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THE ARTHUR J. KANIA SCHOOL OF MANAGEMENT

Handling Technical Questions in an Interview

Ostensibly, technical questions probe your familiarity with the fundamental concepts behind valuation, corporate finance, financial market theory, economics, or accounting. This category of questions represents a virtual grab bag of questions for which your interviewer often (but not always) has a single correct answer in mind.¹

The specific technical questions that you'll confront will probably reflect not only the particular area for which you are interviewing, but any areas of technical expertise-expressed or implied-that your interviewer expects you've developed. For example, anyone interviewing for a corporate finance or M&A analyst position should expect at least a few basic questions regarding valuation techniques or discounted cash flow analysis, while candidates on the sales and trading side may expect questions on options pricing or bond math. In addition, interviewers may wish to test undergraduates majoring in relevant disciplines on the topics that they've studied: For instance, finance students may be asked about portfolio theory, economics students about regression analysis, or accounting students about working capital or deferred taxes. Analyst candidates who have not been exposed to these disciplines in their undergraduate coursework are generally expected to demonstrate an intuitive understanding-rather than a granular level of technical detail-in their responses.

Of course, the bar is significantly higher for MBA level associate candidates and experienced hires, who should know their finance and accounting concepts backward and forward, and who should come prepared to discuss the technical details of any transaction cited on their resume.

Examples

Examples of technical questions include the following:

- If I gave you \$1 every year between now and 100 years from now, how much would you have-in present value terms-at the end of the 100th year?
- How would you calculate a company's free cash flow?
- Define beta.
- If interest rates rise, what happens to bond prices, and why?
- How much would you pay to receive a 15-year bond with a par value of \$1,000 and a 12 percent coupon rate?
- How would you go about valuing XYZ company?
- If you had \$10,000 to invest in a single stock, which would you choose and why?

- What is the relationship between the income statement and the statement of cash flows?
- What is the Capital Asset Pricing Model?
- Walk me through the steps you'd take to calculate the weighted average cost of capital.
- What is the difference between the yield and the rate of return on a bond?
- I noticed that you completed a substantial project in your finance class on how Gateway Computers could improve its stock price. What did you conclude, and what recommendations did you devise?
- I noticed on your resume that you worked on the AOL-Time Warner merger. How did you value both parties' contributions to the transaction value?

What They Tell Your Interviewer

Here's the bottom line: You will most likely encounter some form of technical question in your investment banking interviews. If that makes you a little bit uneasy, you should know that there are many banking specific interview prep books out there that focus exclusively on quantitative and technical questions.

If you're so inclined, you can sit down with one of these guides and memorize formulas, financial ratios, pricing models, and valuation methods until your head literally explodes. If you're an art history major and you're studying this stuff for the first time, you may feel pressured to cram 4 years of business education into a few short weeks, in the hopes that you'll dazzle your interviewer with your initiative and intuition. We genuinely believe this would be a waste of your time.

If you've never studied finance, chances are you won't be asked about option pricing or weighted average cost of capital calculations. If you did major in finance, accounting, or economics, you may get a "pop quiz" question here or there to test your knowledge, but the interviewer is probably just as concerned with how you respond to pressure as he is with the accuracy of your response. Take comfort in the fact that your interviewer is probably not trying to trip you up, but is instead trying to determine the following:

- For finance, accounting, and economics majors: Did you grasp the material you studied, and can you discuss it in an intelligent way? Are you simply reciting formulas, or do you really understand the underlying concepts?
- For non quantitative majors: Can you use your common sense, analytical reasoning, and business intuition to walk through a case-style interview question on valuation? Do your answers suggest that you're interested enough in finance to learn some of the basics on your own?
- For MBA candidates with banking experience: Do you know the deals cited on your resume inside and out? Can you answer detailed questions about the financial projections, transaction structure, and valuation behind each transaction?
- For MBA candidates without banking experience: Can you demonstrate a strong enough foundation from your MBA finance and accounting courses to hit the ground running as an associate?
- For all candidates: Can you explain complex concepts clearly and concisely, especially when responding to a question you didn't expect?

Why They Matter

As we've already mentioned, the thoroughness and accuracy of your responses to these questions probably matters a lot less than you'd think—at least if you're vying for an analyst spot. When we spoke to insiders who currently hold investment banking analyst positions, most of them said they confronted significantly fewer technical questions than they expected. Of those who did encounter technical questions, the vast majority had academic backgrounds in finance, accounting, or economics at the time they interviewed. Some analyst insiders even confessed that they completely botched technical questions and still emerged successful at the end of the process. "I remember one of my Super Saturday interviews with a bulge-bracket firm. In one interview, a senior VP was grilling me on my understanding of statistical analysis because I was taking a statistics class in the Economics department that semester. He asked me to define r^2 . In hindsight, I realize he was referring to the correlation coefficient used in regression analysis. But at the time of the interview, we hadn't gotten to that chapter yet, so I hadn't heard the term before. So I actually said, 'You mean, like the radius?' I had no idea why he was bringing up a geometry formula when we were talking about statistics. I'm sure he thought I was a complete idiot, but I got the offer anyway."

While technical expertise certainly matters a great deal to bankers' ultimate career success, very few analyst candidates possess the requisite technical ability at the time that they interview. In fact, bankers almost universally recognize that incoming analysts—even those with undergraduate degrees in finance and accounting—will develop their job-specific technical skills primarily through the firm's formal training program or (to an even greater extent) through continuous on-the-job learning. So unless you're applying for an associate spot with 2 or more years of analyst experience behind you, these types of questions tell the interviewer very little about the technical aptitude that you're likely to demonstrate once on the job.

So if technical aptitude isn't expected of analyst candidates, why do interviewers even bother asking technical questions? Well, as we've said before, a sincere interest in investment banking is perhaps the single most important critical success factor for new hires. Whether they're quizzing the Wharton finance major on how to unlever a beta or guiding the history major through an introductory valuation case question, interviewers have a knack for determining the candidate's level of genuine interest in the job. If a candidate provides a textbook answer but appears to be reading from a cue card as she does so, she won't necessarily advance in the process. Aside from enthusiasm, interviewers pay close attention to how clearly candidates explain relatively complex or obscure topics. Even junior bankers must often explain complicated concepts and processes to junior colleagues or clients who are hearing them for the first time, so your ability to do so comfortably—in a range of circumstances—counts for a lot.

Rules of the Road

Rule 1: Keep your answers short and sweet. Don't go on and on, regardless of how well you understand the material being covered. Investment banking interviewers will often cut candidates off mid-sentence once it's apparent they know how to solve a problem. Nonetheless, make sure that your interviewer cuts you off because it's obvious you know your stuff, not because you've bored him to tears. Interviewers can and will ask follow-up questions if they want to know more.

Rule 2: Think concepts, not formulas.

Anyone can recite a formula. The real question is, can you explain to your grandmother-or to the client's CEO-what the concepts mean without sending them into a coma? Even if you're fortunate enough to remember the formula for the present value of an annuity, you can be sure that your interviewer won't find the formula alone sufficient-she'll want to know whether you understand the underlying logic behind the formula.

Rule 3: If you don't know, say you don't know.

Don't apologize. Don't offer excuses. And no matter what, don't ever pretend you know the answer when you don't. Keep your cool, maintain your sense of humor, and move on.

ⁱ <http://schools.wetfeet.com/advice-tools/interviewing/handling-technical-questions-in-an-i-banking-interview>