

Technical Investment Banking Interview Questions

Technical Investment Banking Interview Questions

Downloaded from app.ardentx.com by Mack & Colon

MASTERING THE TECHNICAL INTERVIEW: A GUIDE TO INVESTMENT BANKING INTERVIEW QUESTIONS

Landing a position in investment banking is one of the most competitive pursuits in the financial world. The process is rigorous, demanding not only polish and poise but also a deep, verifiable command of financial theory and application. While behavioral questions assess your fit within a firm's culture, the technical component of the interview is designed to probe your intellectual horsepower and your readiness to perform complex financial analysis from day one. This article provides a comprehensive and structured guide to the most common technical investment banking interview questions, moving beyond simple memorization to help you understand the core principles that drive the financial models you will be expected to build.

Understanding these technical concepts is the bedrock of success. Interviewers are not looking for robotic recitations of formulas. They are evaluating your ability to think critically, to explain complex ideas with clarity, and to demonstrate a genuine understanding of what drives value in a transaction. Whether you are preparing for a summer analyst position, an associate role, or even a lateral hire, a mastery of these topics is non-negotiable. Let's break down the essential categories you must conquer.

The Trinity of Valuation: The Core of Every Deal

At the heart of nearly every investment banking interview lies the topic of valuation. You must be prepared to discuss the three primary methodologies in detail, including their mechanics, their strengths, their weaknesses, and the circumstances under which each is most appropriate.

1. Comparable Company Analysis (Comps)

Comps are often the first valuation method taught and for good reason. They are a relative valuation approach that determines the value of a target company by comparing it to similar businesses in the same industry.

- **The Core Process:** You begin by identifying a peer group of publicly traded companies. The key is to find companies with similar size, growth rates, profitability, and risk profiles. Once identified, you calculate trading multiples. The most common are EV/EBITDA and Price/Earnings (P/E), with EV/Revenue used for high-growth or unprofitable companies. You then calculate the median and mean of these multiples for the peer group and apply them to the target company's corresponding financial metric to derive an implied valuation.
- **The Interview Question:** An interviewer might ask, "Walk me through how you would value a company using comparable analysis." A strong answer includes not just the steps but also a discussion of judgment. For example, you should mention the importance of screening for truly comparable companies and adjusting for outliers. You might say, "We would first screen for public companies in the same industry with a similar market cap, revenue profile, and growth rate. We would then calculate multiples like TEV/EBITDA and P/E, applying the median multiple to the target's LTM (Last Twelve Months) and next fiscal year projections."
- **Key Flaws:** Always be prepared to discuss the limitations. The most common flaw is a lack of perfect comparables. No two companies are identical. Market sentiment can also distort multiples, and the analysis provides no insight into a company's intrinsic value, only its relative worth.

2. Precedent Transaction Analysis (Precedents)

This method is similar to Comps but uses the prices paid in prior mergers and acquisitions (M&A) of similar companies. This introduces a "control premium," the additional amount a buyer is willing to pay for control of a company.

- **The Core Process:** You identify a universe of relevant M&A transactions in the target's industry. The difficulty here is that transaction data is less standard than public trading data. You must search for deals of similar size and rationale. The primary multiple used is TEV/EBITDA, based on the target's EBITDA at the time of the transaction. You also look at TEV/Revenue, especially for earlier-stage companies. You then apply the median multiple from these transactions to your target's financials.
- **The Interview Question:** "What is a control premium and why does it matter?" You should explain that a control premium represents the value a buyer places on gaining control of a company's board, management, and strategic direction. It reflects synergies the buyer expects to achieve. Consequently, Precedent Transactions almost always yield a higher valuation than Comparable Company Analysis.
- **Critical Nuance:** The context of the past transactions is vital. An asset sale versus a stock sale has huge tax implications that affect the purchase price. A strategic buyer (like another corporation) will often pay more than a financial buyer (like a private equity firm) because they can extract more synergies. A great interview answer will touch on these points.

3. Discounted Cash Flow (DCF) Analysis

The DCF is the most theoretically sound of the three approaches because it attempts to calculate the intrinsic value of a company based on its ability to generate cash in the future. This is your chance to demonstrate your understanding of corporate finance fundamentals.

- **The Core Process:** The DCF has six primary steps. First, project the company's Unlevered Free Cash Flow (UFCF) for a period of 5 to 10 years. Second, calculate a Terminal Value, which represents the value of all cash flows beyond the projection period. Third, determine the company's Weighted Average Cost of Capital (WACC), which is the discount rate. Fourth, discount the projected UFCFs and the Terminal Value back to the present using the WACC. Fifth, sum these present values to get the Enterprise Value. Finally, adjust for net debt, options, and other items to arrive at the Equity Value.
- **The Interview Question:** "Walk me through how you build a DCF." A complete answer must explain the derivation of Unlevered Free Cash Flow, the concept of Terminal Value (both the Gordon Growth Model and the Exit Multiple Method), and the intricacies of WACC. A top-tier answer will also discuss a sensitivity analysis, showing how the valuation changes with different assumptions for WACC and Terminal Value growth rates.
- **Deep Dive on WACC:** You will almost certainly be asked to break down WACC ($We = E/(E+D) \cdot Re + Wd = D/(E+D) \cdot Rd \cdot (1-T)$). Be ready to explain how to calculate the Cost of Equity using the Capital Asset Pricing Model (CAPM: $Ke = Rf + B \cdot (Rm - Rf)$). This leads to questions about Beta (unlevered vs. levered) and the equity risk premium. This is where advanced technical knowledge is truly tested.

Financial Accounting and Core Financial Statements

No technical interview would be complete without a deep dive into accounting. You must be able to connect the three main financial statements and model the impact of any single transaction across all of them.

The Three Statements: A Single Flow

An incredibly common question is, "Walk me through how an increase in Depreciation of \$10 flows through the three financial statements." This is the ultimate test of accounting linkage.

1. **Income Statement:** Depreciation is an operating expense. A \$10 increase in Depreciation reduces Operating Income (EBIT) by \$10. Assuming a 30% tax rate, Net Income decreases by \$7 ($\$10 \cdot (1-0.30)$).
2. **Cash Flow Statement:** Net Income starts at -\$7. Depreciation is a non-cash expense, so you add it back: +\$10. The net change in cash from operations is +\$3 ($-\$7 + \10). No changes from investing or financing. Total cash increases by \$3.
3. **Balance Sheet:** On the left (Assets), Cash increases by \$3. PP&E (Property, Plant & Equipment) decreases by \$10 due to the accumulated depreciation. Total Assets decrease by \$7. On the right (Liabilities & Equity), Retained Earnings (part of Shareholders' Equity) decreases by \$7 due to the lower Net Income. Both sides balance with a decrease of \$7.

Enterprise Value vs. Equity Value

This distinction is paramount. If you cannot explain it clearly, you will not pass the interview.

- **Enterprise Value (EV):** Represents the total value of the company's core operations to all capital providers (debt and equity). It is the price you would essentially have to pay to buy the entire business free and clear of its capital structure. The formula is: **EV = Equity Value + Net Debt + Preferred Stock + Non-Controlling Interests.**
- **Equity Value (Market Cap):** This is simply the value attributable to common shareholders. It is the market price per share multiplied by the number of diluted shares outstanding. It is a subset of Enterprise Value.
- **Why the distinction matters:** You always use Enterprise Value in valuation multiples like EV/EBITDA because EBITDA is available to all capital providers. You use Equity Value in multiples like P/E because Net Income belongs only to equity holders.

Mergers and Acquisitions (M&A) and Leveraged Buyouts (LBO)

These are the two primary transaction types in investment banking. Expect detailed, process-oriented questions.

M&A Modeling: Accretion and Dilution

The central question in any M&A analysis is whether the deal will be "accretive" or "dilutive" to the acquirer's Earnings Per Share (EPS).

- **The Logic:** A deal is accretive if the combined company's EPS is higher than the acquirer's standalone EPS. It is dilutive if it is lower. The key drivers are the purchase price (how many shares are issued), the interest rate on any new debt, the tax rate, and the synergies achieved.
- **The Interview Question:** "A company with a P/E of 20x acquires a company with a P/E of 10x in a stock-for-stock deal. Will it be accretive or dilutive?" This is a classic test. Because the acquirer's "earnings yield" ($1/20 = 5\%$) is lower than the target's ($1/10 = 10\%$), using its own "expensive" stock to buy "cheap" earnings is always initially accretive. You must then adjust for any debt used and synergies to get a final answer.

LBO Modeling: The Core of Private Equity

An LBO is the purchase of a company using a significant amount of borrowed money (debt). The goal is to achieve a high return on equity (IRR) by paying down debt over the holding period and eventually selling the company.

- **Key Drivers of Returns:** The three main levers are: 1) Financial leverage (using debt), 2) Operational improvement (growing EBITDA), and 3) Multiple expansion (selling the company at a higher valuation multiple than you bought it).
- **The Interview Question:** "Walk me through a simple LBO model." You would explain that you first set up the sources and uses of funds. Sources include the Private Equity firm's equity check and the debt raised (Term Loan A, B, Revolver, High Yield Bonds). Uses are the purchase price for the equity and fees. Then, over a 5-year period, you project the company's Free Cash Flow, which is used to pay down debt. At the end of year 5, you calculate an exit value (usually based on an EBITDA multiple), subtract any remaining net debt, and the result is the Equity Value returned to the PE firm. You then calculate the IRR and cash-on-cash return.
- **Key Metrics:** You must understand the Debt/EBITDA leverage ratio going in (often 5x-6x for a large-cap LBO) and the importance of the "cash

flow sweep" (the ability to use all excess cash to pay down debt).

Key Financial Modeling Concepts

Beyond the theoretical frameworks, interviewers want to ensure you have the practical skills to build a model.

- **Revenue and Expense Drivers:** How do you project revenue? A great answer focuses on a "top-down" approach (Total Addressable Market x Market Share) and a "bottom-up" approach (Price x Volume). For expenses, discuss the distinction between fixed and variable costs and the concept of operating leverage.
- **Working Capital:** An increase in Accounts Receivable or Inventory is a use of cash (bad for FCF), while an increase in Accounts Payable is a source of cash (good for FCF). You must model working capital changes in the cash flow statement.