
Advanced Valuation – Quiz Questions

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Selecting Comps and Transactions and Calculating Key Metrics

- Below is the set of Public Trading Comps you initially selected for use in a valuation. Which of the following answers below represent POTENTIALLY reasonable criteria that you could use to narrow down the list? Note that all dollar figures are in millions.

| Name | Country | Business Description | Revenue | EBIT | EBIT Margin |
|----------------------------------|---------|--|----------|-----------|-------------|
| Autobytel Inc. | USA | Automotive marketing services | \$ 84.4 | \$ (23.2) | (27.5%) |
| Alloy, Inc. | USA | Youth-targeted marketing programs | 196.1 | (5.2) | (2.7%) |
| Amazon.com, Inc. | USA | Online retailer for consumer products | 14,835.0 | 655.0 | 4.4% |
| Answers Corporation | USA | Online answer engine | 11.4 | (4.4) | (39.0%) |
| Constant Contact, Inc. | USA | Email marketing services | 50.5 | (5.7) | (11.3%) |
| DICE HOLDINGS, INC. | USA | Career and job search websites | 142.4 | 32.0 | 22.5% |
| eDiets.com Inc. | USA | Health and diet websites | 23.5 | (8.7) | (37.2%) |
| Digital River, Inc. | USA | E-commerce solution provider | 349.3 | 73.9 | 21.2% |
| drugstore.com, inc. | USA | Online drugstore retailer | 339.3 | (19.3) | (5.7%) |
| eBay Inc. | USA | Global online marketplace | 7,672.3 | 613.2 | 8.0% |
| eHealth, Inc. | USA | Internet-based health insurance | 87.8 | 16.0 | 18.2% |
| 1-800-FLOWERS.COM, Inc. | USA | Online flower and gift shop | 739.2 | 39.3 | 5.3% |
| Google Inc. | USA | Search engine | 16,594.0 | 5,084.4 | 30.6% |
| GSI Commerce, Inc. | USA | E-commerce marketing services | 750.0 | 4.9 | 0.7% |
| IAC/InterActiveCorp | USA | Diversified content, search & marketplace | 1,332.6 | (78.5) | (5.9%) |
| Internet Brands, Inc. | USA | Network of branded websites | 89.9 | 4.9 | 5.4% |
| InfoSpace, Inc. | USA | Search tools for consumers | 140.5 | (87.2) | (62.0%) |
| InnerWorkings, Inc. | USA | Outsourced print solutions | 288.4 | 23.2 | 8.0% |
| The Knot, Inc. | USA | Wedding gifts and community website | 98.7 | 15.9 | 16.1% |
| Local.com Corp. | USA | Local search platform | 21.5 | (11.2) | (51.9%) |
| LookSmart, Ltd. | USA | Search advertising network | 51.7 | (10.5) | (20.4%) |
| LoopNet, Inc. | USA | Real estate marketplace | 70.7 | 29.4 | 41.5% |
| Liquidity Services, Inc. | USA | Marketplace for salvaged assets | 198.6 | 16.3 | 8.2% |
| Marchex, Inc. | USA | Local search and advertising company | 139.4 | (3.0) | (2.2%) |
| Move Inc. | USA | Real estate and home website network | 248.9 | 0.5 | 0.2% |
| Monster Worldwide, Inc | USA | Employment and career websites | 1,323.8 | 219.2 | 16.6% |
| Netflix, Inc. | USA | Online movie rental service | 1,205.3 | 91.8 | 7.6% |
| Blue Nile, Inc. | USA | Online diamond and jewelry retailer | 319.3 | 22.4 | 7.0% |
| Omniiture, Inc. | USA | Web analytics and optimization software | 143.1 | (13.3) | (9.3%) |
| Overstock.com, Inc. | USA | Discount merchandise retailer | 765.9 | (44.6) | (5.8%) |
| Orbitz Worldwide, Inc. | USA | Online travel booking services | 859.0 | 42.0 | 4.9% |
| priceline.com Incorporated | USA | Global online travel services | 1,409.4 | 137.9 | 9.8% |
| Bankrate, Inc. | USA | Consumer banking and finance network | 95.6 | 27.7 | 28.9% |
| RealNetworks, Inc. | USA | Provider of digital media content | 567.6 | 7.3 | 1.3% |
| COMSCORE, Inc. | USA | Digital marketing intelligence platform | 87.2 | 10.7 | 12.2% |
| Shutterfly, Inc. | USA | Photo sharing and printing services | 186.7 | 11.1 | 5.9% |
| Stamps.com Inc. | USA | Internet-based postage solutions | 85.8 | 6.6 | 7.7% |
| Ticketmaster Entertainment, Inc. | USA | E-commerce provider of ticket sales | 1,240.5 | 216.3 | 17.4% |
| Tree.com Inc | USA | Lending and real estate services | 346.4 | (540.4) | (156.0%) |
| TheStreet.com, Inc. | USA | Financial media company | 61.1 | 12.9 | 21.1% |
| TechTarget Inc | USA | Online content for IT products | 92.3 | 10.0 | 10.8% |
| Travelzoo Inc. | USA | Travel and entertainment publisher | 78.9 | 20.6 | 26.1% |
| Youbet.com, Inc. | USA | Horse racing content | 118.8 | (10.4) | (8.7%) |
| ValueClick, Inc. | USA | Online marketing services | 616.5 | 109.8 | 17.8% |
| VistaPrint NV | USA | Provider of printed marketing products | 255.9 | 27.2 | 10.6% |
| Web.com, Inc. | USA | Provider of website building tools | 82.5 | 1.5 | 1.8% |
| Yahoo! Inc. | USA | Diversified online properties and services | 6,969.3 | 695.4 | 10.0% |
| ZipRealty, Inc. | USA | Residential real estate listings | 103.9 | (19.3) | (18.6%) |

- a. Limit the set to only companies with at least \$10 billion in revenue
- b. Limit the set to only companies with at least \$10 million in EBIT
- c. Limit the set to only companies with at least \$1 billion in revenue
- d. Segment the comps by specific sub-industry within Internet / Online Services (e.g. E-Commerce vs. Content vs. Advertising)
- e. Only allow USA-based companies to be in the set
- f. Calculate EV / EBIT multiples for all the companies and limit the set to companies with at least a 10.0x EV / EBIT multiple

2. You are given the following partial Balance Sheet and share price information for a company:

| Balance Sheet | | |
|--|--|-----------------|
| (\$ in thousands) | | Dec 31st |
| Cash & Cash-Equivalents: | | \$ 250 |
| Accounts Receivable: | | 125 |
| Inventory: | | 340 |
| Total Current Assets: | | 715 |
| Plant, Property & Equipment: | | 3,100 |
| Goodwill: | | 250 |
| Total Long-Term Assets: | | 3,350 |
| Total Assets: | | \$ 4,065 |
| Accounts Payable: | | \$ 500 |
| Accrued Expenses: | | 375 |
| Total Current Liabilities: | | 875 |
| Long-Term Debt: | | 1,750 |
| Total Long-Term Liabilities: | | 1,750 |
| Total Liabilities: | | \$ 2,625 |
| Equity: | | |
| Common Stock & APIC: | | 520 |
| Retained Earnings: | | 350 |
| Noncontrolling Interests: | | 570 |
| Total Equity: | | \$ 1,440 |
| Total Liabilities & Equity: | | \$ 4,065 |

| Share Data | | | |
|---------------------------------------|----------|----------|----------|
| (in thousands, except per share data) | Dec 31st | Mar 31st | Apr 15th |
| Common Shares Outstanding | 175 | 175 | 175 |
| Share Price | \$10.00 | \$12.00 | \$14.00 |

What is the company's Enterprise Value as of March 31st?

- a. \$4,170
- b. \$4,520
- c. \$3,950
- d. \$3,600

3. Under the Treasury Stock Method and the information below, what are the diluted shares outstanding for this company?

| | | | |
|---------------------------|-------------|---------------|-----------------|
| Basic Equity Value: | | \$2,500 | |
| Basic Earnings Per Share: | | \$1.36 | |
| Basic Shares Outstanding: | | 125 | |
| | | | |
| | | | |
| | | | Exercise |
| | Name | Number | Price |
| | Tranche A | 10 | \$10.00 |
| | Tranche B | 10 | \$12.00 |
| | Tranche C | 15 | \$20.50 |
| | Tranche D | 15 | \$25.00 |

- a. 125
- b. 131
- c. 134
- d. 137

4. Below are a partial Income Statement and Cash Flow Statement for ACME Co. What is its Year 1 EBITDA? Do NOT add back Stock-Based Compensation in this calculation – we’re ignoring it since all of ACME Co.’s peer companies have similar amounts of Stock-Based Compensation as a percentage of revenue.

| Income Statement | | | |
|----------------------------------|--|--|-----------------|
| <i>(\$ in Thousands)</i> | | | Year 1 |
| Total Revenue: | | | \$ 1,000 |
| Cost of Revenue: | | | 75 |
| Gross Profit: | | | 925 |
| Operating Expenses | | | |
| Sales & Marketing: | | | 25 |
| Product Development: | | | 100 |
| General & Administrative: | | | 250 |
| Depreciation: | | | 150 |
| Amortization: | | | 150 |
| Stock-Based Compensation: | | | 75 |
| Total Operating Expenses: | | | 750 |
| Operating Income: | | | \$ 175 |

| Cash Flow Statement | | | |
|--|--|--|---------------|
| <i>(\$ in Thousands)</i> | | | Year 1 |
| Net Income: | | | \$ 105 |
| Non-Cash Adjustments: | | | |
| Depreciation: | | | 200 |
| Amortization of Intangible Assets: | | | 150 |
| Stock-Based Compensation: | | | 75 |
| Tax Benefits from SBC: | | | 50 |
| Excess Tax Benefits from SBC: | | | (25) |
| Changes in Operating Assets & Liabilities: | | | |
| Accounts Receivable, Net: | | | (100) |
| Inventory: | | | (50) |
| Accounts Payable: | | | 200 |
| Accrued Expenses: | | | 70 |
| Total Change in Operating Assets & Liabilities: | | | 120 |
| Cash Flow from Operations: | | | \$ 675 |

- a. \$475
- b. \$550
- c. \$625
- d. \$525

5. Which of the non-recurring and non-cash charges shown on the Cash Flow statement below should you ALWAYS add back when calculating EBITDA, starting with Operating Income, and adjusting for non-recurring charges?

| Cash Flow Statement | | | | | |
|---|--|--|--------------|--------------|--------------|
| (\$ in Millions) | | | Year 1 | Year 2 | Year 3 |
| Net Income: | | | \$ 751 | \$ 660 | \$ 682 |
| Addback to Net Income of Non-Cash Charges: | | | | | |
| Depreciation: | | | 302 | 409 | 365 |
| Amortization of Intangible Assets: | | | 238 | 250 | 247 |
| Stock-Based Compensation: | | | 425 | 572 | 630 |
| Goodwill Impairment: | | | 626 | 76 | 0 |
| Tax Benefits from SBC: | | | (597) | (35) | 0 |
| Excess Tax Benefits from SBC: | | | (274) | (213) | 0 |
| Deferred Income Taxes: | | | (112) | (151) | (151) |
| Earnings Attrib. to Equity Interests: | | | 13 | 15 | 15 |
| Dividends Received: | | | 1 | 3 | 3 |
| Noncontrolling Interest Earnings: | | | (15) | (28) | 0 |
| (Gains) / Losses from Asset Sales: | | | (100) | (50) | 0 |
| Changes in Operating Assets & Liabilities: | | | | | |
| Accounts Receivable, Net: | | | (185) | (89) | (135) |
| Prepaid Expenses & Other: | | | (10) | 133 | (60) |
| Accounts Payable: | | | 30 | 45 | (1) |
| Accrued Expenses & Other: | | | 175 | 185 | 284 |
| Deferred Revenue: | | | 4 | 86 | 43 |
| Cash Flow from Operations: | | | 1,272 | 1,869 | 1,920 |
| Investing Activities: | | | | | |
| Capital Expenditures: | | | (700) | (750) | (800) |
| Cash Flow from Investing: | | | (700) | (750) | (800) |
| Financing Activities: | | | | | |
| Proceeds from Common Stock, Net: | | | 0 | 0 | 0 |
| Repurchases of Common Stock: | | | 0 | 0 | 0 |
| Cash Flow from Financing: | | | 0 | 0 | 0 |

- Goodwill Impairment
- Tax Benefits from Stock-Based Compensation (SBC)
- (Gain) / Losses from Asset Sales
- Noncontrolling Interest Earnings
- Deferred Income Taxes
- Depreciation
- Amortization of Intangible Assets
- Capital Expenditures

6. Below are a partial Income Statement and Cash Flow Statement for ACME Co. Calculate year 1 EBITDA by adding back the appropriate non-cash and non-recurring charges. Do NOT add back Stock-Based Compensation.

| Income Statement | | |
|----------------------------------|--|---------------|
| (\$ in Thousands) | | Year 1 |
| Total Revenue: | | \$ 1,000 |
| Cost of Revenue: | | 15 |
| Gross Profit: | | 985 |
| Operating Expenses: | | |
| Sales & Marketing: | | 30 |
| Product Development: | | 90 |
| General & Administrative: | | 55 |
| Total Operating Expenses: | | 175 |
| Operating Income: | | \$ 810 |

| Cash Flow Statement | | |
|---|--|-----------------|
| (\$ in Thousands) | | Year 1 |
| Net Income: | | \$ 450 |
| Non-Cash Adjustments: | | |
| Depreciation: | | 350 |
| Amortization of Intangible Assets: | | 100 |
| Stock-Based Compensation: | | 75 |
| Goodwill Impairment: | | 1,020 |
| Deferred Income Taxes: | | (500) |
| Restructuring Expense: | | 20 |
| Changes in Operating Assets & Liabilities: | | |
| Accounts Receivable, Net: | | (50) |
| Accounts Payable: | | 35 |
| Cash Flow from Operations: | | \$ 1,500 |

- a. \$1,260
- b. \$2,300
- c. \$1,875
- d. \$1,800

Valuing Equity Interests and Net Operating Losses (NOLs)

7. ACME Co. has an ownership stake in a separate company that is publicly traded. The market capitalization of this company is \$2,500 and ACME Co. recognizes its investment as an Equity Interest on its Balance Sheet. ACME Co.'s ownership stake is 15% and you're going to apply a "lack of control" discount of 20% to value this investment. How much is the Equity Interest that ACME Co. owns worth, if it were to sell this investment and pay taxes at its standard 40% rate?

| ACME Co - Equity Interest Valuation | | | |
|-------------------------------------|--|--|-----------|
| Market Cap (USD): | | | \$2,500.0 |
| Ownership Stake: | | | 15% |
| Value of ACME Co's Stake: | | | |
| Lack of Control Discount: | | | 20% |
| Sale Value: | | | |
| Taxes (@ 40% rate): | | | |
| Proceeds to ACME Co.: | | | |

- a. \$180
- b. \$300
- c. \$120
- d. \$375
8. Which of the following statements are TRUE regarding the valuation of Investments in Equity Interests?
- a. If the other company is publicly traded, it is better to use its Market Capitalization rather than its Book Value in this calculation
- b. Since Equity Interests represent minority investments, you need to apply a "lack of control" discount
- c. You value Noncontrolling Interests and Equity Interests in the same way since they both represent ownership stakes of less than 100%
- d. If the other company is not publicly traded, then its Book Value may be used as a proxy for its Market Value

9. You are attempting to value the Net Operating Losses (NOLs) of ACME Co. Using the information and screenshot below, what is the Net Present Value (NPV) of these NOLs based on the tax savings from Year 1 through Year 5?

| ACME Co. - Net Operating Loss Valuation | | | | | | | | | |
|---|--|--|------------|------------|-----------|---------|---------|---------|---------|
| Discount Rate: | | | | 15% | | | | | |
| Federal NOLs: | | | | \$3,500 | | | | | |
| State NOLs: | | | | \$550 | | | | | |
| Total NOLs: | | | | \$4,050 | | | | | |
| Tax Rate: | | | | 40% | | | | | |
| | | | Historical | | Projected | | | | |
| | | | Prior Yr | Current Yr | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Pre-Tax Income | | | \$1,000 | \$1,100 | \$1,200 | \$1,300 | \$1,400 | \$1,500 | \$1,600 |
| Normal Taxes: | | | \$400 | \$440 | \$480 | \$520 | \$560 | \$600 | \$640 |
| NOL-Adjusted Pre-Tax Income: | | | | | \$0 | \$0 | \$0 | \$1,350 | \$1,600 |
| Post-NOL Taxes: | | | | | \$0 | \$0 | \$0 | \$540 | \$640 |
| Remaining NOLs: | | | | | \$2,850 | \$1,550 | \$150 | \$0 | \$0 |
| Tax Savings: | | | | | | | | | |
| NPV of Tax Savings: | | | | | | | | | |

- a. \$1,620
- b. \$2,014
- c. Need additional information to determine
- d. \$1,213
10. Which of the following statements are TRUE regarding how you value Net Operating Losses (NOLs)?
- a. The discount rate used to calculate the NPV of the tax savings should be similar to the discount rate you use in a DCF to value the company (WACC or Cost of Equity)
- b. Net Operating Losses only produce value in M&A situations, when the company is acquired – not when the company is just a standalone entity
- c. The Federal and State NOL balances can be found in the footnotes of the subject company’s 10-K or annual filing
- d. In an actual M&A deal, rather than using the standard NOL valuation method above we would use IRC Section 382 to calculate the allowable NOL usage and determine their value to the acquirer based on that

Calendarization

11. You are using Public Comps to value ACME Co., which has a fiscal year end (FYE) of Dec. 31st. Most of the public comps also have fiscal years that end on Dec. 31st, but one of the public comps has a FYE of June 30th. Which of the following statements below are TRUE regarding how you would calendarize in this case, if we want all the companies in the set to have the same fiscal year end?
- a. You would use the annual financial data ending June 30th as the most recent fiscal year for the public comp
 - b. It's acceptable either to make ACME's fiscal year match the fiscal year of the public comp in question, or to do the opposite
 - c. The new "partial period" for the public comp would be from July 1st until December 31st of this year
 - d. The "old partial period" for the public comp would be from July 1st until December 31st of the prior year
 - e. The "old partial period" for the public comp would be from January 1st through June 30th of the prior year
12. It's currently May 15th, and the company you're valuing has a fiscal year that ends on March 31st. The rest of the public comps all have fiscal years that end on various dates, ranging from December 31st to June 30th to September 30th. Which of the following statements are TRUE regarding how you would calendarize to calculate the Trailing Twelve Months (TTM) numbers for the comps?
- a. Add and subtract partial periods from the public comps until each one's fiscal year ends on March 31st
 - b. In addition, also add an estimate for the results from the approximately 6 weeks from April 1st to May 15th for all the companies, subtracting that same period from the previous year
 - c. Since the comps' fiscal years all end on different dates, we should find the most "common" FYE and calendarize everything else to match that
 - d. In this case, we would use the subject company's most recent fiscal year for our TTM numbers, but we would not necessarily do that if the valuation date were different
 - e. If the subject company has not yet released results for the fiscal year ended March 31st, then we would calendarize everything to December 31st instead

13. Continuing with the same example, what should we use for the FORWARD year projections for this set of public comps? In other words, on what date should each projected year end?
- a. March 31st, to match the fiscal year of the subject company
 - b. You should not change the forward projected years at all, since they're based on future expectations rather than historical results
 - c. It depends on the current date, just like with the TTM figures
 - d. All the forward years should end on the same date, but that date would not be March 31st
14. Which of the following statements are TRUE about how you calendarize when calculating TTM revenue, EBITDA, and other figures for an M&A Comp (a Precedent Transaction)?
- a. You follow a similar process to what you do with a Public Comp, but instead of the valuation date you use the transaction close date to determine the closest quarter end or year end
 - b. You follow a similar process to what you do with a Public Comp, but instead of the valuation date you use the transaction announcement date to determine the closest quarter end or year end
 - c. The process is similar for historical TTM data, but differs for forward years since you can just use the company's own fiscal years there
 - d. The process is similar for both historical TTM data and for forward years, since you're calendarizing both sets of data to the same date

15. **ACME's acquisition of Vitalix is announced on October 29th, 2051, and it closes on March 21st, 2052. Vitalix's most recent quarter ended on September 30th, 2051. What is the MOST RECENT "partial period" that we use to calculate the TTM revenue and EBITDA for use in calculating the EV / Revenue and EV / EBITDA multiples for this deal?**
- a. Unable to determine without knowing the fiscal year end dates for both ACME and Vitalix
 - b. The quarter ending September 30th, 2051 – regardless of whether or not Vitalix's quarterly results were already available on October 29th, 2051
 - c. The quarter September 30th, 2051 – but only if Vitalix's quarterly results were already available on October 29th, 2051
 - d. The quarter ending January 1st, 2052
 - e. The quarter ending March 31st, 2052
16. **Let's say that an acquired company's fiscal year ends on February 28th. Its subsequent quarters end on May 31st, August 31st, and November 30th. The company's acquisition is announced on July 15th, and it closes on December 20th. How should we calculate the TTM revenue and EBITDA figures in this case?**
- a. We cannot calculate these figures unless we know the ending date of the buyer's fiscal year as well
 - b. February 28th Fiscal Year + May 31st Quarter of Current Year + June 1st to July 15th Period of Current Year – May 31st Quarter of Prior Year – June 1st to July 15th Period of Prior Year
 - c. February 28th Fiscal Year + 9 Months Through November 30th of Current Year – 9 Months Through November 30th of Prior Year
 - d. February 28th Fiscal Year + May 31st Quarter of Current Year – May 31st Quarter of Prior Year

17. In a set of public comps you're analyzing, 5 of 6 companies' fiscal years end on December 31st. The last remaining company's fiscal year ends on February 28th. The subject company's fiscal year ends on December 31st as well. How would you calendarize this set of comps to calculate the TTM numbers?
- Ignore the company with the Feb. 28th FYE because it's only a 2-month difference and it's just one company
 - Normally, we would just add a 9-month partial period and subtract a 9-month partial period if this last company's fiscal year ended on March 31st, but in this case since it's February 28th we need to estimate 10-month partial periods instead
 - Change around the fiscal years of all the other companies so that they end on February 28th as well
 - Take the last company's fiscal year ending February 28th, add the next 9 months ending November 30th, and subtract the same 9 months ending November 30th from the prior year

Finding the Data and Adjusting the Numbers in Comps and Precedent Transactions

18. Below is a screenshot of a Precedent Transaction Analysis you are working on, in which Acquirer Co. purchased Target Co. All of the data is complete except for the valuation multiples – you are still missing the TTM TEV / Revenue, Forward Yr. 1 TEV / EBITDA, and Forward Yr. 2 TEV / EBIT multiples. What are the correct values for these missing valuation multiples?

| | | Target Co. | | | |
|-----------------------------|--|-----------------|--------------|--------------|-----------------|
| | | Acquirer Co. | | | |
| | | Calendarization | | | |
| | | Old Partial | New Partial | FY | TTM |
| Revenue: | | \$645 | \$700 | \$2,150 | \$2,205 |
| COGS: | | \$65 | \$75 | \$200 | \$210 |
| Gross Profit: | | \$580 | \$625 | \$1,950 | \$1,995 |
| Operating Expenses: | | \$130 | \$250 | \$400 | \$520 |
| Amortization: | | \$5 | \$3 | \$7 | \$5 |
| Depreciation: | | \$2 | \$10 | \$8 | \$16 |
| Stock-Based Compensation: | | \$1 | \$4 | \$6 | \$9 |
| Non-Recurring Charges: | | \$0 | \$2 | \$1 | \$3 |
| EBITDA: | | \$458 | \$394 | \$1,572 | \$1,508 |
| EBIT: | | \$451 | \$381 | \$1,557 | \$1,487 |
| Valuation Metrics | | | | | |
| Equity Value: | | | | | \$12,533 |
| Enterprise Value: | | | | | \$25,467 |
| Equity Research Projections | | | | | |
| | | Forward Yr 1 | Forward Yr 2 | | |
| Bank: | | | | | Goldman Stanley |
| Date: | | | | | 12/31/20XX |
| Revenue: | | \$2,400 | \$2,500 | | |
| EBITDA: | | \$1,700 | \$1,800 | | |
| EBIT: | | \$1,500 | \$1,600 | | |
| Valuation Multiples | | | | | |
| | | TTM | Forward Yr 1 | Forward Yr 2 | |
| TEV / Revenue: | | | 10.6 x | 10.2 x | |
| TEV / EBITDA: | | 16.9 x | | 14.1 x | |
| TEV / EBIT: | | 17.1 x | 17.0 x | | |

- a. TTM TEV / Revenue = 11.5x; Forward Yr. 1 TEV / EBITDA = 15.0x; Forward Yr. 2 TEV / EBIT = 15.9x
- b. TTM TEV / Revenue = 11.8x; Forward Yr. 1 TEV / EBITDA = 15.0x; Forward Yr. 2 TEV / EBIT = 15.9x
- c. Need additional information to calculate these multiples
- d. TTM TEV / Revenue = 5.7x; Forward Yr. 1 TEV / EBITDA = 7.4x; Forward Yr. 2 TEV / EBIT = 8.4x

19. Consider the same scenario and screenshot shown above. Which of the following types of expenses MIGHT account for the Non-Recurring Charges of \$2 and \$1 as shown above?

- a. Restructuring
- b. Asset Disposals
- c. Deferred Income Taxes
- d. Goodwill Impairments
- e. PIK Interest Expense
- f. Gains or Losses on Asset Sales

20. Below is a snapshot of a Precedent Transaction Analysis you are working on, in which Acquirer Co. purchased Target Co. All the data is complete except for Enterprise Value and certain valuation multiples – you are still missing TTM TEV / EBIT; Forward Yr. 1 TEV / EBITDA; and Forward Yr. 2 TEV / Revenue. What are the values for these missing valuation multiples?

| | Target Co. | | | |
|----------------------------|-----------------------------|--------------|--------------|-----------------|
| | Acquirer Co. | | | |
| | Calendarization | | | |
| | Old Partial | New Partial | FY | TTM |
| Revenue: | \$450 | \$500 | \$3,000 | \$3,050 |
| COGS: | \$95 | \$150 | \$990 | \$1,045 |
| Gross Profit: | \$355 | \$350 | \$2,010 | \$2,005 |
| Operating Expenses: | \$75 | \$100 | \$750 | \$775 |
| Amortization: | \$2 | \$5 | \$10 | \$13 |
| Depreciation: | \$3 | \$4 | \$7 | \$8 |
| Stock-Based Compensation: | \$0 | \$3 | \$5 | \$8 |
| Non-Recurring Charges: | \$0 | \$0 | \$4 | \$4 |
| EBITDA: | \$285 | \$262 | \$1,286 | \$1,263 |
| EBIT: | \$280 | \$253 | \$1,269 | \$1,242 |
| | Balance Sheet Data | | | |
| Cash & Cash-Equivalents: | | | | \$1,534 |
| Debt: | | | | \$700 |
| Preferred Stock: | | | | \$1,200 |
| Noncontrolling Interests: | | | | \$450 |
| | Valuation Metrics | | | |
| Share Price: | | | | \$27.90 |
| Fully Diluted Share Count: | | | | 125.0 |
| Equity Value: | | | | \$3,488 |
| Enterprise Value: | | | | |
| | Equity Research Projections | | | |
| | Forward Yr 1 | Forward Yr 2 | | |
| Bank: | | | | Goldman Stanley |
| Date: | | | | 6/30/20XX |
| Revenue: | \$3,150 | \$3,250 | | |
| EBITDA: | \$1,350 | \$1,450 | | |
| EBIT: | \$1,290 | \$1,350 | | |
| | Valuation Multiples | | | |
| | TTM | Forward Yr 1 | Forward Yr 2 | |
| TEV / Revenue: | 1.4 x | 1.4 x | | |
| TEV / EBITDA: | 3.4 x | | 3.0 x | |
| TEV / EBIT: | | 3.3 x | 3.2 x | |

- TTM TEV / EBIT = 2.8x; Forward Yr. 1 TEV / EBITDA = 2.6x; Forward Yr. 2 TEV / Revenue = 1.1x
- TTM TEV / EBIT = 3.4x; Forward Yr. 1 TEV / EBITDA = 3.3x; Forward Yr. 2 TEV / Revenue = 1.3x
- You need additional information to calculate all these multiples
- TTM TEV / EBIT = 3.5x; Forward Yr. 1 TEV / EBITDA = 3.2x; Forward Yr. 2 TEV / Revenue = 1.3x

21. You're reviewing a set of Precedent Transactions and you see the press release below:



Yahoo **announced** today that it will acquire the 80% of advertising network **RightMedia** that it doesn't already own for \$680 million in cash and Yahoo stock. (Yahoo already owned 20 percent of the company, putting the total valuation at \$850 million).

RightMedia is a private company. What is this transaction's PURCHASE Equity Value?

- a. \$680 million
- b. \$850 million
- c. Need the premium that Yahoo paid to determine this
- d. \$170 million

22. **Continuing with the same example, what is the purchase Enterprise Value for RightMedia?**

- a. \$680 million
- b. \$850 million
- c. Cannot determine due to lack of cash and debt figures
- d. It depends on the premium that Yahoo paid for RightMedia

23. Consider the Cash Flow from Operations section of the company shown below:

| Cash flows from operating activities: | |
|---|---------------|
| Net income | \$ 40,890 |
| Adjustments to reconcile net income to net cash provided by operating activities: | |
| Depreciation and amortization | 12,304 |
| Stock-based compensation | 2,354 |
| Provision for doubtful accounts | 3,453 |
| Restructuring expenses (income) | 671 |
| Loss on disposal of assets | 210 |
| Changes in operating assets and liabilities: | |
| Accounts receivable | (8,978) |
| Accounts receivable, unbilled | (17,327) |
| Prepaid expenses and other current assets | (1,334) |
| Other assets | (670) |
| Accounts payable | 31,782 |
| Billings in excess of costs and estimated earnings on uncompleted contracts | 17,200 |
| Accrued expenses | 71 |
| Accrued compensation | 5,478 |
| Accrued restructuring | (14,000) |
| Other long-term liabilities | 19,086 |
| Net cash provided by operating activities | <u>91,190</u> |

Which of the following non-cash expenses would you LEAST likely adjust for when calculating EBITDA?

- a. Depreciation & Amortization
- b. Stock-Based Compensation
- c. Provision for Doubtful Accounts
- d. Restructuring Expenses
- e. Loss on Disposal of Assets

24. Consider the press release shown below:

Naturally, this morning, analysts are **getting excited** about a few online advertising companies they cover after DoubleClick got bought out for \$3.1B by Google (GOOG). aQuantive (AQNT) is one of these companies, and a stock I have owned for quite some time, having bought and sold and bought again:

Banc of America Securities analyst Jonathan A. Jacoby said the deal means aQuantive's digital marketing business, Atlas, is worth more than people thought. Jacoby said he'd valued Atlas at 14 to 16 times the segment's earnings before interest, taxes, depreciation and amortization.

With Google paying 25 to 31 times earnings before interest, depreciation and amortization (ebitda) for DoubleClick, Jacoby said Atlas could be worth anywhere from \$1.3 billion to \$1.6 billion. That would add \$5 to \$8 to aQuantive's share price, he said.

Piper Jaffray analyst Aaron Kessler said it's a good sign the price tag was higher than the \$2 billion initially reported in the Wall Street Journal last month. It indicates there was probably a bidding war, he said. AQuantive's Atlas unit, now the biggest player in the digital marketing game still on the market, could be of interest to a big media or technology company, he said.

Based in Seattle, aQuantive makes software allowing marketers to target advertising campaigns on Web sites. The company reported \$442.2 million in sales last year.

If you wanted to ESTIMATE DoubleClick's EBITDA in the absence of any additional information, what is the best number to use?

- a. \$111 million
- b. \$124 million
- c. \$100 million
- d. Cannot determine this without knowing the Enterprise Value

25. Consider the following screenshot of a company's Income Statement:

| | |
|--|------------|
| Revenue: | |
| Fee revenue | \$ 340,478 |
| Pass-through revenue | 225,019 |
| Total revenue | 565,497 |
| Operating expenses: | |
| Professional services costs | 198,066 |
| Pass-through expenses | 225,019 |
| Selling, general and administrative expenses | 99,077 |
| Stock-based compensation* | 2,354 |
| Amortization of intangible assets | 2,800 |
| Restructuring expenses (income), net | 671 |
| Total operating expenses | 527,987 |
| Income from operations | 37,510 |
| Other income (expense): | |
| Interest income | 5,429 |
| Interest expense | (550) |
| Other miscellaneous income (expense), net | (182) |
| Income before provision for income taxes | 42,207 |
| Provision for income taxes | (1,317) |
| Net income | \$ 40,890 |
| Net income per share | |
| Basic | \$ 0.46 |
| Diluted | \$ 0.42 |
| Weighted average common shares outstanding | |
| Basic | 89,091 |
| Diluted | 97,531 |

How do the “Pass-Through Revenue” and “Pass-Through Expenses” affect the EBITDA calculation?

- We need the Cash Flow Statement to determine this – there may be additional adjustments required
- It depends on what these items actually correspond to; the treatment differs depending on the expense type
- We need to subtract these when calculating EBITDA because they artificially inflate Operating Income
- No impact on EBITDA since they cancel each other out

Discounted Cash Flow (DCF) Analysis

26. Which discount method results in a HIGHER Net Present Value of Free Cash Flows in a DCF analysis?
- Normal discount period
 - Mid-year discount period
 - It depends on the distribution of Free Cash Flows in the projection period
 - Both methods result in the same NPV of Free Cash Flows
27. Would the NPV of the Terminal Value in a DCF analysis be higher with the Normal Discount Period Convention, or the Mid-Year Discounting Convention?
- It would be higher with the normal discount period
 - It would be higher with the mid-year discount period
 - It would be the same with either discount period
 - It depends on how you calculate Terminal Value
28. You are completing a DCF analysis and the company you are valuing has a fiscal year end of December 31, but the current date is September 30 of the same year. What should you do about that 3-month "stub period"?
- Ignore the 3-month period from now until FYE and forecast FCF as of January 1 of the following year
 - Incorporate the 3-month stub period FCF between now and FYE and discount it by using a 0.75 discount period
 - Incorporate the 3-month stub period FCF between now and FYE and discount it by using a 0.5 discount period
 - Incorporate the 3-month stub period FCF between now and FYE and discount it by using a 0.25 discount period

29. **Once again, you are valuing a company that has a fiscal year end of December 31 and the current date is September 30 of the same year, but now assume that you are using mid-year discounting instead. What should you use as the discount factor for this 3-month period?**
- a. Incorporate the 3-month stub period FCF between now and FYE and discount it by using a 0.5 discount period
 - b. Incorporate the 3-month stub period FCF between now and FYE and discount it by using a 0.125 discount period
 - c. Incorporate the 3-month stub period FCF between now and FYE and discount it by using a 0.25 discount period
30. **Now let's say that you're using a DCF with mid-year discounts to value a company with a fiscal year end of December 31, and today's date is June 30. You know that the discount factor for the June 30 – December 31 period is 0.25, or $0.5 / 2$. What's the proper discount factor for the first FULL YEAR after December 31, i.e. the January 1 – December 31 period right after that?**
- a. 1.0
 - b. 1.5
 - c. 1.25
 - d. 0.75

Other Valuation Methodologies

31. Which of the following statements below is FALSE regarding Future Share Price Analysis?
- a. Future Share Price Analysis results are sometimes questionable since you are applying a peer group median P/E multiple to projected EPS for the subject company
 - b. Future Share Price Analysis uses 1-year forward or 2-year forward EPS projections to determine the implied future share price
 - c. The discount rate used to discount the implied future share price to its present value is the WACC
 - d. You always discount the implied future share price back to its present value in the analysis, regardless of how what the projection period is

32. Below is a Sum of the Parts analysis for ACME Co. The company has 5 divisions and the EPS for each division along with a range of possible P / E multiples are shown below, as well as the range of possible Implied Equity Values for the business.

| ACME Co. - Sum of the Parts Valuation Based on Estimated P/E Multiples (\$ in Millions, except per share data) | | | | | | | Low Equity Value | High Equity Value |
|---|-------------------------|-----------------------|------------------------|--|--|-----------------|------------------------|-------------------------|
| | Projected Year 1 EPS | Low P / E Multiple | High P / E Multiple | | | | | |
| EPS by Segment: | | | | | | | | |
| Manufacturing Division | \$ 1.50 | 25.0 x | 27.0 x | | | \$ 37.5 | \$ 40.5 | |
| Entertainment Division | \$ 2.30 | 15.0 x | 18.0 x | | | 34.5 | 41.4 | |
| Consumer Goods Division | \$ 0.75 | 25.0 x | 27.0 x | | | 18.8 | 20.3 | |
| Technology Division | \$ 3.05 | 30.0 x | 35.0 x | | | 91.5 | 106.8 | |
| Financial Services Division | \$ 1.40 | 20.0 x | 22.0 x | | | 28.0 | 30.8 | |
| Total: | \$ 9.00 | | | | | \$ 210.3 | \$ 239.7 | |
| Fully Diluted Shares Outstanding (MM): | | | | | | | 10.5 | 10.5 |
| Implied Share Value: | | | | | | | \$ 19.94 | \$ 22.73 |

What is the **BIGGEST** problem with this Sum of the Parts analysis?

- It's impossible to get accurate projections for the EPS of each division for a conglomerate like this
- We're excluding corporate overhead expenses, which may be significant for a conglomerate like this and could throw off all the numbers
- It's too much work to create a set of public comps and precedent transactions for each different division and determine the range of multiples like that
- We should always use Enterprise Value rather than Equity Value in a Sum of the Parts analysis

33. Which of the following statements is **TRUE** regarding a Liquidation Valuation?

- The analysis is most appropriate for pharmaceutical or high-tech companies
- At the end of the analysis, the adjusted Asset Value minus the adjusted Liability Value gives you the company's implied Enterprise Value
- The analysis is most appropriate for companies with significant hard Assets
- A recovery value for Goodwill and Other Intangible Assets of around 90% is a good assumption