

Valuation Questions and Answers – Advanced (14 questions)

102. How do you value banks and financial institutions differently from other companies?

For relative valuation, the methodologies (public comparables and precedent transactions) are the same but the metrics and multiples are different:

1. You screen based on assets or deposits in addition to the normal criteria
2. You look at metrics like ROE (return on equity, NI / shareholders' equity), ROA (return on assets, NI / total assets), and book value and tangible book value rather than revenue, EBITDA, and so on
3. You use multiples such as P/E, P/BV, and P/TBV rather than EV/EBITDA

Rather than a traditional DCF, you use 2 different methodologies for intrinsic valuation:

1. In a dividend discount model (DDM) you sum up the present value of a bank's dividends in future years and then add it to the present value of the bank's terminal value, usually basing that on a P/BV or P/TBV multiple
2. In a residual income model (aka an excess returns model), you take the bank's current book value and simply add the present value of the excess returns to that book value to value it. The "excess return" each year is $(\text{ROE} * \text{book value}) - (\text{cost of equity} * \text{book value})$ – how much the returns exceed your expectations

You need to use these methodologies and multiples because interest is a critical component of a bank's revenue and because debt is a "raw material" rather than just a financing source; also, banks' book values are usually very close to their market caps

103. Walk me through an IPO valuation for a company that's about to go public

1. Unlike normal valuations, in an IPO valuation we only care about public company comparables
2. After picking the public company comparables we decide on the most relevant multiple to use and then estimate our company's enterprise value based on that
3. Once we have the enterprise value, we work backward to get to equity value and also subtract the IPO proceeds because this is new cash
4. Then we divide by the number of shares (old and newly created) to get its per share price. When people say an IPO is priced at... this is what they're referring to

If you were using P/E or any other equity value based multiple for the multiple in step 2 here, then you would get to equity value instead and then subtract the IPO proceeds from there

104. I'm looking at financial data for a public company comparable, and it's April (Q2) right now. Walk me through how you would calendarize this company's financial statements to show the trailing twelve months as opposed to just the last fiscal year

The formula to calendarize financial statements is:

TTM trailing twelve months = most recent fiscal year + new partial period – old partial period

So in the example above, we would take the company's Q1 numbers, add the most recent fiscal year's numbers, and then subtract the Q1 numbers from that most recent fiscal year

For US companies you can find these quarterly numbers in the 10-Q; for international companies they're in the interim reports

105. Walk me through and M&A premiums analysis

The purpose of this analysis is to look at similar transactions and see the premiums that buyers have paid to sellers' share prices when acquiring them. For example, if a company is trading at \$10.00/share and the buyer acquires it for \$15.00/share, that's a 50% premium

1. First, select the precedent transactions based on industry, date (past 2-3 years for example), and size (example over \$1 billion market cap)
2. For each transaction, get the seller's share price 1 day, 20 days, and 60 days before the transaction was announced (you can also look at even longer intervals, or 30 days, 45 days, etc.)
3. Then, calculate the 1 day premium, 20 day premium, etc. by dividing the purchase price by the appropriate share prices on each day
4. Get the medians for each set, and then apply them to your company's current share price, share price 20 days ago, etc. to estimate how much of a premium a buyer might pay for it

Note that you only use this analysis when valuing public companies because private companies don't have share prices. Sometimes the set of companies here is exactly the same as your set of precedent transactions but typically it is broader

106. Walk me through a future share prices analysis

The purpose of this analysis is to project what a company's share price might be 1 or 2 years from now and then discount it back to its present value

1. Get the median historical (usually TTM) P/E of your public company comparables
2. Apply this P/E multiple to your company's 1 year forward or 2 year forward projected EPS to get its implied future share price

3. Then, discount this back to its present value by using a discount rate in line with the company's cost of equity figures

You normally look at a range of P/E multiples as well as a range of discount rates for this type of analysis and make a sensitivity table with these as inputs

107. Both M&A premiums analysis and precedent transactions involve looking at previous M&A transactions. What's the difference in how we select them?

1. All the sellers in the M&A premiums analysis must be public
2. Usually we use a broader set of transactions for M&A premiums – we might use fewer than 10 precedent transactions but we might have dozens of M&A premiums. The industry and financial screens are usually less stringent
3. Aside from those, the screening criteria is similar – financial, industry, geography and date

There are less requirements for comparable M&A premiums (other than that a company must be public) than requirements for comparable precedent transactions.

108. Walk me through a sum-of-the-parts analysis

In a Sum-of-the-Parts analysis, you value each division of a company using separate comparables and transactions, get to separate multiples, and then add up each division's value to get the total for the company. Example:

We have a manufacturing division with \$100 million EBITDA, an entertainment division with \$50 million EBITDA and a consumer goods division with \$75 million EBITDA. We've selected comparable companies and transactions for each division, and the median multiples come out to 5x EBITDA for manufacturing, 8x EBITDA for entertainment, and 4x EBITDA for consumer goods

Our calculation would be $\$100 * 5x + \$50 * 8x + \$75 * 4x = \1.2 billion for the company's total value

This is just summing relative valuations of different divisions of a large company

109. How do you value net operating losses and take them into account in a valuation?

NOL is a deferred tax asset DTA, just project out the appropriate tax savings with Section 382 using the adjusted long-term rate to get the max NOL allowed to deduct from taxes each year. And ofc discount and sum them after

You value NOLs based on how much they'll save the company in taxes in future years, and then take the present value of the sum of tax savings in future years. Two ways to assess the tax savings in future years:

1. Assume that a company can use its NOLs to completely offset its taxable income until the NOLs run out
2. In an acquisition scenario, use section 382 and multiply the adjusted longterm rate by the equity purchase price of the seller to determine the maximum allowed NOL usage in each year – and then use that to figure out the offset to taxable income

You might look at NOLs in a valuation but you rarely add them in – if you did, they would be similar to cash and you would subtract NOLs to go from equity value to enterprise value, and vice versa

110. I have a set of public company comparables and need to get the projections from equity research. How do I select which report to use?

This varies by bank and group, but two common methods:

1. You pick the report with the most detailed information
2. You pick the report with numbers in the middle of the range

Note that you do not pick reports based on which bank they're coming from. So if you're at GS, you would not pick all GS equity research – in fact that would be bad bc then your valuation would not be objective

The most detailed or most normal projections

111. I have a set of precedent transaction but I'm missing information like EBITDA for a lot of the companies – how can I find it if it's not available via public sources?

1. Search online and see if you can find press releases or articles in the financial press with these numbers
2. Failing that, look in equity research for the buyer around the time of the transaction and see if any of the analysts estimate the seller's numbers
3. Also look on online sources like capIQ and factset and see if any of them disclose numbers or give estimates

112. How far back and forward do we usually go for public company comparable and precedent transaction multiples?

Usually you look at the TTM (Trailing Twelve Months) period for both sets, and then you look forward either 1 or 2 years. You're more likely to look backward more than 1 year and go

forward more than 2 years for public company comparables; for precedent transactions it's odd to go forward more than 1 year because your information is more limited

113. I have one company with a 40% EBITDA margin trading at 8x EBITDA, and another company with a 10% EBITDA margin trading at a 16x EBITDA. What's the problem with comparing these two valuations directly?

There's no rule that says this is wrong or not allowed, but it can be misleading to compare companies with dramatically different margins. Due to basic arithmetic, the 40% margin company will usually have a lower multiple, whether or not its actual value is lower

In this situation, we might consider screening based on margins and remove the outliers – you would never try to normalize the EBITDA multiples based on margins

It's also important to compare companies based on similar (EBITDA) margins, EBITDA/revenue

114. Walk me through how we might value an oil and gas company and how it's different from a standard company

Public comparables and precedent transactions are similar, but:

1. You might screen based on metrics like proved reserves or daily production
2. You would look at the above metrics as well as R/P (proved reserves/last year's production), EBITDAX (exploration), and other industry-specific ones, and use matching multiples

You could use a standard unlevered DCF to value an oil and gas company as well, but it's also common to see a NAV (net asset value) model where you take the company's proved reserves, assume they produce revenue until depletion, assign a cost to the production in each year, and take the present value of those to value the company

There are also a host of other complications: oil and gas companies are cyclical and have no control over the prices they receive. Companies use either "full-cost-accounting" or "successful efforts accounting" and treat the exploration expense differently, and so on

Similar relative valuations but different metrics (R/P, EBITDAX), could do DCF, NAV is common, other complications

115. Walk me through how we would value a REIT (real estate investment trust) and how it differs from a "normal" company

Similar to energy, real estate is asset-intensive and a company's value depends on how much cash flow specific properties generate

1. You look at price / FFO (funds from operations) per share and price / AFFO (adjusted funds from operations) per share, which add back depreciation and subtract gains on property sales
2. A NAV (net asset value) model is the most common intrinsic valuation methodology. You assign a cap rate (NOI/property value) to the company's forward NOI and multiply to get the value of its real estate, adjust and add its other assets, subtract liabilities and divide by the share count to get NAV per share, and then compare that to its current share price
3. You value properties by dividing NOI (property's gross income – operating expenses and property taxes) by the capitalization rate (based on market data)
4. Replacement valuation is more common bc you can actually estimate the cost of buying new land and building new properties
5. A DCF is still a DCF, but it flows from specific properties and it might be useless depending on what kind of company you're valuing