Oil & Gas Modeling
– Certification Quiz Questions
Module 4 – Downstream 3-Statement Model and Valuation

14. What is the **PRIMARY** reason why it makes more sense to build operating scenarios into a Downstream model than a Midstream one?

    a. Oil and gas prices make a far more direct impact on refining & marketing companies than they do on storage & transportation companies since most S&T companies charge per-unit fees that escalate gradually over time.

    b. High commodity prices provide greater incentives to Downstream companies since they are more likely to spend on Growth CapEx when prices are high.

    c. The refining margins change substantially in different macro environments, but less than the direct oil and gas prices.

    d. Most OpEx for Midstream companies follows straight trendlines regardless of the macro environment, but OpEx for Downstream companies is highly sensitive to commodity prices.

15. You have built a DCF model for a Downstream company you are valuing. Your model includes 3 operational scenarios; the main differences are the oil prices and refining margins. Capacity and Utilization Rates are similar across the cases.

    To calculate the Terminal Value in the DCF analysis, you have used a Terminal EBITDA Multiple applied to the final year of the 10-year projections as the primary methodology. The results across different scenarios and Terminal Multiples are shown in the image below this question.

    What is the **BEST** rationale for justifying the Terminal Multiple over the Terminal Growth Rate method for this company?

Sensitivity - Implied Share Price from DCF Analysis:

		Terminal EBITDA Multiple:				
		2.0 x	3.0 x	4.0 x	5.0 x	6.0 x
Commodity Price & Margin Scenario:	Upside	€ 2.65	€ 3.04	€ 3.44	€ 3.83	€ 4.22
	Base	1.26	1.50	1.75	2.00	2.25
	Downside	0.38	0.53	0.68	0.83	0.99

a. This vertical is highly cyclical, so it's difficult to estimate a constant "long-term growth rate," even over a long time frame – but we can use the historical data over previous cycles to get reasonable valuation multiple ranges.

b. When operating scenarios are set up like this (i.e., they impact pricing but not volume), the Terminal Multiple will be much more sensitive to the selected scenario than the Terminal Growth Rate.

c. Terminal Multiples are more appropriate in this vertical because of the large difference between Unlevered FCF and EBITDA due to high CapEx; Terminal Growth Rates in reasonable ranges tend to undervalue Downstream companies.

d. All of the above are equally valid rationales.

16. As part of your job in valuing this Downstream company (Saras S.p.A.), you have also reviewed a Fairness Opinion and preliminary valuation issued by another bank (Mediobanca in Italy).

Mediobanca's approach differs from yours in several ways. For example, they include a U.S.-based Downstream company (PBF Energy) in their set of comparable companies, which makes it different from your set of all European peer companies.

However, the bank also used different valuation multiples and time periods, as shown below in their comparable company summary (2023 and 2022 represent the most recent historical periods as of this analysis date).

Based on this description and the image below, what is the **BIGGEST PROBLEM** with Mediobanca's comparable company analysis?

Company [1], [3]	EV / Revenues (x)		EV / EBITDA (x)		EV / EBIT (x)	
	2023	2022	2023	2022	2023	2022
PBF Energy	0.2x	0.1x	2.4x	1.3x	3.0x	1.4x
Motor Oil	0.3x	0.3x	3.2x	2.5x	3.9x	2.8x
Orlen	0.3x	0.3x	1.8x	1.9x	2.5x	2.3x
Helleniq Energy	0.3x	0.3x	3.9x	2.5x	5.6x	3.0x
Average of companies of the sample	0.3x	0.3x	2.8x	2.1x	3.8x	2.4x
Median of companies of the sample	0.3x	0.3x	2.8x	2.2x	3.5x	2.6x
Saras [2]	0.2x	0.1x	2.7x	1.5x	3.9x	1.8x

Company [1], [3]	P / E (x)		P / BV (x)		P / Cash Flow (x) [4]	
	2023	2022	2023	2022	2023	2022
PBF Energy	3.0x	2.2x	1.0x	1.3x	6.1x	1.7x
Motor Oil	3.8x	3.1x	1.1x	1.5x	6.0x	n.m.
Orlen	3.7x	1.9x	0.5x	0.6x	n.m.	2.4x
Helleniq Energy	4.9x	2.6x	0.8x	0.9x	3.9x	7.9x
Average of companies of the sample	3.8x	2.5x	0.9x	1.1x	5.4x	4.0x
Median of companies of the sample	3.7x	2.4x	0.9x	1.1x	6.0x	2.4x
Saras [2]	5.3x	4.0x	1.2x	1.4x	7.3x	2.2x

a. It's incorrect to include a U.S.-based company like PBF Energy in this set due to U.S. GAAP vs. IFRS accounting differences; the entire set should be European or EMEA-based companies.

b. The P / BV and P / Cash Flow multiples are not meaningful in this vertical and should not be a part of this set.

c. It is not valid to include 2 years of historical multiples; it should be limited to the last fiscal year (FY) or the Last Twelve Months (LTM) period.

d. There are no projected multiples, which is a problem in a cyclical industry where revenue, profits, and cash flows fluctuate significantly.