IB Quick & Dirty

Fit and About Investment Banking

Most candidates make 2 big mistakes when answering "fit" questions:

- *They fail to use **specific** anecdotes to support their points.*
- *They do not **structure** their answers properly.*

1. Dig into the experience to see how well they relate. Regardless of the jobs, they have to hit the skills and traits of an investment banker.
2. Ask about a deal or company. If they summered ask about a specific deal; keep digging into the numbers and ratios of the company and industry. If they did not summer, ask about a company (let them pick the company). Dig deep.
3. What is an investment bank? Why do they want to be a banker?
4. What are the different types of groups within an investment bank?
5. What is the general role of the Analyst and Associate?
6. Ask two stories based on strengths and one based on weakness/failure?
7. Explain how you keep yourself current on business trends?
8. Describe what you have done to prepare for your career options?
9. Tell me about a time when you confronted someone on their ethics?
10. Tell me about a work project where at first you could not find an answer?
11. Tell me about a time when you had to present information to someone who was skeptical of your results?

Investment Banking Technical Questions

Mastering technical questions should be a four step process:

- ***Step 1 - Memorize:** Carry this sheet in you pocket until you have the answers to every question memorized*
- ***Step 2 - Understand:** Be able to explain the answers in your own words and also be able to explain all terms used in your answer. (Terms you use are free-game for follow-up questions)*
- ***Step 3 - Relate:** Pick a commonly known public company (just one) that you are interested in and become familiar with its financial statements, values, multiples, and ratios; try to think through some of the questions using this specific company. This becomes important if the interviewer want to ask specific questions about a company.*
- ***Step 4 - Personalize:** Practice, practice, practice; do mock interviews with anyone willing to ask you questions**:** make the answers your own; make it a conversation.*

Accounting and Financial Statements

1. Walk me through the three major financial statements.
"The three major financial statements are the Income Statement, Balance Sheet and Cash Flow Statement.

- **The Income Statement** gives the company's revenue and expenses, and goes down to Net Income, the final line on the statement.
- **The Cash Flow Statement** begins with Net Income, adjusts for non-cash expenses and working capital changes, and then lists cash flow from investing and financing activities; at the end, you see the company's net change in cash."
- **The Balance Sheet** shows the company's Assets – its resources – such as Cash, Inventory and PP&E, as well as its Liabilities – such as Debt and Accounts Payable – and Shareholders' Equity. Assets must equal Liabilities plus Shareholders' Equity.

2. How do the 3 statements link together?
"To tie the statements together, Net Income from the Income Statement flows into the top line of the Cash Flow Statement and into Shareholders' Equity on the Balance Sheet, and Changes to Balance Sheet items appear as working capital changes on the Cash Flow Statement, and investing and financing activities affect Balance Sheet items such as PP&E, Debt and Shareholders' Equity. The Cash and Shareholders' Equity items on the Balance Sheet acts as "plugs," with Cash flowing in from the final line on the Cash Flow Statement.

3. If I were stranded on a desert island, only had 1 statement and I wanted to review the overall health of a company – which statement would I use and why?
You would use the Cash Flow Statement because it gives a true picture of how much cash the company is actually generating, independent of all the non-cash expenses you might have. And that's the #1 thing you care about when analyzing the overall financial health of any business – its cash flow.
4. What is deferred tax?
Deferred tax represents a company's liability for taxes owed that is postponed to future periods. Deferred tax is primarily the result of tax law that allows firms to write off expenses faster than they are recognized and thus create a deferred tax liability.
5. A company makes a $100 cash purchase of equipment on Dec. 31. How does this impact the three statements this year and next year?
First Year: Let's assume that the company's fiscal year ends Dec. 31. The relevance of the purchase date is that we will assume no depreciation the first year. *Income Statement*: A purchase of equipment is considered a capital expenditure which does not impact earnings. Further, since we are assuming no depreciation, there is no impact to net income, thus no impact to the income statement. *Cash Flow Statement*: No change to net income so no change to cash flow from operations. However we've got a $100 increase in CapEx so there is a $100 use of cash in cash flow from investing activities. No change in cash flow from financing (since this is a cash purchase) so the net effect is a use of cash of $100. *Balance Sheet*: Cash (asset) down $100 and PP&E (asset) up $100 so no net change to the left side of the balance sheet and no change to the right side. We are balanced.
Second Year: Here let's assume straight-line depreciation over 5 years and a 40% tax rate. *Income Statement*: Just like the previous question: $20 of depreciation, which results in a $12 reduction to net income. *Cash Flow Statement*: Net income down $12 and depreciation up $20. No change to cash flow from investing or financing activities. Net effect is cash up $8. *Balance Sheet*: Cash (asset) up $8 and PP&E (asset) down $20 so left side of balance sheet down $12. Retained earnings (shareholders' equity) down $12 and again, we are balanced.

Enterprise Value and Equity Value

1. What is the difference between enterprise value and equity value?
Enterprise Value represents the value of the operations of a company attributable to all providers of capital. Equity Value is one of the components of Enterprise Value and represents only the proportion of value attributable to shareholders.
2. What's the formula for Enterprise Value?
Enterprise Value = Equity Value + Debt + Preferred Stock + Minority Interest - Cash
3. What is the difference between basic shares and fully diluted shares?
Basic shares represent the number of common shares that are outstanding today (or as of the reporting date). Fully diluted shares equals basic shares plus the potentially dilutive effect from any outstanding stock options, warrants, convertible preferred stock or convertible debt. In calculating a company's market value of equity (MVE) we always want to use diluted shares.

Valuation

1. What are the three main valuation methodologies?
The three main valuation methodologies are (1) comparable company analysis, (2) precedent transaction analysis and (3) discounted cash flow ("DCF") analysis. (4) LBO
2. Rank the 3 valuation methodologies from highest to lowest expected value.
Trick question – there is no ranking that always holds. *In general*, Precedent Transactions will be higher than Comparable Companies due to the Control Premium built into acquisitions. Beyond that, a DCF could go either way and it's best to say that it's more *variable* than other methodologies. Often it produces the highest value, but it can produce the lowest value as well depending on your assumptions.
3. How would you present these Valuation methodologies to a company or its investors?
Usually you use a "football field" chart where you show the valuation range implied by each methodology. You *always* show a range rather than one specific number.
4. How do you select Comparable Companies / Precedent Transactions?
The 3 main ways to select companies and transactions:
1. Industry classification
2. Financial criteria (Revenue, EBITDA, etc.)
3. Geography
For Precedent Transactions, you often limit the set based on date and only look at transactions within a limited amount of years. The most important factor is industry – that is *always* used to screen for companies/transactions.

Discounted Cash Flow Analysis

1. Walk me through a DCF.

"A DCF values a company based on the Present Value of its Cash Flows and the Present Value of its Terminal Value. First, you project out a company's financials using assumptions for revenue growth, expenses and Working Capital; then you get down to Free Cash Flow for each year, which you then sum up and discount to a Net Present Value, based on your discount rate – usually the Weighted Average Cost of Capital. Once you have the present value of the Cash Flows, you determine the company's Terminal Value, using either the Multiples Method or the Gordon Growth Method, and then also discount that back to its Net Present Value using WACC.

Finally, you add the two together to determine the company's Enterprise Value."

2. Walk me through how you get from Revenue to Free Cash Flow in the projections.

Subtract COGS and Operating Expenses to get to Operating Income (EBIT). Then, multiply by (1 – Tax Rate), add back Depreciation and other non-cash charges, and subtract Capital Expenditures and the change in Working Capital. **Note:** This gets you to *Unlevered* Free Cash Flow since you went off EBIT rather than EBT. You might want to confirm that this is what the interviewer is asking for. (Some companies hide D&A in COGS and Operating Expenses).

3. How do you calculate WACC?

The formula is: Cost of Equity * (% Equity) + Cost of Debt * (% Debt) * (1 – Tax Rate) + Cost of Preferred * (% Preferred). In all cases, the percentages refer to how much of the company's capital structure is taken up by each component. For Cost of Equity, you can use the Capital Asset Pricing Model (CAPM – see the next question) and for the others you usually look at comparable companies/debt issuances and the interest rates and yields issued by similar companies to get estimates.

4. How do you calculate the Cost of Equity?

Cost of Equity = Risk-Free Rate + Beta * Equity Risk Premium

- The risk-free rate represents how much a 10-year or 20-year US Treasury should yield;
- Beta is calculated based on the "riskiness" of Comparable Companies and the Equity
- Risk Premium is the % by which stocks are expected to out-perform "risk-less" assets.

5. How do you calculate the Terminal Value?

You can either apply an exit multiple to the company's Year 'n" EBITDA (Multiples Method) or you can use the Gordon Growth method to estimate its value based on its growth rate into perpetuity. The formula for Terminal Value using Gordon Growth is: Terminal Value = Year "n" Free Cash Flow * (1 + Growth Rate) / (Discount Rate – Growth Rate).

Leveraged Buyout (LBO) Analysis

1. What is an "ideal" candidate for an LBO?

"Ideal" candidates have stable and predictable cash flows, low risk businesses, not much need for ongoing investments such as Capital Expenditures, as well as an opportunity for expense reductions to boost their margins. A strong management team also helps, as does a base of assets to use as collateral for debt.

The most important part is stable cash flow.

2. How could a private equity firm boost its return in an LBO?

- Lower the Purchase Price in the model.
- Raise the Exit Multiple / Exit Price.
- Increase the Leverage (debt) used.
- Increase the company's growth rate (organically or via acquisitions).
- Increase margins by reducing expenses (cutting employees, consolidating buildings, etc.).

Mergers and Acquisitions

1. Why would an acquisition be dilutive?

An acquisition is dilutive if the additional amount of Net Income the seller contributes is not enough to offset the buyer's foregone interest on cash, additional interest paid on debt, or the effects of issuing additional shares. Acquisition effects – such as amortization of intangibles – can also make an acquisition dilutive.

2. What is the rule of thumb for assessing whether an M&A deal will be accretive or dilutive?

In an all stock deal, if the buyer has a higher P/E than the seller, it will be accretive; if the buyer has a lower P/E, it will be dilutive. On an intuitive level if you're paying more for earnings than what the market values your own earnings at, you can guess that it will be dilutive; and likewise, if you're paying less for earnings than what the market values your own earnings at, you can guess that it would be accretive.

3. What criteria would you use to help a client make an acquisition?

- Financial Criteria: EPS accretion/dilution; Does it create shareholder value? (NPV > 0) ; Source of cash for the acquisition
- Strategic Criteria: Growth in market share ; Industry consolidation / economies of scale ; Vertical integration ; Technological or intellectual property acquisition ; Regulatory & Political Change e.g. media & telecom

4. What is the difference between Goodwill and Other Intangible Assets?

- Goodwill typically stays the same over many years and is not amortized. It changes only if there's goodwill impairment (or another acquisition). Other Intangible Assets, by contrast, are amortized over several years and affect the Income Statement by hitting the Pre Tax Income line.

5. What are synergies, and can you provide a few examples?

Synergies refer to cases where 2 + 2 = 5 (or 6, or 7…) in an acquisition. Basically, the buyer gets **more value than out of an acquisition than what the financials would predict.**

- **Revenue Synergies:** The combined company can cross sell products to new customers or up sell new products to existing customers. It might also be able to expand into new geographies as a result of the deal. (Access to new markets, geographies and customers; Ability to cross-sell products; Vertical integration; Network effects)
- **Cost Synergies:** The combined company can consolidate buildings and administrative staff and can lay off redundant employees. It might also be able to shut down redundant stores or locations. (Economies of scale; Economies of Scope; Cost efficiencies across value chain)

6. What are the advantages and disadvantages to raising equity vs. debt?

Equity

- Pro: In a strong market, a company may be able to receive a premium on its equity.
- Con: The expected return on equity is higher (at least 12%-15%) making it more expensive than debt

Debt

- Pro: Interest on debt is tax deductible, reducing its cost
- Con: The Company's debt is less marketable if it's already highly leveraged. Additionally, the interest payment on the debt makes it more difficult for it to be cash flow positive.

7. If a company wants to raise $100 million, what are different ways to do it?

- Equity Capital Markets: IPO, Follow On…
- Debt Capital Markets: Loan, Bonds…
- Merger and Acquisitions: Sell division…
- Operations: Re-align internal funds (not likely)

8. Follow on question to number 7. Why would a company do one over the other?

- Equity Capital Markets: High interest rates, overvalued stock, over levered, open ECM…
- Debt Capital Markets: Low interest rates, undervalued stock, under levered, open DCM…
- Merger and Acquisitions: Re-aligning strategies, desperate, demand…
- Operations: Re-aligning strategies

9. Company A has a PE of 20 and Company B has a PE of 15. Company A acquires Company B with all cash, using a 10% loan. Is the deal accretive or dilutive? Explain.

With a PE of 15, it is like saying that you are paying $15 now to earn $1 every year, which is the equivalent of 6.67% earnings. If you compare the 6.67% to the 10% loan rate, the deal is dilutive.

Leverage

1. Difference between investment grade and non-investment grade?

2. Define and understand why a company would have a high or low credit rating?

3. Understand why a company would be considered over or under levered?

4. The difference between term loans, notes, and equity linked?

Economy and Current Events

These questions are ever changing and you need to not only know the events and happenings of the day, but also have an opinion.

1. Explain gold prices.

2. Explain the exchange rates.

3. Volatility of the stock market. Reasons?

4. Explain some government recovering measures.

5. Which market indicator do you believe best reflects the economic health?

Other Resources

- Read the **Vault Guide** on investment banking
- Check out **http://www.mergersandinquisitions.com**