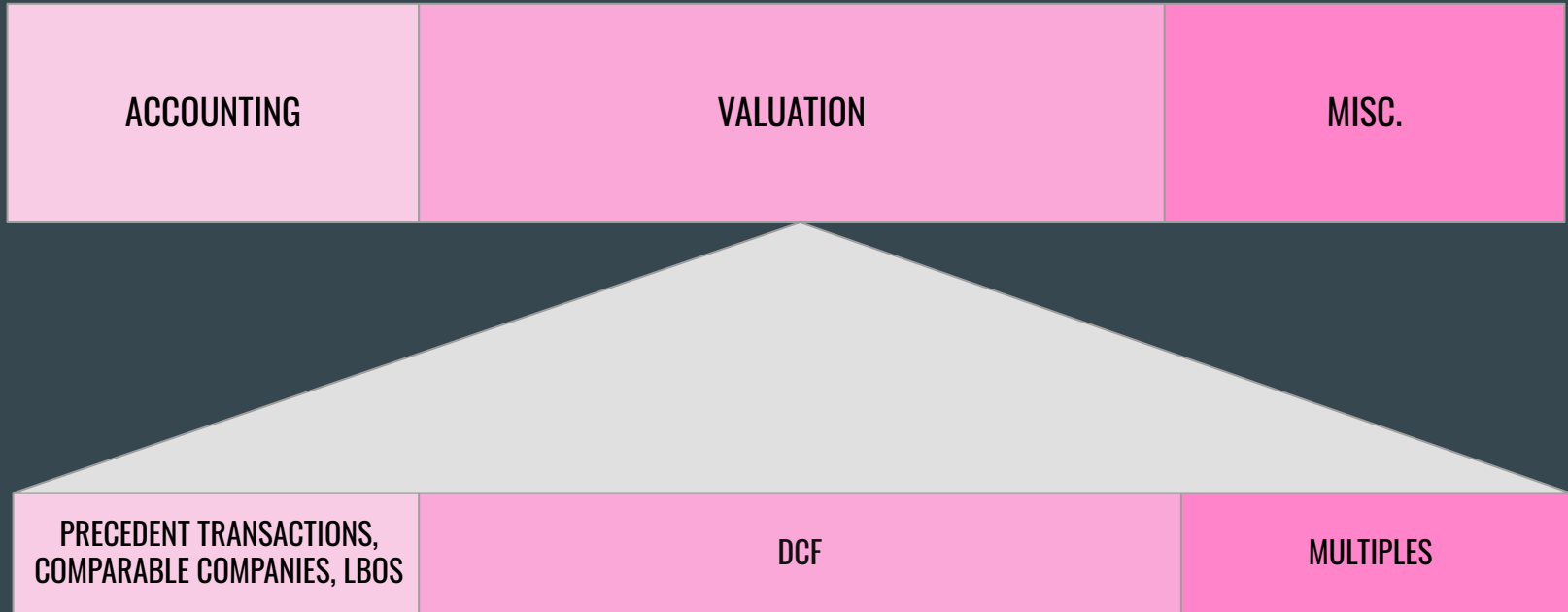


# Technicals Cont.



1/30/23

# IBD Technicals



# Recent Deals

# Why this question is important

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Talking about numbers

Demonstrate genuine interest

Express a cogent opinion

Show you utilize structured thinking

# Recent Deals

- Background information: players, revenue/profit, historical trend
- Rationale: strategic, financial, *for both sides of the table*
- Deal data: multiples, special features/structure, pricing
- Your opinion: who wins, who loses, and who's waiting in the wings to run this off the road?

# Tips

- Know 1-2 deals inside and out; probably not worth trying to have one for each bank you're interviewing with — it's a small world
- Track the deal over time so you can learn the developments as they occur and be able to speak to the deal in terms of market conditions as well
- Have an **opinion!!**
  - Pro tip: Ask bankers in the relevant industry their opinion about the deal when networking! This is an interesting conversation topic and you can hear an expert's take

# Where to Find?

- Read mainstream press releases from the usual sources – the WSJ and FT, Forbes, Business Insider, etc. You can get a lot of the qualitative information from these.
- If you can't find the key multiples (EV / Revenue, EV / EBITDA, etc.) in these sources, look up the company's filings in the SEC database (for non-US companies, you'll have to look at the investor relations section of their sites) and search for anything that was issued around the time of the deal announcement.
- For specific bank: Bank website (e.g. "Recent Transactions", "Archives")
- Bloomberg

# Things to Memorize Day-Of

S&P: ~4,187

5 yr: 0.857%

10 yr: 1.58%

30 yr: 2.26%

GS CEO: David Solomon

GS Market Cap: ~115 B

GS Stock Price: Trading at ~343 / share



# General Market Questions

What's been going on with the markets?

What's a deal you've been following?

Expectations for next quarter?

Trends in industry groups you're interested in... Ex. trends in Healthcare

# Debt v Equity Cont.

# Review: Debt and Equity

Conditions	Debt	Equity
<b>Management influence</b>	None. Unless there were specially agreed conditions	Common stockholders have voting rights
<b>Repayment</b>	Debt has a maturity date	Stock has no maturity date
<b>Yearly obligations</b>	Payment on interest	Not legally liable to pay dividends
<b>Tax benefits</b>	Interest is tax deductible	Dividends are not tax deductible

# Advantages of an IPO

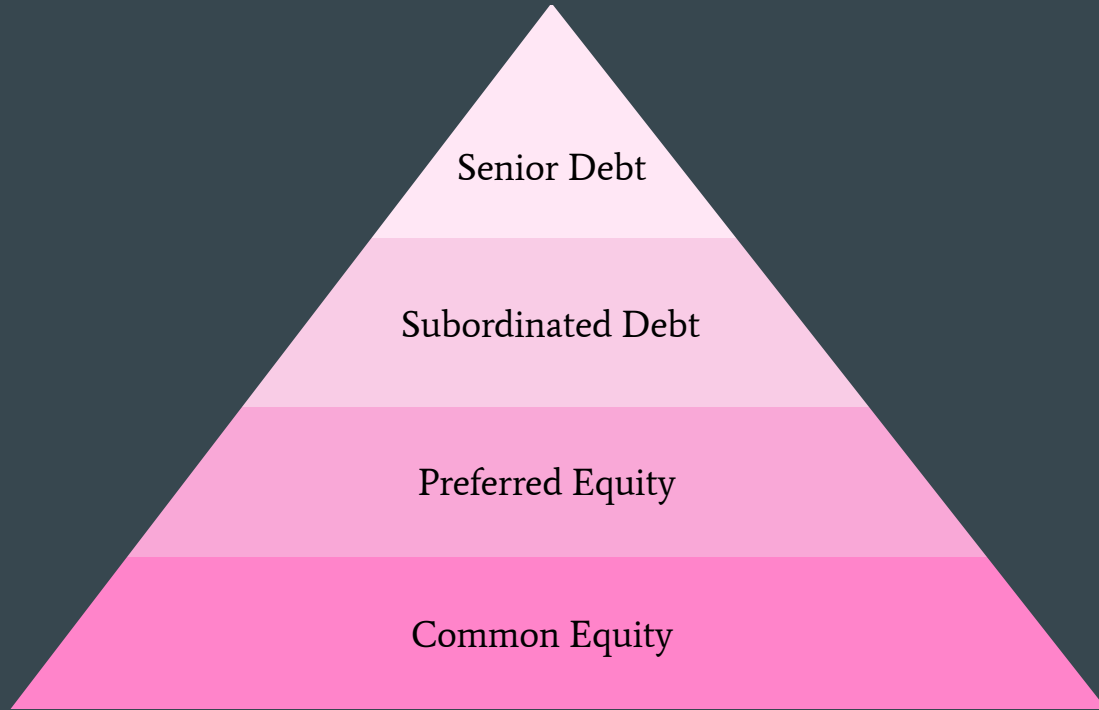
1. **Raising funds:** IPO is the most convenient option to raise huge capital by reaching out to a large number of individuals at the same time
2. **Liquidity:** With an IPO, comes a great advantage of liquidity for all stakeholders including promoters and general public shareholders
3. **Improved finances:** The advantage of IPO launch covers benefits for overall finances of the company as well as its shareholders in more than one way
4. **Increased visibility:** Since the reach of an IPO is huge, i.e. the entire country at one time, it contributes in making public aware about the company
5. **Employee retention:** Often, companies use IPOs to reward their employees in certain ways

# Highest Valuation

Lowest Risk



Highest Risk



Senior Debt

Subordinated Debt

Preferred Equity

Common Equity

Highest Priority of Repayment



Lowest Priority of Repayment

# Bond Terminology

- **Face value** is the amount of money the bond will be worth at maturity.
- **The coupon rate** is the rate of interest the bond issuer will pay on the face value of the bond, expressed as a percentage.
  - For example, a 5% coupon rate means that bondholders will receive  $5\% \times \$1000$  face value = \$50 every year.
- **Coupon dates** are the dates on which the bond issuer will make interest payments.
  - Payments can be made in any interval, but the standard is semiannual payments.
- **The maturity date** is the date on which the bond will mature and the bond issuer will pay the bondholder the face value of the bond
- **The issue price** is the price at which the bond issuer originally sells the bonds.
- **Bond yield** is the return an investor realizes on a bond.

# Advantages and Disadvantages of Bonds

## Advantages

Receive income through interest payments

Hold bond to maturity and get your principal back

Profit if you resell bond at a higher price

## Disadvantages

Bonds pay out lower returns than stocks

Companies can default on your bonds

Bond yields can fall

# Bond Prices + Yields

- Bonds have an **inverse relationship** to interest rates.
- When the cost of borrowing money rises, bond prices usually fall, and vice-versa.
- How it works:
  - Most bonds pay a fixed interest rate that becomes more attractive if interest rates fall, driving up demand and the price of the bond.
  - Conversely, if interest rates rise, investors will no longer prefer the lower fixed interest rate paid by a bond, resulting in a decline in its price.



# Interest Rates

- The interest rate is basically the percentage rate that you pay to somebody who loans you money
- The longer the term of the loan the higher the interest rate because you are taking more risk
- When interest rates go way up it makes it more expensive for people to borrow money, making it more expensive to make large purchases
- The Fed can control certain rates: such as the discount rate (rate that banks borrow money from the Fed)
  - After the recession, the Fed lowered those rates to basically 0 in an effort to stimulate people borrowing and generate economic activity
  - When interest rates are low, people buy stocks instead of bonds because the return is greater. This shifts capital from fixed income into equities

# Interest Rate Market Impact



# What is Inflation?

- Inflation is currently a hot topic and is an important economic concept to understand



# What to Look for in a Stock

- **Growth.** Is the company in a good sector? Is the industry growing? Has it proven that it can grow in that market vs. its competition? Should it continue to grow? Is it well managed to manage that growth?
  - Given the fact that the economy has become one world now, is their product competitive vs. imports and global competition
- You want to find companies that have *good potential for sustained growth*
  - I would want the future growth rate to be higher than the past growth rate
  - You can calculate growth rate by projecting out earnings per share, and dividing that by the current value
- Does the company deliver a good product?
- You want to know whether value you have to pay for the stock is expensive or not
  - I'm looking for a low PE ratio and a high growth rate
  - You want the PE ratio to be at or below the projected earnings growth rate
- You can buy **growth stocks** (good companies that will grow for the next 5-10 years), or you can buy **value stocks** (companies with good intrinsic value today, but at cheap prices)

# Brain teasers

# Brain teasers

- Common in Superdays, but could happen in first rounds
- Boutiques are more likely to ask them, but don't count the BB's out
- The interviewer is trying to see how you solve seemingly impossible problems and how you think under pressure
- Could happen in the beginning to throw you off, in the middle to interrupt a groove, or at the end to make you think you're about to crash
- Not everyone gets these, but just be aware they can happen and have a gameplan if it does

# Different Types

- Math
- Statistics
- Random
- Market Sizing

# Math Questions

- Take percentages: What is 22% of 50?
  - Same as 50% of 22 so the answer is 11.
- Square roots: What is the square root of 4694?
  - Start with what you know.
    - $2 \times 2$  is 4. So  $20 \times 20$  is 400.
    - $30 \times 30$  is 900. Let's speed it up.
    - $60 \times 60$  is 3600.  $70 \times 70$  is 4900. Oh it's between 60 and 70!
    - 4694 is closer to 4900 than it is to 3600 so I'll estimate 68. Answer: 68.512
- What is the angle of the clock hands at 3:16?
  - Know that each minute is 6 degrees.
  - Know that the **hour hand moves too!** 6 degrees every 12 min off of the hour.
  - At 3:15, minute hand is on the 3 exactly, but the hour hand is  $\frac{1}{4}$  the way between 3 and 4. So  $\frac{1}{4}$  of 30 is 7.5.



# Statistics

- Know how to calculate expected values. You'll need these for "fair bet" questions.
  - $EV = (\text{probability})(\text{outcome})$
  - 30% chance of winning \$100...  $EV = 30\$$
- Know how to calculate joint probability. For example, bag of 10 rocks. 6 red, 4 blue. Chance of pulling 2 blue with replacement.
  - Multiply the two together.  $(4/10)*(4/10) = .16$
- Know replacement rules. For example, bag of 10 rocks. 6 red, 4 blue. Chance of pulling 2 blue without replacement?
  - Multiply the two together but be aware of the changing denominators.  $(4/10)*(3/9) = .13$
- Monty Hall Problem

# Example: Monty Hall Problem

In this game, you must choose among three closed doors. One has a surprise car behind it, and two of them have goats behind them.

Do you pick door A, B, or C?

## Example: Monty Hall Problem

I open door [one door that you have not chosen], which has a goat behind it.  
Would you like to switch your door choice to the door which you have neither chosen nor I have opened, or would you like to stay with your door?

# Answer: Monty Hall Problem

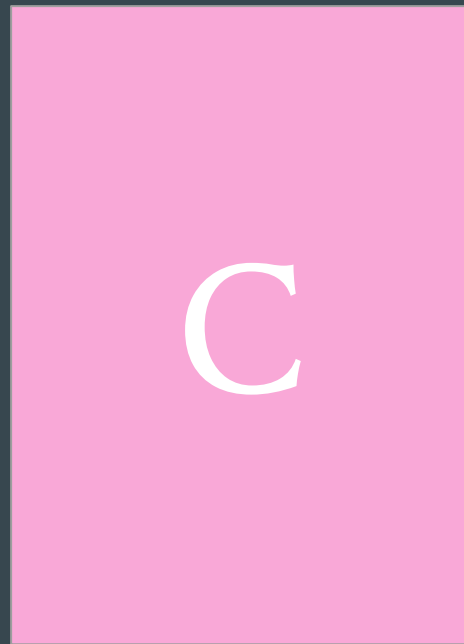
Working through the problem:

- At first, you have a 1 in 3 chance of picking the correct door
- After I open one door among the remaining two doors, you have more information than the initial 1 in 3 choice
- You **SHOULD** switch doors. If you do not switch, you have 1/3rd chance of winning. You can improve your chances to be better than 1/3rd by switching doors

$1/3$



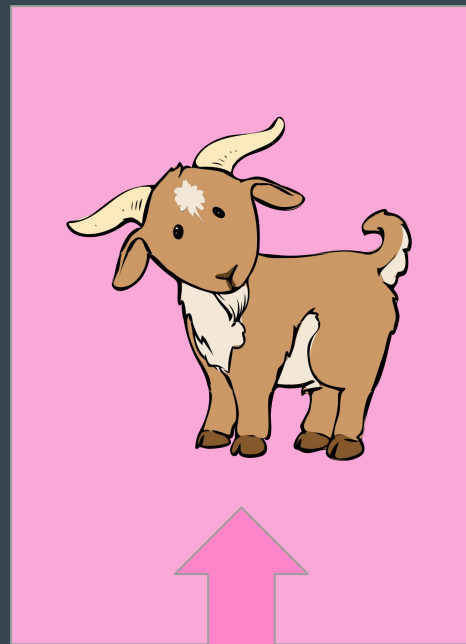
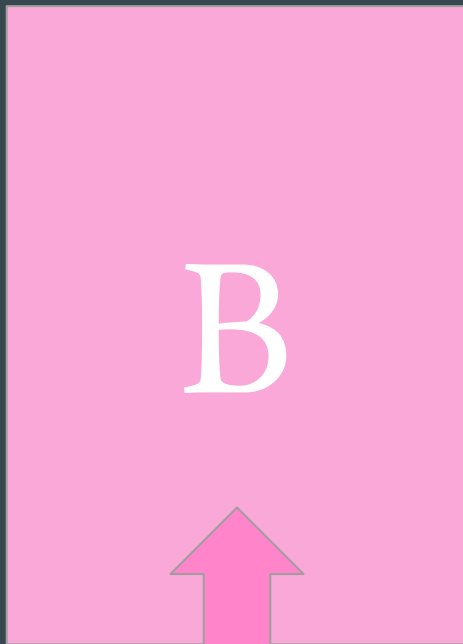
$2/3$



$1/3$



$2/3$



$2/3$



0

## Example 2: 3 Switches, 1 Bulb

There is a lightbulb inside a closet. The door is closed, and you cannot see if the light is on or off through the door. However, you know the light is off to start.

Outside the closet, there are three light switches.

One of the door light switches controls the lightbulb in the closet. You can flip the switches however you want, but once you open the door, you can no longer touch the switches.

How do you figure out which of the three light switches controls the light?

## Answer: 3 Switches, 1 Bulb

1. Flip switch number 1 and wait a few minutes. Flip switch number 1 back to its original position, and then immediately flip switch number 2.
2. Open the door.
3. If the light is on, then switch number 2 controls it
4. If the light is off, then go and feel the bulb with your hand.
  - a. If the bulb is hot, then switch number 1 controls it.
  - b. If the bulb is cold, then switch number 3, the one you did not touch, controls it.



# Random

- Tell me a joke
- Why shouldn't I hire you?
  - Same as 3 weaknesses.
- Why are you here?
  - Same as tell me about yourself.
- Why didn't you go to a business school?
  - Same as why Middlebury?
- Where else are you interviewing? / Where are you in the process?
  - Be honest. It can only help you.
- If we gave you an offer right now, would you take it?
  - Again, be honest.
- Sell me this pen.
- Tell me how to make an omelet.
- What is a leader?
- Tell me something that's not on your resume.
- If you had to find a needle in a haystack, how would you do it

# Market Sizing

# Market Sizing Questions

- Example: “What is the size of the US mattress market, in revenue per year?”
- What are interviewers looking for? Your ability to:
  - Solve problems in a logical, structured way
  - Execute mathematical calculations with accuracy and speed
  - Communicate in a clear, concise, and confident way

# Dimensional Analysis

Example: How many seconds are in one day?

$$\frac{24 \text{ hours}}{1 \text{ day}} \times \frac{60 \text{ min}}{1 \text{ hour}} \times \frac{60 \text{ sec}}{1 \text{ min}} = 86,400 \text{ sec/day}$$

# How to Answer a Market Sizing Question

- 1. Ask clarifying questions
  - Make sure you fully understand what you are being asked to calculate or estimate. You should understand how market size is being defined and understand what types of products should be included and excluded in your calculations.
- 2. Where can we start: Usually want to begin with unit of consumption (i.e. households or people)
- 3. Clearly outline assumptions and make calculations using round numbers
- 4. Sense check your answer

# Things to do:

1. Mock interviews (behavioral + technical)
  - a. Try to start doing at least one or two a week
2. Keep practicing your big three (walk me through your resume, why IB, why X bank?)
3. Continue networking, keep your network updated with updates
  - a. You can use your network to work on preparing— asking a first or second year to give you advice on your answers is a good use of your time!
4. Regularly check your email & Handshake
5. Apply to EVERYTHING!!
6. Practice your technical skills!

Questions?