's equity interest is:

<i>Firm's equity value</i>	\$19,000,000
<i>Minority interest</i>	10%
<i>Value of minority interest without discounts</i>	\$1,900,000
<i>minus DLOC of 0%</i>	0
<i>Value of interest if marketable</i>	\$1,900,000
<i>minus DLOM of 15%</i>	\$285,000
<i>Value of minority interest</i>	\$1,615,000

(Study Session 11, Module 33.4, LOS 33.k)

Related Material

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Question #42 of 114

Which of the following statements related to the market approaches to private company valuation is *most accurate*:

A) The prior transaction method (PTM) is based on price multiples from the sale of whole public and private companies.



B) The guideline transactions method (GTM) is based on historical stock sales of the actual subject company.



C) The guideline public company method (GPCM) is based on price multiples from comparable traded firms.



Explanation

The guideline public company method (GPCM) approach to private company valuation uses price multiples from traded public companies with adjustments for risk differences. The guideline transactions method (GTM) uses the price multiples from the sale of whole public and private companies, again with adjustments for risk differences. The prior transaction method (PTM) uses historical stock sales of the subject company; it works best when using recent, arm's-length data of the same motivation.

(Study Session 11, Module 33.3, LOS 33.i)

Related Material

[SchweserNotes - Book 3](#)

Question #43 of 114

Which of the following *best* describes the use of size premiums when estimating the discount rate for private company valuations?

- A) The treatment is similar to that for public firms. ✗
- B) When using data from comparable public firms, a distress premium may be inadvertently added in. ✓
- C) A size premium is subtracted when calculating the discount rate. ✗

Explanation

For private company valuations, a size premium is often added in when calculating the discount rate. This is not typically done for public firms. To get the size premium, the appraiser may use data from the smallest cap segment of public equity. This however may include a distress premium that is not applicable to the private firm.

(Study Session 11, Module 33.2, LOS 33.g)

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Question #44 of 114

Assuming that the growth rate is less than the required rate of return (r), an increase in return on equity (ROE) will cause value in a residual income (RI) model to:

- A) there is insufficient information to derive the effects of increasing ROE on RI. ✗
- B) decrease if ROE is greater than the required rate of return. ✗
- C) increase if ROE is greater than the required rate of return. ✓

Explanation

An increase (decrease) in ROE increases (decreases) value if the ROE exceeds the required rate of return. This is revealed by the RI valuation expression:

$$V_0 = B_0 + [(ROE - r) / (r - g)]B_0$$

(Study Session 11, Module 32.2, LOS 32.d)

Related Material

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Question #45 of 114

Krieger String & Twine expects to generate a return on equity (ROE) of 13.6% in each of the next five years. The required ROE is 8.7%. Current book value is \$12.40 per share and the firm pays no dividends. Krieger previously assumed residual income falls to zero immediately after five years, but has now decided to recalculate its estimated value using a persistence factor of 35%. The difference between the new valuation and the old one is *closest to*:

- A) \$0.32 per share.
- B) \$0.16 per share.
- C) \$0.64 per share.



Explanation

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To answer this question, we need to establish the residual values using the following equations:

$$\text{Earnings} = \text{prior year book value} \times \text{ROE}$$

$$\text{Equity charge} = \text{prior year book value} \times \text{required ROE}$$

$$\text{Residual income} = \text{earnings} - \text{equity charge}$$

Here is a table containing the relevant values.

Year	Earnings (ROE = 13.60%)	Book Value	Equity Charge (Required ROE = 8.70%)	Residual Income	PV of Residual Income
0		\$12.40			
1	\$1.69	\$14.09	\$1.08	\$0.61	\$0.56
2	\$1.92	\$16.00	\$1.23	\$0.69	\$0.58
3	\$2.18	\$18.18	\$1.39	\$0.78	\$0.61
4	\$2.47	\$20.65	\$1.58	\$0.89	\$0.64
5	\$2.81	\$23.46	\$1.80	\$1.01	\$0.67

Company value = \$12.40 + the sum of the residual incomes

Assuming residual value drops to zero after year five, the company is valued at \$15.46 per share.

Now, we modify the model to reflect the persistence factor of 35%. The only value that persistence factor effects is the terminal value. Instead of discounting the Year 5 residual income by $1 + \text{required ROE}$, we discount it by $1 + \text{required ROE} - \text{persistence factor}$. The new values are as follows:

	Book Value	Year 1	Year 2	Year 3	Year 4
Value	\$12.40	\$0.56	\$0.58	\$0.61	\$1.62

$$\text{Year 4 CF} = \text{Residual income in year 4} + \text{PV Continuing residual income} = 0.89 + 1.37 = 2.26$$

$$\text{PV of continuing residual income (T=4)} = \text{RI}(\text{year 5}) / (1 + r - w) = 1.01 / (1 + 0.087 - 0.35) = 1.37$$

$$\text{PV(T=0) of 2.26(T=4)} = 1.62$$

For a total value of \$15.78 per share, or \$0.32 higher than the original value.

(Study Session 11, Module 32.2, LOS 32.c)

Related Material

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Question #46 of 114

An analyst values a private firm by using price multiples from the sale of whole companies, with adjustments for risk differences. Which of the following best describes the valuation method that the analyst is using?

- A) The prior transaction method.
- B) The guideline public company method.
- C) The guideline transactions method.



Explanation

The guideline transactions method (GTM) generates a value estimate based on pricing multiples associated with the acquisition of control of entire companies. The guideline public company method (GPCM) generates an estimate of value based on the multiples from trading activity in the shares of public companies that are similar to the private company in question. The prior transaction method (PTM) uses actual transactions in the stock of the subject private company.




(Study Session 11, Module 33.3, LOS 33.i)

Related Material

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Question #47 of 114

The single-stage residual income model values a company at:

- A) book value plus the present value of the firm's expected economic profits. 
- B) book value times a factor determined by the discount rate. 
- C) book value plus the terminal value discounted at the weighted average cost of capital. 

Explanation

The single-stage residual income model values a company at book value plus the present value of the firm's economic profits, or the additional value generated by the firm's ability to produce returns higher than the cost of equity.




(Study Session 11, Module 32.2, LOS 32.d)

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Question #48 of 114

Creative Gardening is expected to have a return on equity (ROE) of 13% for the next five years and slightly lower thereafter. Its current book value per share as of the *beginning* of year 1 (i.e., the end of year 0) is \$7.50 per share and its required rate of return is 10%. The premium over book value at the end of five years is expected to be 30%. All earnings are reinvested. The sum of the present values of the residual income estimates over the next five years is \$1.10. The projected ending book value in year 5 is \$13.83. What is the value of Creative Gardening using these inputs?

- A) \$11.18. 
- B) \$8.60. 
- C) \$13.83. 

Explanation

Applying the finite horizon residual income valuation model:

$$V_0 = B_0 + \text{sum of discounted RIs} + \text{discounted premium}$$

$$= 7.50 + 1.10 + [(0.30)(13.83)/(1.10)^5] = \$11.18$$

(Study Session 11, Module 32.2, LOS 32.c)

Related Material

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Question #49 of 114

Travel Advisors has earnings before interest and taxes (EBIT) of \$200 million, interest expense of \$83 million, taxes of \$46.8 million, and total debt of \$125 million. It is also financed with total equity of \$850 million, which has a required rate of return of 12%. What is Travel Advisors' residual income?

- A) A profit of \$70.2 million.
- B) A profit of \$31.8 million.
- C) A loss of \$31.8 million.



Explanation

Net income = 200,000,000 – 83,000,000 – 46,800,000 = \$70,200,000. The equity capital charge is 850,000,000 × 0.12 = \$102,000,000. Thus, residual income = 70,200,000 – 102,000,000 = – \$31,800,000.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

[SchweserNotes - Book 3](#)

Question #50 of 114

Which description of the relationship among residual income, dividend discount (DDM) and free cash flow to equity (FCFE) models is *least* accurate?

- A) Residual income differs from DDM and FCFE in that it discounts income rather than cash.
- B) The different models should result in different intrinsic values because of the theoretical differences in the models.
- C) Residual income differs from DDM and FCFE in that residual income starts with book value.



Explanation

The three models should all produce the same intrinsic value as long as the underlying assumptions are the same. The differences in intrinsic values arise from difficulty in estimating the inputs, not from theoretical differences in the models. Since they should produce the same results, they can be used to assess consistency. Residual income differs from DDM and FCFE in the use of accounting assumptions, including book value and discounting income.

(Study Session 11, Module 32.5, LOS 32.i)

Related Material[SchweserNotes - Book 3](#)

Question #51 of 114

Which of the following is *most* accurate regarding the asset-based approach? Of the three valuation methods for private firms, it usually:

- A) results in the lowest valuation.
- B) is not difficult to apply.
- C) is the most appropriate for going concerns.

**Explanation**

The asset-based approach is generally not used for going concerns. Because it is easier to find comparable data at the firm level compared to the asset level, the income and market approaches would be preferred to value going concerns.

Because it is difficult to find data for individual intangible assets and specialized assets, the asset-based approach can be difficult to apply. It generally results in the lowest valuation because the use of a firm's assets in combination usually results in greater value creation than each of its parts individually.

(Study Session 11, Module 33.3, LOS 33.j)

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Question #52 of 114

Which of the following *best* describes the implementation of private company valuation standards?

- A) Because most valuation reports are private, it is very difficult for appraisal organizations to ensure compliance to standards.
- B) Appraisers are required to periodically submit their reports for review by the local appraisal board.
- C) Appraisers voluntarily and periodically submit their reports for review by the local appraisal board.

**Explanation**

One of the challenges involved with the implementation of appraisal standards is that because most valuation reports are private, it is very difficult for the organizations to ensure compliance to the standards.

(Study Session 11, Module 33.4, LOS 33.l)

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Question #53 of 114

Travel Advisors has earnings before interest and taxes (EBIT) of \$200 million, interest expense of \$83 million, taxes of \$46.8 million, and total debt of \$125 million. It is also financed with total equity of \$650 million, which has a required rate of return of 12 percent. What is Travel Advisors' residual income? A:

A) profit of \$70.2 million. 

B) loss of \$7.8 million. 

C) loss of \$70.2 million. 

Explanation

Net income = $200,000,000 - 83,000,000 - 46,800,000 = \$70,200,000$. The equity capital charge is $650,000,000 \times 0.12 = \$78,000,000$. Thus, residual income = $70,200,000 - 78,000,000 = -\$7,800,000$.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Sue Clifton, CFA, is a senior portfolio manager at Lewiston Investments, a small research firm. Clifton has been assigned to help new hire Ralph Rawls get acclimated to his new job as a stock analyst. She discovers early on that Rawls is not too familiar with residual income valuation, a tool for determining economic profitability.

Clifton explains the basics of the residual-income model and the clean surplus relationship that underpins the system. Clifton then offers Rawls some reasons why residual income is useful:

Reason 1:	"Residual-income valuation works even when cash flows are volatile or negative."
Reason 2:	"Terminal value, the most uncertain aspect of dividend discount models, is less important in residual-income valuation."
Reason 3:	"The models depend on data that is easy to obtain and requires minimal modification."
Reason 4:	"All residual-income models are dependent on assumptions about earnings growth."

Clifton explains to Rawls that analysts use assumptions to make the residual-income models easier to interpret. She goes on to identify four commonly used assumptions: Residual income can be expected to:

- disappear immediately
- decline gradually as return on equity (ROE) declines
- stay at the same level indefinitely
- decline to the market average

After her initial review of residual income, Clifton gives Rawls a test. The answers depend on the use of the following information about CR Industries in Year X (in \$ millions):

Invested capital	\$225
Market capitalization	\$231
Debt	\$130

Sales	\$90
Cost of goods sold (COGS)	\$26
Selling, general & administrative (SG&A) expense	\$10
Depreciation and amortization expense	\$25
Interest expense	\$6.5
Dividend expense	\$6
Tax rate	40.0%
Pretax cost of equity	11.4%
Pretax cost of debt	5.00%

Question #54 of 114

When a company's ROE is the same as the return required by the market, the stock's justified market value is *closest* to the:

- A) book value plus residual income.
- B) book value.
- C) actual market value plus residual income.



Explanation

When ROE is equal to the required return on equity, the justified market value of a share of stock is equal to its book value. In this case, there is no residual income.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #55 of 114

Which of the following assumptions is not commonly used to simplify the calculation of residual income? Continuing residual income is expected to:

- A) disappear immediately.
- B) decline to the market average.
- C) decline gradually as ROE declines.



Explanation

A common assumption involves residual income declining to an average level consistent with a mature industry. This assumption makes sense, considering that we generally calculate residual income for an individual company, and the company's industry average is quite possibly the best benchmark for its future income-generation potential. The market average is not generally used as a proxy. Both remaining assumptions are commonly used.




(Study Session 11, Module 32.1, LOS 32.a)

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Question #56 of 114

Which of the following regarding the statements Clifton made about the usefulness of residual-income valuation is *most* accurate? Clifton is correct in regard to:

- A) Reason 4, but incorrect in regard to Reasons 1, 2 and 3. 
- B) Reasons 1, 2, and 4, but incorrect in regard to Reason 3. 
- C) Reasons 1 and 2, but incorrect in regard to Reasons 3 and 4. 

Explanation

Clifton's Reasons 1 and 2 are correct. Residual-income models work when cash flows are volatile or negative and are not dominated by terminal value calculations.

Clifton's Reason 3 is incorrect. Residual-income models use accounting data that is easy to find, but often requires numerous adjustments.

Reason 4 is also incorrect. General residual-income models make no assumptions in regard to future earnings growth. They can be modified to include growth if the dividend rate and the growth rate are assumed to be constant.




(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #57 of 114

Which of the following scenarios represents a violation of the clean surplus relationship?

- A) The market value of securities held for sale changes. 
- B) Unusual charges against income are not charged against equity. 
- C) A company stops paying dividends suddenly. 

Explanation

The clean surplus relationship holds that ending book value equals the beginning book value plus earnings minus dividends, excluding ownership transactions. The relationship is violated when charges skip the income statement and go directly to equity. Changes in the market value of debt and equity classified as available for sale can affect equity without affecting earnings. Unusual charges should not be included in residual-value calculations because they are not expected to recur. Charges that do not affect equity will not violate the relationship. Cessation of dividends also does not violate the relationship.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #58 of 114

The residual income of CR Industries is *closest* to:

- A) \$2.67 million.
- B) -\$12.15 million.
- C) -\$1.83 million.



Explanation

Residual income = net income – equity charge.

Net income = (sales – COGS – SG&A expense – depreciation and amortization expense – interest expense) × (1 – tax rate) = \$13.5 million.

Equity charge = equity × cost of equity.

(total capital - debt) × cost of equity = \$95 million × 11.4% = \$10.83 million.

Residual income = \$13.5 million – \$10.83 million = \$2.67 million.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

[SchweserNotes - Book 3](#)

Question #59 of 114

The economic value added (EVA) of CR Industries is *closest* to:

- A) \$2.67 million.
- B) -\$8.13 million.
- C) -\$4.53 million.



Explanation

$$\text{EVA} = \text{NOPAT} - (\text{WACC} \times \text{invested capital}).$$

$$\text{NOPAT} = (\text{sales} - \text{COGS} - \text{SG\&A expense} - \text{depreciation and amortization expense}) \times (1 - \text{tax rate}) = \$17.40 \text{ million}.$$

To calculate the weighted average cost of capital (WACC), start by determining the percentage of equity and debt. \$130 million in debt represented 57.78% of total capital. The remaining 42.22% is the equity portion. Don't forget to adjust the cost of debt for taxes.

$$\text{WACC} = 57.78\% \times (5\% \times [1 - 40\%]) + (42.22\% \times 11.4\%) = 6.55\%.$$

$$\text{EVA} = \$17.40 \text{ million} - (\$225 \text{ million} \times 6.55\%) = \$2.67 \text{ million}.$$

Note that in this problem residual income and EVA are the same. This is true in a "perfect world" but you should not assume this will always be true on exam problems.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #60 of 114

Midland Semiconductor has a book value of \$10.50 per share. The company's return on equity is 20%, and its required return on equity is 17%. The dividend payout ratio is 30%. What is the value of the shares using a single-stage residual income model?

- A) \$31.50.
- B) \$21.00.
- C) \$10.50.



Explanation

$$g = \text{retention ratio} \times \text{ROE} = (1 - 0.30) \times 0.20 = 0.14 \text{ or } 14\%$$

$$V_0 = \$10.50 + \left(\frac{0.20 - 0.17}{0.17 - 0.14} \times \$10.50 \right) = \$21.00$$

(Study Session 11, Module 32.3, LOS 32.f)

Related Material

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Question #61 of 114

Which of the following *best* describes how debt is incorporated into the estimation of the discount rate for private company valuations, relative to that for public firms? In general, the cost of debt:

- A) is higher for private firms and debt capacity is lower for private firms.
- B) and debt capacity is the same for both private and public firms.
- C) is higher for private firms and debt capacity is the same for both private and public firms.



Explanation

A private firm may not be able to obtain as much debt financing as a public firm. The small size of private firms may result in higher operating risk and a higher cost of debt.




(Study Session 11, Module 33.2, LOS 33.g)

Related Material

[SchweserNotes - Book 3](#)

Question #62 of 114

Which of the following statements *most* accurately describes the difference between private and public firm managers?

- A) Although managers in a public firm are often paid with incentive compensation, public managers may take a shorter term view than private managers because shareholders often focus on the short- 
- B) Because managers in a private firm are concerned with having the firm go public, private managers may take a shorter term view than public managers. 
- C) Because managers in a public firm are often paid with incentive compensation, public managers may take a longer term view than private managers. 

Explanation

Although managers in a public firm are often paid with incentive compensation such as options, shareholders often focus on short-term measures such as quarterly earnings and the consistency of such. Management may therefore take a shorter term view than they otherwise would. Private firms should be able to take a longer term view.




(Study Session 11, Module 33.1, LOS 33.a)

Related Material

[SchweserNotes - Book 3](#)

Question #63 of 114

The residual income approach is NOT appropriate when:

- A) a firm does not pay dividends or the stream of payments is too volatile to be sufficiently predictable. 
- B) expected free cash flows are negative for the foreseeable future. 
- C) the clean surplus accounting relation is violated significantly. 

Explanation

The residual income approach is not appropriate when the clean surplus accounting relation is violated significantly. Both remaining responses describe circumstances in which the approach is appropriate.




(Study Session 11, Module 32.5, LOS 32.j)

Related Material

[SchweserNotes - Book 3](#)

Question #64 of 114

An argument for using the residual income (RI) valuation approach is that residual income valuation:

- A) encourages company managers to maximize ROI. 
- B) reduces the problem of terminal value dominating total value. 
- C) facilitates comparisons between divisions. 

Explanation

Terminal value does not dominate total present value as is the case in dividend and free cash flow valuation models. Both remaining responses are arguments against using the RI approach.




(Study Session 11, Module 32.5, LOS 32.j)

Related Material

[SchweserNotes - Book 3](#)

Question #65 of 114

Which of the following *best* describes the estimation of discounts for lack of marketability (DLOM) in private company valuations? The primary advantage of using put prices to estimate the DLOM over the other two methods is:

- A) the Black-Scholes model has been shown to be valid for private firms. 
- B) exchange traded put prices are readily available. 
- C) the volatility of the firm can be incorporated into the analysis. 

Explanation

If an interest in a firm cannot be easily sold, a DLOM is applied. The DLOM can be estimated using restricted share versus publicly traded share prices, pre-IPO versus post-IPO prices, and put prices. The advantage of using put prices over the other two DLOM estimation methods is that the estimated risk of the firm can be factored into the option price.



(Study Session 11, Module 33.4, LOS 33.k)

Related Material

[SchweserNotes - Book 3](#)

Question #66 of 114

An analyst is valuing a firm's equity using the price-to-book-value ratio of similar firms. Which of the following is the *most likely* valuation approach the analyst will use?

- A) The income approach. 
- B) The market approach. 

C) The asset-based approach.



Explanation

The market approach values a firm using the price-multiples such as the price-to-book-value ratio and price-earnings ratio of comparable assets. The income approach values a firm as the present value of its future income. The asset-based approach values a firm as its assets minus liabilities.

(Study Session 11, Module 33.1, LOS 33.d)

Related Material

[SchweserNotes - Book 3](#)

Question #67 of 114

Which of the following definitions of value refers to the value of an asset given a hypothetically complete understanding of the asset's investment characteristics?

A) Fair value.



B) Investment value.



C) Intrinsic value.



Explanation

Intrinsic value is derived from investment analysis and is the "true" value independent of short-term mispricing that may occur. Fair value is a concept used in financial reporting or litigation matters. Investment value is the value to a particular buyer.

(Study Session 11, Module 33.1, LOS 33.c)

Related Material

[SchweserNotes - Book 3](#)

Question #68 of 114

Midland Semiconductor has a book value of \$10.50 per share. The company's return on equity is 20%, and its required return on equity is 17%. The dividend payout ratio is 30%. The current share price is \$21.00 per share. The shares (relative to a single-stage residual income model) are *most likely*:

A) correctly valued.



B) overvalued.



C) undervalued.



Explanation

$g = \text{retention ratio} \times \text{ROE} = (0.7) \times 0.20 = 0.14$ or 14%

$$V_0 = \$10.50 + \left(\frac{0.20 - 0.17}{0.17 - 0.14} \times \$10.50 \right) = \$21.00$$

(Study Session 11, Module 32.5, LOS 32.I)

Related Material[SchweserNotes - Book 3](#)**Question #69 of 114**

SmallCo has the following characteristics:

- Long-term debt = \$55 million
- Equity = \$45 million
- WACC = 11%
- EBIT = \$10 million
- Marginal tax rate = 30%

SmallCo's economic value added is *closest* to:

A) -\$4 million.



B) +\$1 million.



C) -\$1 million.

**Explanation**

Economic value added (EVA) measures the value added for shareholders by management during a given year. A company must produce EVA in order to increase its market value. EVA is calculated as:

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

$$10(1 - 0.30) - 0.11(55 + 45)$$

$$7 - 11$$

$$-4$$

(Study Session 11, Module 32.1, LOS 32.a)

Related Material[SchweserNotes - Book 3](#)**Question #70 of 114**

The residual income approach is appropriate when:

A) expected free cash flows are negative for the foreseeable future.



B) the clean surplus accounting relation is violated significantly.



C) a firm pays high dividends that are quite stable.

**Explanation**

The residual income approach is appropriate when expected free cash flows are negative for the foreseeable future. It is not appropriate when the clean surplus accounting relation is violated significantly. A firm that pays high dividends that are quite stable is also a poor candidate for the approach.

(Study Session 11, Module 32.5, LOS 32.j)

Related Material

[SchweserNotes - Book 3](#)

Question #71 of 114

An analyst calculates a control premium of 15% and discount for lack of marketability (DLOM) of 20%. Which of the following is *closest* to the total discount for valuing minority equity interests in the private firm?

- A) 35.7%.
- B) 35.0%.
- C) 30.4%.



Explanation

The discount for lack of control (DLOC) can be backed out of the control premium.

$$\text{DLOC} = 1 - \left[\frac{1}{1 + \text{Control Premium}} \right]$$

$$\text{DLOC} = 1 - \left[\frac{1}{1 + 0.15} \right] = 13.04\%$$

The total discount also uses the DLOM.

$$\text{Total Discount} = 1 - [(1 - \text{DLOC})(1 - \text{DLOM})]$$

$$\text{Total Discount} = 1 - [(1 - 0.1304)(1 - 0.20)] = 30.4\%$$

(Study Session 11, Module 33.4, LOS 33.k)

Related Material

[SchweserNotes - Book 3](#)

Question #72 of 114

Big Sky Ranches reported the following for the end of its fiscal year:

- Book Value = \$3.18
- ROE = 22%
- Retention Ratio = 50%
- Required Return = 14.1%

The current share price is \$11.28 per share. The shares (relative to a single-stage residual income model) are *most likely*:

- A) overvalued.



B) correctly valued.



C) undervalued.



Explanation

$g = \text{retention ratio} \times \text{ROE} = (0.50) \times 0.22 = 0.11$ or 11.00%

$$V_0 = \$3.18 + \left(\frac{0.22 - 0.141}{0.141 - 0.11} \times \$3.18 \right) = \$11.28$$

(Study Session 11, Module 32.5, LOS 32.I)

Related Material

[SchweserNotes - Book 3](#)

Question #73 of 114

A common assumption regarding continuing residual income (RI) is that RI:

A) manifests a generally increasing trend indefinitely.



B) falls to the average industry level.



C) declines to zero as return on equity (ROE) drops to the cost of equity over time.



Explanation

It is common to assume that RI declines to zero as ROE drops to the cost of equity over time. Other assumptions analysts may make include RI continues indefinitely at a positive level or RI reflects a decline in ROE to a long-run average level.

(Study Session 11, Module 32.4, LOS 32.h)

Related Material

[SchweserNotes - Book 3](#)

Question #74 of 114

The residual income approach is appropriate when:

A) the clean surplus accounting relation is violated significantly.



B) a firm pays high dividends that are quite stable.



C) a firm does not pay dividends or the payments are too volatile to be sufficiently predictable.



Explanation

The residual income approach is appropriate when a firm does not pay dividends or the payments are too volatile to be sufficiently predictable. It is not appropriate when the clean surplus accounting relation is violated significantly. A firm that pays high dividends that are quite stable is also a poor candidate for the approach.




(Study Session 11, Module 32.1, LOS 32.b)

Related Material

[SchweserNotes - Book 3](#)

Question #75 of 114

An argument for using the residual income (RI) valuation approach is that:

- A) the models focus on economic rather than just on accounting profitability. 
- B) the models rely on accounting data that can be manipulated by management. 
- C) the clean surplus relation fails to hold. 

Explanation

The models focus on economic rather than just on accounting profitability. Both remaining responses are arguments against using the RI approach.

(Study Session 11, Module 32.5, LOS 32.i)

Related Material

[SchweserNotes - Book 3](#)

Question #76 of 114

Which of the following statements related to the role of valuation standards in valuing private companies is *most accurate*:

- A) Business appraisers in the U.S. and most other countries are not required to adhere to government-authorized valuation standards. 
- B) No international valuation standards exist; countries generally each have their own standards for valuation. 
- C) Standards organizations provide technical guidance that ensures homogeneous valuations by those that use their standards. 

Explanation

In the United States, the Appraisal Foundation is a congressionally authorized provider of standards, however business appraisers are not required to adhere to the standards. Other challenges involved with valuation standards are: there are many different valuation standards; technical guidance on the use of standards is limited; it is difficult to ensure compliance to the standards; and valuation will depend on the definition of value used.




(Study Session 11, Module 33.4, LOS 33.I)

Related Material

[SchweserNotes - Book 3](#)

Question #77 of 114

Which of the following *best* describes the guidance on the use of private company valuation standards provided by appraisal organizations?

- A) Guidance on the use of standards is not provided. 
- B) Guidance on the use of standards is necessarily limited due to the heterogeneity of valuations. 
- C) Technical guidance on the use of standards is widespread, as it is provided by both industry and consumer groups. 

Explanation

One of the challenges involved with the implementation of appraisal standards is that although the organizations provide technical guidance on the use of their standards, it is necessarily limited due to the heterogeneity of valuations.

(Study Session 11, Module 33.4, LOS 33.I)

Related Material

[SchweserNotes - Book 3](#)

Question #78 of 114

Using the following figures, calculate the value of the equity using the capitalized cash flow method (CCM), assuming the firm will be acquired.

<i>Normalized FCFE in current year</i>	\$3,000,000
<i>Reported FCFE in current year</i>	\$2,400,000
<i>Growth rate of FCFE</i>	7.0%
<i>Equity discount rate</i>	16.0%
<i>WACC</i>	13.0%
<i>Risk-free rate</i>	3.5%
<i>Cost of debt</i>	10.5%
<i>Market value of debt</i>	\$3,000,000

The value of the equity is:

- A) \$32,666,667. 
- B) \$28,533,333. 
- C) \$35,666,667. 

Explanation

To arrive at the value of the equity using the CCM, it can be estimated using the free cash flows to equity and the required return on equity (r):

$$\text{value of equity} = \frac{\text{FCFE}_1}{r - g}$$

$$\text{value of equity} = \frac{\$3,000,000 \times (1.07)}{0.16 - 0.07} = \$35,666,667$$

Note that we grow the FCFE at the growth rate because the *current* year FCFE is provided in the problem (not next year's FCFE). We use normalized earnings, not reported earnings, given that normalized earnings are most relevant for the acquirers of the firm. The relevant required return for FCFE is the equity discount rate, not the WACC.

An alternative approach to calculate the value of the equity would be to subtract the market value of the firm's debt from total firm value. However, the FCFF are not provided so a total firm value cannot be calculated.

(Study Session 11, Module 33.2, LOS 33.f)

Related Material

[SchweserNotes - Book 3](#)

Question #79 of 114

Which of the following *best* describes projection risk in the estimation of the discount rate for private company valuations?

- A) Management will always be overly optimistic to increase the acquisition price. ✗
- B) If the availability of information from private firms is poor, the uncertainty of projected cash flows may increase. ✓
- C) Projection risk results in higher discount rates. ✗

Explanation

Projection risk refers to the risk of misestimating future cash flows. Given the lower availability of information from private firms, the uncertainty of projected cash flows may increase.

However, management may not be experienced with projections and may underestimate *or* overestimate future prospects. The discount rate would then be decreased *or* increased accordingly. So management is not always overly optimistic and projection risk does not always result in higher discount rates.

(Study Session 11, Module 33.2, LOS 33.g)

Related Material

[SchweserNotes - Book 3](#)

Question #80 of 114

Given the following figures, calculate the FCFF. Assume the earnings and expenses are normalized and that capital expenditures will cover depreciation plus 3 percent of the firm's incremental revenues.

<i>Current Revenues</i>	\$30,000,000
<i>Revenue growth</i>	6%
<i>Gross profit margin</i>	20%
<i>Depreciation expense as a percent of sales</i>	1%
<i>Working capital as a percent of sales</i>	15%
<i>SG&A expenses</i>	\$3,800,000
<i>Tax rate</i>	30%

- A) \$927,400.
B) \$1,785,400.
C) \$1,245,400.

Explanation



The answer is calculated as follows:

<i>Pro forma Income Statement</i>	
Revenues	\$31,800,000
Cost of Goods Sold	<u>\$25,440,000</u>
Gross Profit	\$6,360,000
SG&A Expenses	\$3,800,000
Pro forma EBITDA	\$2,560,000
Depreciation and amortization	<u>\$318,000</u>
Pro forma EBIT	\$2,242,000
Pro forma taxes on EBIT	<u>\$672,600</u>
Operating income after tax	\$1,569,400
<i>Adjustments to obtain FCFF</i>	
Plus: Depreciation and amortization	\$318,000
Minus: Capital expenditures	\$372,000
Minus: Increase in working capital	\$270,000
FCFF	\$1,245,400

The following provides a line by line explanation for the above calculations.

Pro forma Income Statement	Explanation
Revenues	Current revenues times the growth rate: $\$30,000,000 \times (1.06)$
Cost of Goods Sold	Revenues times one minus the gross profit margin: $\$31,800,000 \times (1 - 0.20)$
Gross Profit	Revenues times the gross profit margin: $\$31,800,000 \times 0.20$
SG&A Expenses	Given in the question
Pro forma EBITDA	Gross Profit minus SG&A expenses: $\$6,360,000 - \$3,800,000$
Depreciation and amortization	Revenues times the given depreciation expense: $\$31,800,000 \times 0.01$
Pro forma EBIT	EBITDA minus depreciation and

	amortization: \$2,560,000 – \$318,000
Pro forma taxes on EBIT	EBIT times tax rate: \$2,242,000 × 0.30
Operating income after tax	EBIT minus taxes: \$2,242,000 – \$672,600
<i>Adjustments to obtain FCFF</i>	
Plus: Depreciation and amort.	Add back noncash charges from above
Minus: Capital expenditures	Expenditures cover depreciation and increase with revenues: \$318,000 + (0.03 × \$31,800,000 – \$30,000,000)
Minus: Increase in working capital	The working capital will increase as revenues increase: (0.15 × \$31,800,000 – \$30,000,000)
FCFF	Operating income net of the adjustments above

(Study Session 11, Module 33.2, LOS 33.e)

Related Material

[SchweserNotes - Book 3](#)

Question #81 of 114

Which of the following is *least likely* an example of a compliance-related valuation for a private company?

- A) Financial reporting.
- B) Tax purposes.
- C) Bankruptcy proceeding.



Explanation

A bankruptcy proceeding is an example of a transaction-related valuation for a private company.

(Study Session 11, Module 33.1, LOS 33.b)

Related Material

[SchweserNotes - Book 3](#)

Question #82 of 114

An argument for using the residual income (RI) valuation approach is that:

- A) the models rely on accounting data that can be manipulated by management.



B) the clean surplus relation fails to hold.



C) the models focus on economic rather than just on accounting profitability.



Explanation

The models focus on economic rather than just on accounting profitability. Both remaining responses are arguments against using the RI approach.

(Study Session 11, Module 32.5, LOS 32.j)

Related Material

[SchweserNotes - Book 3](#)

Question #83 of 114

In general, firms making aggressive accounting decisions will report book values that are:

A) lower.



B) consistent with fair market value.



C) higher.



Explanation

In general, firms making aggressive (conservative) accounting decisions will report higher (lower) book values and lower (higher) future earnings.

(Study Session 11, Module 32.5, LOS 32.k)

Related Material

[SchweserNotes - Book 3](#)

Question #84 of 114

Which of the following definitions of value is the value to a particular buyer?

A) Fair market value.



B) Investment value.



C) Market value.



Explanation

Investment value is the value to a particular buyer and may be different for each investor due to different estimates of future cash flows, perceived firm risk, discount rates, financing costs, and synergies with existing assets the buyer holds.

(Study Session 11, Module 33.1, LOS 33.c)

Related Material

[SchweserNotes - Book 3](#)

Question #85 of 114

Which of the following *best* describes the build-up method used for the estimation of the discount rate in private company valuations?

- A) Because it is not used in the calculation, beta is assumed to be zero. ✗
- B) An industry risk premium is not included because it is captured in the equity risk premium. ✗
- C) It is useful when there are no comparable public firms. ✓

Explanation

If it is not possible to find comparable public firms with which to estimate beta by, the build-up method can be used for a private firm. It is similar to the expanded CAPM except that beta is not used. Implicitly, beta is assumed to be one. Both industry risk premiums and equity risk premiums are used. The risk-free rate, the equity risk premium, the small stock premium, a company-specific risk premium, and an industry risk premium are added together in the build-up method.

(Study Session 11, Module 33.2, LOS 33.h)

Related Material

[SchweserNotes - Book 3](#)

Question #86 of 114

Among the various price multiples, the residual income model is *most closely* linked to which of the following?

- A) Price to free cash flow (P/FCF). ✗
- B) Price to book value (P/B). ✓
- C) Price to earnings (P/E). ✗

Explanation

The residual income model is most closely linked to P/B because justified P/B is directly linked to expected residual future income.

(Study Session 11, Module 32.2, LOS 32.e)

Related Material

[SchweserNotes - Book 3](#)

Question #87 of 114

Reported accounting data are *most likely* to bias an estimate of residual income when:

- A) standards allow charges directly to stockholders' equity that are also reflected on the income statement. ✗
- B) the clean surplus relation holds. ✗
- C) standards allow charges directly to stockholders' equity while bypassing the income statement. ✓

Explanation

Bias is likely when standards allow charges directly to stockholders' equity while bypassing the income statement. Both remaining responses are consistent with the use of data that will not introduce a bias.

(Study Session 11, Module 32.5, LOS 32.k)

Related Material

[SchweserNotes - Book 3](#)

Question #88 of 114

A use of the residual income (RI) valuation approach is:

- A) providing more reliable estimates of terminal value. ✗
- B) providing a check of consistency between competing approaches like free cash flow of equity (FCFE) and dividend discount model (DDM). ✓
- C) deferring value more than in competing valuation approaches. ✗

Explanation

A RI model can be used along with other models to assess the consistency of results. FCFE and DDM models forecast future cash flows while RI models start with a balance sheet measure of equity and add the present value of expected future RI.

(Study Session 11, Module 32.5, LOS 32.i)

Related Material

[SchweserNotes - Book 3](#)

Question #89 of 114

An analyst uses the financial statements of Advanced Instruments to generate the following estimates:

- Book Value per share = 4.00
- Retention ratio = 75%
- ROE = 17%

If the required rate of return is 15%, and the current share price is \$7.56 per share, the stock (using a single-stage residual income model) is *most likely*:

- A) correctly valued. ✓
- B) undervalued. ✗
- C) overvalued. ✗

Explanation

$g = \text{retention ratio} \times \text{ROE} = (0.75) \times 0.17 = 0.1275 \text{ or } 12.75\%$

$$V_0 = \$4.00 + \left(\frac{0.17 - 0.15}{0.15 - 0.1275} \times \$4.00 \right) = \$7.56$$

(Study Session 11, Module 32.5, LOS 32.I)

Related Material

[SchweserNotes - Book 3](#)

Question #90 of 114

Red Shoes's recent financial statements reported a book value of \$11.00 per share; its required rate of return is 9%. Analyst Tony Giancola, CFA, wants to calculate the company's intrinsic value using a multistage residual income with a high-growth RI for the next 5 years. Giancola creates the following estimates:

- PV of interim high-growth RI for the next 5 years is \$ 2.90
- At the end of year 5, the PV of continuing RI is \$7.00
- Estimated Book Value in 5 years is \$14.00

Which of the following is *closest* to the current intrinsic value of Red Shoes?

- A) \$9.90.
- B) \$20.90.
- C) \$18.45.



Explanation

Applying the multistage residual income model:

$$\begin{aligned} V_0 &= B_0 + \text{PV of interim high-growth RI} + \text{PV of continuing RI} \\ &= 11.00 + 2.90 + [(7.00) / (1.09)^5] = \$18.45 \end{aligned}$$

(Study Session 11, Module 32.2, LOS 32.c)

Related Material

[SchweserNotes - Book 3](#)

Question #91 of 114

Which of the following statements *least* accurately explains the relationship between the residual income (RI) model, the dividend discount model (DDM), and free cash flow to equity (FCFE):

- A) FCFE models use historical cash flows.
- B) RI models use an equity value from the balance sheet plus the present value of expected future residual income.
- C) All the models discount future cash flows or income at the required rate of return.



Explanation

In theory, the same value or total present value should be derived using expected dividends, expected FCFE, or book value plus expected residual income if the underlying assumptions are the same. However, the recognition of value is different because FCFE and DDM models forecast future cash flows, while residual income models start with a balance sheet measure of equity and add the present value of expected future residual income. A residual income model can be used along with other models to assess the consistency of results.

(Study Session 11, Module 32.5, LOS 32.i)

Related Material

[SchweserNotes - Book 3](#)

Question #92 of 114

Professor Cliff Webley made the following statements in his asset-valuation class:

- Statement 1: "Residual income approaches generally model ROE as approaching zero over time."
- Statement 2: "If actual return on equity equals required return on equity, the residual income model sets the company's proper market value equal to its book value."
- Statement 3: "Using consistent assumptions, the single-stage residual income model should give you the same valuation as the Gordon Growth Dividend-discount model."

Which of Webley's statements is *least* accurate?

- A) Statement 3.
- B) Statement 1.
- C) Statement 2.

**Explanation**

In a competitive market, ROE has been found to decline over time -- not to zero but to the cost of equity. Thus, residual income approaches often model ROE fading toward the cost of equity. As ROE approaches the cost of equity, residual income approaches zero. The other two statements are accurate.

(Study Session 11, Module 32.2, LOS 32.d)

Related Material

[SchweserNotes - Book 3](#)

Question #93 of 114

In general, firms making aggressive accounting decisions will report *future* earnings that are:

- A) inflation-adjusted.
- B) higher.



C) lower.



Explanation

In general, firms making aggressive (conservative) accounting decisions will report higher (lower) book values and lower (higher) *future* earnings.

Firms may adopt aggressive accounting practices that overstate the value of earnings by, for example, accelerating revenues to the current period or deferring expenses to a later period. Current earnings will be higher, but *future* earnings will be lower.

(Study Session 11, Module 32.5, LOS 32.k)

Related Material

[SchweserNotes - Book 3](#)

Question #94 of 114

Which of the following is *least likely* an example of a litigation-related valuation for a private company?

A) Lost profits claims.



B) Divorce settlements.



C) Bankruptcy proceeding.



Explanation

Litigation-related valuations may be required for shareholder suits, damage claims, lost profits claims, or divorce settlements. A bankruptcy proceeding is an example of a transaction-related valuation for a private company.

(Study Session 11, Module 33.1, LOS 33.b)

Related Material

[SchweserNotes - Book 3](#)

Question #95 of 114

The capitalized cash flow method (CCM) used in private firm valuation is *most* appropriate when:

A) stable growth is expected.



B) earnings are growing quickly in an initial period.



C) there are many intangible assets to value.



Explanation




The CCM is a growing perpetuity model that assumes stable growth and is in effect a single-stage free cash flow model. It may be suitable when no comparables or projections are available and when stable growth is expected. The excess earnings method (EEM) is useful when there are intangible assets to value. The free cash flow method assumes high growth in an initial period followed by constant growth thereafter.

(Study Session 11, Module 33.2, LOS 33.f)

Related Material

Question #96 of 114

Which of the following statements related to the models used to estimate the required rate of return to private company equity is *most accurate*:

- A) The build-up method begins with betas for comparable public firms and adds risk premiums. 
- B) The expanded CAPM model adds premiums for size and firm-specific risk. 
- C) The CAPM model uses betas estimated from firm returns of other private firms. 

Explanation

Expanded CAPM adds premiums for size and firm-specific risk. CAPM may not be appropriate for private firms because beta is usually estimated from public firm returns. The build-up method adds an industry risk and other risk premiums to market rate of return; it is used when betas for comparable public firms are not available.

(Study Session 11, Module 33.2, LOS 33.h)

Related Material




[SchweserNotes - Book 3](#)

Question #97 of 114

Brown Manufacturing's recent financial statements reported a book value of \$9.50 per share; its required rate of return is 10%. Analyst Tony Giancola, CFA, wants to calculate the company's intrinsic value using a multistage residual income with a high-growth RI for the next 5 years. Giancola creates the following estimates:

- PV of interim high-growth RI for the next 5 years is \$3.10
- At the end of year 5, the PV of continuing RI is \$10.00
- Estimated Book Value in 5 years is \$25.00

Which of the following is *closest* to the current intrinsic value of Brown Manufacturing?

- A) \$22.60. 
- B) \$13.10. 
- C) \$18.81. 

Explanation

Applying the multistage residual income model:

$$\begin{aligned}V_0 &= B_0 + \text{PV of interim high-growth RI} + \text{PV of continuing RI} \\&= 9.50 + 3.10 + [(10.00) / (1.10)^5] = \$18.81\end{aligned}$$

(Study Session 11, Module 32.2, LOS 32.c)

Related Material

Question #98 of 114

Assuming that the growth rate is less than the required rate of return (r), a decrease in initial book value will cause value in a residual income (RI) model to:

- A) decrease. 
- B) increase. 
- C) there is insufficient information to determine the effect on RI. 

Explanation

A decrease (increase) in initial book value decreases (increases) value. This is revealed by the RI valuation expression:

$$V_0 = B_0 + [(ROE - r) / (r - g)]B_0$$




(Study Session 11, Module 32.2, LOS 32.e)

Related Material

[SchweserNotes - Book 3](#)

Question #99 of 114

Which of the following is the *most* appropriate tool to measure managerial effectiveness, goodwill impairment, and equity value?

- A) Residual income. 
- B) Free cash flow to the firm. 
- C) Gordon growth model. 

Explanation

Residual income is commonly used to measure managerial effectiveness, goodwill impairment and equity value. The Gordon Growth Model (GGM) would not be appropriate in instances where the underlying assumptions (such as stable growth in perpetuity) do not apply. Free cash flow to the firm and price to sales would often not be appropriate tools to measure goodwill impairment.




(Study Session 11, Module 32.1, LOS 32.b)

Related Material

[SchweserNotes - Book 3](#)

Question #100 of 114

An analyst is valuing a small private firm that is still developing and has yet to generate any earnings. Which of the following *best* describes the approach that should be used?

- A) An asset-based approach would be used. 
- B) A market approach based on public comparables would be utilized. 
- C) Nonoperating assets are not crucial to the firm and should be excluded in any valuation. 

Explanation

The valuation approach used will depend on the firm's operations and its lifecycle stage. Early in its life, a firm's future cash flows may be so uncertain that an asset-based approach would be selected. The price multiples from large public firms should not be used for a small private firm when using the market approach. Although a firm's nonoperating assets are not crucial to the firm, they should be included in any valuation.

(Study Session 11, Module 33.1, LOS 33.d)

Related Material

[SchweserNotes - Book 3](#)

Question #101 of 114

Economic value added (EVA[®]) is calculated as net operating profit after taxes minus:

- A) capital expenditures. 
- B) a charge for total capital. 
- C) a charge for equity capital. 

Explanation

$EVA = NOPAT - (C\% \times TC)$, where NOPAT is a firm's net operating profit after taxes, C% is the cost of capital, and TC is total capital.

(Study Session 11, Module 32.1, LOS 32.a)

Related Material

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Question #102 of 114

A residual income model would be *least appropriate* as a tool to measure which of the following?

- A) Goodwill impairment. 
- B) Economic income. 
- C) Operating leverage. 

Explanation

Operating leverage is not measured directly by residual income models, although operating leverage may have an effect on the residual income measured. Residual income models are intended as a measure of economic income, and are often used to measure goodwill impairment.

(Study Session 11, Module 32.1, LOS 32.b)

Related Material

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Question #103 of 114

Which of the following is *least likely* an example of a transaction-related valuation for a private company?

- A) Financial reporting.
- B) Bankruptcy proceeding.
- C) Performance-based managerial compensation.



Explanation

Venture capital financing, initial public offering (IPO), bankruptcy proceeding, performance-based managerial compensation, and sale in an acquisition are all examples of transaction-related valuations for a private company.

(Study Session 11, Module 33.1, LOS 33.b)

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Question #104 of 114

A private pharmaceutical firm is under consideration for acquisition where the financial buyer will pay with equity. Part of the payment to the sellers is based on FDA approval of the firm's drug. If the analyst uses a market approach and comparable data from public firms, which of the following would *most likely* result in a price-multiple that is too high? The comparable data is:

- A) for strategic buyers.
- B) from transactions where the buyer used cash.
- C) for transactions where the consideration was non-contingent.



Explanation

In market approaches, the analyst values the subject private firm using price multiples from previous public and private transactions. A strategic buyer is one who will have synergies with the target whereas a financial buyer does not. A financial transaction typically has a smaller price premium. So in this case, the comparable price-multiple will be too high.

If the acquisition involves the acquirer's stock, the acquirer may be using overvalued shares to buy their target. Using comparables where cash is the consideration would result in lower price multiples.

Contingent consideration is payment to the sellers based on the achievement of specific goals such as FDA approval. Contingent consideration increases the risk to the seller and ceteris paribus, they would demand a higher price. Using comparables where the consideration was non-contingent would result in lower price multiples.

(Study Session 11, Module 33.3, LOS 33.i)

Related Material

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Question #105 of 114

If a multistage residual income model incorporates a persistence factor of zero, the analyst is *most likely* assuming that residual income will:

- A) persist at the current level forever.
- B) fall to zero immediately.
- C) decline to zero over time.



Explanation

A persistence factor of zero is used when residual income is expected to drop immediately to zero. A persistence factor of one is used when residual income is expected to persist at the current level forever. A persistence factor between zero and one is used when residual income is expected to decline over time.

(Study Session 11, Module 32.4, LOS 32.h)

Related Material

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Question #106 of 114

Advanced Instruments reported the following for the end of its fiscal year:

- Revenues = \$50.3 million.
- Assets = \$33.8 million.
- Liabilities = \$13.8 million.
- Earnings per share = \$0.68.
- Dividends per share = \$0.17.
- Shares outstanding = 5 million.
- Tax rate = 40%.

If the required rate of return is 15%, what is the value of the shares using a single-stage residual income model?

A) \$4.78.



B) \$6.01.



C) \$7.56.



Explanation

Retention ratio = $(0.68 - 0.17) / 0.68 = 0.75$ or 75%

Equity = Assets - liabilities = \$33.8 million - \$13.8 million = \$20 million

Book value per share = Total equity / shares outstanding = \$20 million / 5 million = \$4.00

ROE = $\$0.68 / \$4.00 = 0.17$ or 17%

$g = \text{retention ratio} \times \text{ROE} = (0.75) \times 0.17 = 0.1275$ or 12.75%

$$V_0 = \$4.00 + \left(\frac{0.17 - 0.15}{0.15 - 0.1275} \times \$4.00 \right) = \$7.56$$

(Study Session 11, Module 32.3, LOS 32.f)

Related Material

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Question #107 of 114

When would the asset-based approach result in a higher valuation than its going concern value, in the case of private company valuation?

A) When valuing pharmaceutical firms.



B) If the firm has minimal profits and poor prospects.



C) When valuing biotech firms.



Explanation

If a firm has minimal profits and little hope for better prospects; it might be valued more highly for its liquidation value than as a going concern if another firm can put the assets to better use. Because the asset-based approach values firm equity as the fair value of its assets minus the fair value of its liabilities, it would capture this liquidation value.

Pharmaceutical and biotech firms have a high degree of intangible assets. In these cases, the going concern value is likely to be higher than the value from the asset-based approach.

(Study Session 11, Module 33.3, LOS 33.j)

Related Material

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Question #108 of 114

Using the following information, calculate the WACC using the build-up method, assuming the firm is being acquired.

<i>Income return on bonds</i>	6.0%
<i>Capital return on bonds</i>	2.0%
<i>Long-term Treasury yield</i>	3.5%
<i>Beta</i>	1.4
<i>Equity risk premium</i>	6.0%
<i>Small stock premium</i>	4.0%
<i>Company-specific risk premium</i>	3.0%
<i>Industry risk-premium</i>	2.0%
<i>Pretax cost of debt</i>	11.0%
<i>Optimal Debt/Total Cap</i>	20%
<i>Current Debt/Total</i>	7%
<i>Debt/Total Cap for public firms in industry</i>	33%
<i>Tax Rate</i>	30%

A) 16.3%.



B) 18.5%.



C) 17.7%.



Explanation

Using the build-up method: the risk-free rate, the equity risk premium, the small stock premium, a company-specific risk premium, and an industry risk premium are added together: $3.5\% + 6.0\% + 4.0\% + 3.0\% + 2.0\% = 18.5\%$. Note that the risk-free rate is the Treasury yield, not the returns for bonds in general.

Because the firm is being acquired, we assume the new owners will utilize an optimal capital structure and weights in the WACC calculation. The capital structure for public firms should not be used because public firms have better access to debt financing.

The WACC using the optimal capital structure factors in the debt to total cap, the cost of debt, the tax rate, and the given cost of equity:

$$[20\% \times 11\% \times (1-30\%)] + [(1-20\%) \times 18.5\%] = 16.3\%.$$




(Study Session 11, Module 33.2, LOS 33.h)

Related Material

[SchweserNotes - Book 3](#)

Question #109 of 114

Residual income is defined as:

- A) net income less a charge for capital investment. 
- B) net income less a charge that measures stockholders' opportunity cost in generating that income. 
- C) operating income plus depreciation and amortization. 

Explanation

Residual income is defined as net income less a charge that measures stockholders' opportunity cost in generating that income.

(Study Session 11, Module 32.1, LOS 32.a)




Related Material

[SchweserNotes - Book 3](#)

Question #110 of 114

An analyst is examining three companies. Given the information below, which of them is *most likely* to be a private firm?

Firm	Number of Years in Operation	Market Capitalization	Required Return for Common Stock
A	12 years	\$1,324.8 million	14.8%
B	4 years	\$1,313.9 million	18.3%
C	19 years	\$2,231.0 million	16.4%

- A) Firm C. 
- B) Firm B. 
- C) Firm A. 

Explanation

The firm most likely to be a private firm is Firm B. Compared to public firms, private firms are less mature (4 years for Firm B), smaller (market cap of B is \$1,313.9 million), and have higher required returns (required return for B is 18.3%).

(Study Session 11, Module 33.1, LOS 33.a)

Related Material

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Question #111 of 114

Assume that a property that you are evaluating has a gross annual income equal to \$230,000, and that comparable properties are selling for 10.5 times gross income. The gross income multiplier approach provides a market value for this property that is *closest* to:

A) \$2,303,000.



B) \$2,415,000.



C) \$2,190,000



Explanation

Gross income multiplier technique: $MV = \text{gross income} \times \text{income multiplier}$.

$$MV = \$230,000 \times 10.5 = \$2,415,000$$

(Study Session 11, Module 33.1, LOS 33.b)

Related Material

[SchweserNotes - Book 3](#)

Question #112 of 114

In a single-stage residual income model for a firm with return on equity (ROE) greater than the required rate of return, which statement is *least* accurate?

A) Market value will be greater than book value.



B) Free cash flow to equity will be positive.



C) The justified price-to-book value (P/B) ratio will be greater than one.



Explanation

In a single-stage residual income model with ROE greater than the required rate of return, justified P/B will be greater than one and market value will be greater than book. There is no clear relationship with free cash flow to equity.

(Study Session 11, Module 32.3, LOS 32.e)

Related Material

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Question #113 of 114

An analyst is valuing a private firm on the behalf of a strategic buyer and deflates the average public company multiple by 15% to account for the higher risk of the private firm. Given the following figures, calculate the value of firm equity using the guideline public company method (GPCM).

Market value of debt	\$4,100,000
Normalized EBITDA	\$42,800,000
Average MVIC/EBITDA multiple	8.5
Control premium from past transaction	25%

The value of the firm's equity is *closest* to:

- A) \$382,438,000.
- B) \$304,060,000.
- C) \$381,412,500.



Explanation

The adjustment to the MVIC/EBITDA multiple for the higher risk of the private firm is: $8.5 \times (1 - 0.15) = 7.225$. Given that the buyer is a strategic buyer, a control premium adjustment should be made on the value of equity.

$$\text{MVIC} = 7.225 \times \$42,800,000 = \$309,230,000.$$

Subtracting out the debt results in the equity value (before control premium): $\$309,230,000 - \$4,100,000 = \$305,130,000$.

$$\text{Equity value after applying control premium} = \$305,130,000(1.25) = \$381,412,500$$

(Study Session 11, Module 33.3, LOS 33.i)

Related Material

[SchweserNotes - Book 3](#)

Question #114 of 114

An argument against using the residual income (RI) valuation approach is that:

- A) the models focus on economic rather than just on accounting profitability.
- B) the models rely on accounting data that can be manipulated by management.
- C) terminal value does not dominate total present value as is the case in dividend and free cash flow valuation models.



Explanation

An argument against using the RI approach is that the models rely on accounting data that can be manipulated by management. Both remaining responses are arguments in favor of the approach.

(Study Session 11, Module 32.5, LOS 32.j)

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