

Financial Modeling Fundamentals – Module 06

Equity Value, Enterprise Value, and Valuation Multiples – Quiz Questions

1. **Which of the following statements represent the official differences between Equity Value and Enterprise Value?**
 - a. Equity Value represents the value of everything in the company, BUT ONLY to common equity investors.
 - b. Enterprise Value represents the value of only the core business, but to ALL investors (debt, equity, preferred, etc.).
 - c. Equity Value equals Share Price * Diluted Share Count, but Enterprise Value always equals Equity Value + Net Debt.
 - d. Equity Value represents a company's "list price," but Enterprise Value represents what it would actually cost to acquire the company.

2. Consider the information shown below for Oldtown Inc., a European conglomerate with holdings in the telecom, media, and consumer retail industries:

Oldtown Inc. - Dilution from RSUs, Performance Shares, and Other Securities

(€ in EUR Millions Except Per Share Data)

Oldtown Inc. - Equity Value Calculation:

Company Name: Oldtown Inc.
Current Share Price: € 25.00

Basic Shares Outstanding (Millions): 600.000
Diluted Shares Outstanding (Millions):

Basic Equity Value: € 15,000

Diluted Equity Value:

Convertible Bond Calculations:

Convertible Amount (EUR Millions): € 500.0
Par Value (EUR as Stated): € 1,000.0
Convertible Bonds (Millions):
Conversion Price: € 20.00
Conversion Ratio:
Dilution (Millions):

Diluted Shares Calculations:

Options - Diluted Share Calculations:

Name:	Number (Millions):	Exercise Price:	Dilution:
Tranche A - Below €21:	5.000	€ 15.00	
Tranche B - Above €21:	10.000	€ 20.00	
Total:	15.000		

Performance Shares:

Name:	Number (Millions):	Exercise Price:	Dilution:
Performance Shares - A:	1.500	€ 20.00	
Performance Shares - B:	0.900	€ 27.00	
Total:	2.400		

Restricted Stock Units (RSUs):

Name:	Number (Millions):	Exercise Price:	Dilution:
Restricted Stock Units:	1.200	N/A	
Total:			

Based on these figures, please calculate the Diluted Equity Value for Oldtown Inc.

Assume that the Performance Shares follow a simple conversion trigger mechanism – in other words, they either count as shares or they do not count as shares, depending on the exercise price relative to the company's current share price.

- EUR 15,168 million.
- EUR 15,293 million.
- EUR 15,763 million.
- EUR 15,793 million.
- It is impossible to determine this without knowing the Exercise Price for the Restricted Stock Units (RSUs).

3. Consider the most recent Balance Sheet of Eurocast Inc., another European conglomerate firm, as shown below:

Balance Sheet:	Q1 End:	Q1 End:
Assets:		Liabilities & Equity:
Current Assets:		Current Liabilities:
Cash:	€ 868	Short-Term Debt and Borrowings: € 3,934
Short-Term Investments:	21	Accounts Payable: 5,213
Accounts Receivable:	2,227	Current Tax Payables: 105
Current Content Assets:	981	Liabilities of Discontinued Businesses: 5,123
Current Tax Receivables:	636	Total Current Liabilities: 14,375
Inventory:	99	
Assets Held for Sale:	1,230	Non-Current Liabilities:
Assets of Discontinued Businesses:	7,173	Long-Term Debt and Borrowings: 5,169
Total Current Assets: 13,235		Deferred Tax Liabilities: 685
		Other Non-Current Liabilities: 205
Non-Current Assets:		Total Non-Current Liabilities: 6,059
Property, Plant & Equipment:	3,209	Total Liabilities: € 20,434
Goodwill:	10,519	
Other Intangible Assets:	395	Equity:
Non-Current Content Assets:	2,528	Shareholders' Equity:
Investments in Equity Affiliates:	290	Share Capital: 3,156
Long-Term Investments:	638	Additional Paid-In Capital: 4,156
Total Non-Current Assets: 17,579		Treasury Shares: (29)
		Retained Earnings and Other: 2,139
Total Assets: € 30,814		Total Shareholders' Equity: € 9,422
		Noncontrolling Interests: 958
		Total Equity: € 10,380
		Total Liabilities & Equity: € 30,814

Assume that its current Diluted Equity Value is currently EUR 14,634 million.

Please calculate its Enterprise Value, based on this information and the Balance Sheet data shown above:

- EUR 22,878 million.
- EUR 20,257 million.
- EUR 19,598 million.
- EUR 20,236 million.

4. What is the real reason why you subtract Cash when you calculate Enterprise Value starting with Equity Value?

- a. You are supposed to subtract only Excess Cash because it is a non-operating asset and non-operating assets should be subtracted when calculating Enterprise Value, but as a simplification you'll almost always subtract All Cash.
- b. Cash is not a long-term funding source for the company, so it should be deducted when calculating Enterprise Value.
- c. Cash is the opposite of Debt, since Cash can always be used to repay Debt, so we should net Cash against Total Debt to arrive at Net Debt, which is added to Enterprise Value.
- d. In an acquisition scenario, the acquirer always "gets" the seller's Cash balance after the deal closes, so it reduces the company's effective purchase price.
- e. Equity Value implicitly accounts for Cash, so if we did not deduct it when calculating Enterprise Value, we would be double-counting.

5. You are calculating Enterprise Value for use in a valuation analysis.

A new co-worker who just quit his consulting firm to join your bank is still in the process of learning the fundamentals of accounting, valuation, and finance.

He looks over at your spreadsheet and asks why you have added Debt and Unfunded Pension Obligations to calculate Enterprise Value, but not items such as Accounts Payable and Accrued Expenses. After all, he argues, "All of those Liabilities represent payments the company will have to make in the future."

How might you respond to him?

- a. You don't necessarily add all liabilities that have to be repaid in the future – you only add items that represent *long-term* funding sources.
- b. Items such as Accounts Payable and Accrued Expenses do not represent different investor groups in the company in the same way that items like Debt and Preferred Stock do.
- c. While items like Accounts Payable and Accrued Expenses do represent additional cash payments owed in the future, they almost always come from the company's ordinary business cash flow and do not require separate financing to repay.
- d. All of the above.

6. The same former consultant colleague has now turned his attention to the valuation multiples you have calculated in your analysis.

He asks why you are using Equity Value for metrics such as Net Income and Levered Free Cash Flow, but Enterprise Value for metrics like EBITDA and Revenue.

How might you respond to his questions?

- a. Whenever a metric **includes** the net interest expense, it corresponds to Equity Value because the debt investors “have been paid” with that interest expense and do not receive any more of the company’s cash flow as payment.
- b. It’s because metrics such as Net Income and Levered Free Cash Flow reflect Capital Expenditures (CapEx), either directly or indirectly, whereas metrics such as EBITDA and Revenue exclude CapEx altogether.
- c. It’s because metrics like Net Income and Levered FCF are after taxes, so they correspond to Equity Value. You only use Enterprise Value with pre-tax metrics because the company’s capital structure may affect its taxes, and you want to exclude the impact of both capital structure and taxes.
- d. Whenever a metric includes the change in Working Capital, as the FCF-based metrics do, it should be paired with Equity Value. Net Income is an exception, but even there you may still adjust for Working Capital in the calculations.

7. Consider Second Sons SA, a French company that provides security services to high-ranking government officials and corporate executives.

The company is considering repurchasing shares to boost its EPS, and then issuing debt immediately after the share repurchase.

The company currently has a fairly simple capital structure, as shown in the screenshot below:

Second Sons SA - Repurchasing Shares and Issuing Debt
(€ in Millions Except Per Share Data)

Second Sons SA - Equity Value, Enterprise Value, and Financial Data:	
Company Name:	Second Sons SA
Current Share Price:	€ 20.00
Basic Shares Outstanding (Millions):	540,000
Diluted Shares Outstanding (Millions):	550,000
Diluted Equity Value:	€ 11,000
Less: Cash & Cash-Equivalents:	(500)
Less: Short-Term & Other Investments:	(100)
Less: Equity Investments:	(400)
Plus: Total Debt:	3,000
Plus: Preferred Stock:	2,000
Plus: Noncontrolling Interests:	1,000
Enterprise Value:	€ 16,000
Last Twelve Month (LTM) Revenue:	€ 10,000
Last Twelve Month (LTM) EBITDA:	2,000
Last Twelve Month (LTM) Net Income:	1,000
LTM EV / Revenue:	1.6 x
LTM EV / EBITDA:	8.0 x
LTM P / E (Equity Value / Net Income):	11.0 x

Assume that the company first repurchases EUR 200 million of shares using its cash balance, and then raises EUR 2,000 million of debt.

Calculate the company's LTM EV / EBITDA and LTM P / E multiples IMMEDIATELY AFTER both transactions have taken place.

Complete this calculation on a pure accounting basis, and do not factor in the impact of Cost of Equity, Cost of Debt, WACC, the risk of different financing alternatives, etc.

- LTM EV / EBITDA = 8.0x; LTM P / E = 11.0x.
- LTM EV / EBITDA = 8.0x; LTM P / E = 10.8x.
- LTM EV / EBITDA = 9.0x; LTM P / E = 10.8x.
- LTM EV / EBITDA = 8.0x; LTM P / E = 13.0x.

- 8. Why do you add Noncontrolling Interests (formerly known as Minority Interests) and subtract Equity Investments (AKA Associate Companies) when calculating Enterprise Value (EV)?**
- You do this to ensure that you're making an apples-to-apples comparison in the valuation multiples (e.g., EV / EBITDA should reflect either 0% or 100% of these stakes in other companies in both the numerator and denominator).
 - Neither of these items is accounted for in Equity Value (implicitly or explicitly), but we need to factor them into Enterprise Value in order to include all the investor groups.
 - You only add and subtract these items when valuing a company on a standalone basis – you don't factor them in when calculating valuation multiples in an M&A scenario because these items almost always remain as-is on the Balance Sheet.
 - While you could take this approach, it is actually better to adjust the metrics in the denominator of valuation multiples, such as EBITDA and Free Cash Flow, and make them reflect the company's ownership stakes in other companies.
- 9. Which of the following answer choices represent the CORRECT steps when you calculate EBITDA for a company based on its Income Statement (IS) and Cash Flow Statement (CFS)?**
- Start with Operating Income on the IS; add back D&A from the CFS, and then add back all the other non-cash charges from the CFS.
 - Start with Operating Income on the IS; add back D&A from the CFS, and then add back true, non-recurring charges that have impacted Operating Income.
 - Start with Operating Income on the IS; add back D&A from the IS, and then add back true, non-recurring charges that have affected Operating Income.
 - None of the above – since EBITDA is a non-GAAP metric, it's best to rely on the company's internal EBITDA figures as disclosed in its annual and interim reports.

10. You want to compare the financial performance of several companies, and you're considering using either EBITDA or EBIT as the primary "profitability metric."

In which of the following situations is EBITDA the better metric to use?

- a. One company in the set has high CapEx and Depreciation, and you want to approximate its cash flow as well as the cash flow of the other companies.
- b. All the companies in the set have very low CapEx and D&A as a % of revenue, and you want to exclude capital expenditures from your analysis.
- c. In your set of companies, CapEx and Depreciation as percentages of revenue vary greatly and you want to normalize the set.
- d. You are using a set of companies where some firms rent their properties, while others own them.

11. Although the P / E multiple is often used by retail investors and is commonly cited in the financial press, we don't view it as particularly meaningful for most companies. Why?

- a. It is capital-structure-dependent and is therefore affected by Cash and Debt levels and the interest rates on both of those.
- b. It is affected by effective tax rates, which could differ substantially from one company to the next.
- c. It is affected by non-cash charges such as Depreciation, which can also vary greatly between different companies.
- d. All of the above.

12. Which of the following answer choices represent DIFFERENCES between Levered Free Cash Flow (AKA Free Cash Flow to Equity) and Unlevered Free Cash Flow (AKA Free Cash Flow to Firm)?

- a. Unlevered FCF is not used in a DCF analysis because it gives a misleading picture of the company's cash flow; Levered FCF is much more common there.
- b. Unlevered FCF corresponds to Enterprise Value, but Levered FCF corresponds to Equity Value.
- c. Both Unlevered FCF and Levered FCF reflect normal operating expenses, but only Levered FCF includes the impact of CapEx.
- d. Unlevered FCF excludes net interest expense and debt repayments entirely, whereas Levered FCF includes both the net interest expense and debt principal repayments.
- e. Unlevered FCF represents what's available to ALL the investors in the company, whereas Levered FCF is only what's available to common equity investors.

13. You have selected a set of comparable companies for use in valuing a company you are analyzing.

You notice there is almost no correlation between the revenue, EBITDA, and Net Income growth rates and the corresponding multiples for each of those metrics in this set of companies. Why might this be the case?

- a. The premise of this question is incorrect because multiples are correlated with the corresponding margins (e.g., the EBITDA margin or Net margin), not the growth rates.
- b. Some of the companies in this set might have made acquisitions or divestitures that distort their financial metrics.
- c. This result might indicate that you have selected the incorrect set of comparables and that the companies within are not similar.
- d. The most likely explanation is that many of these companies are releasing deceptive information in their filings, which can distort their financial metrics.
- e. Your set might contain big conglomerates or other diversified businesses that are difficult to value with metrics and multiples applied to the entire business.

14. Two companies have very similar financial profiles: historical revenue growth rates of 10-15% and historical EBITDA margins of approximately 20%. The revenue and EBITDA figures are also within 5-10% of each other, and they are in the same industry and sub-industry.

However, one company is trading at an LTM EV / EBITDA multiple of 10x and the other company is trading at a 6x multiple. How could this happen?

- a. Even though the historical financials are similar, expectations for future revenue growth rates or future margins might be very different.
- b. This outcome might be because of a cyclical industry downturn that is affecting one company, but not the other company.
- c. One company might be using capital or capital expenditures far more efficiently than the other one, which is not reflected in metrics such as EBITDA since CapEx is excluded.
- d. One company, or both companies, might be genuinely mispriced and misunderstood by the market.
- e. This result happens most often when the investor base for one company is significantly different than the investor base for the other company.