QUANTITATIVE
FINANCE
SOCIETY

Intro to Valuation

Brain Teaser

You have 2 pieces of rope of different, unspecific lengths, and some matches. Each piece of rope takes exactly and hour to burn, but the burn rate is not constant (could take 59 minutes to burn the first ¼, and 1 minute for the rest). Using only the matches and the rope, is it possible to measure 45 minutes?

Solution: Brain Teaser

Answer:

1. Light both ends of Rope A

2. Light one end of Rope B

3. After 30 minutes have passed (after Rope A is completely gone), light the other end of Rope B

4. When Rope B is gone, 45 minutes will have passed

Thought Exercise

❖ How much would you pay for the Just Salad store? Walk us through how you would determine the value of the shop

What Is Valuation?

❖ Determining how much a business is currently worth

❖ Relies on assumptions of the business

❖ Analyzes historical financials and projects future prospects

❖ No exact number that everyone will agree on

Types of Valuation

❖ 2 Major Types of Valuation

- **Relative Valuation**
    - Values a company by comparing it to other similar companies in the same industry

- **Intrinsic Valuation**
    - Values a company based on how much cash the business can generate

Relative Valuation

What Are You Comparing?

❖ When doing relative valuation, we look for companies that are
- In the same **industry**
- Have similar **business model** / sell similar products
- In the same **geography**
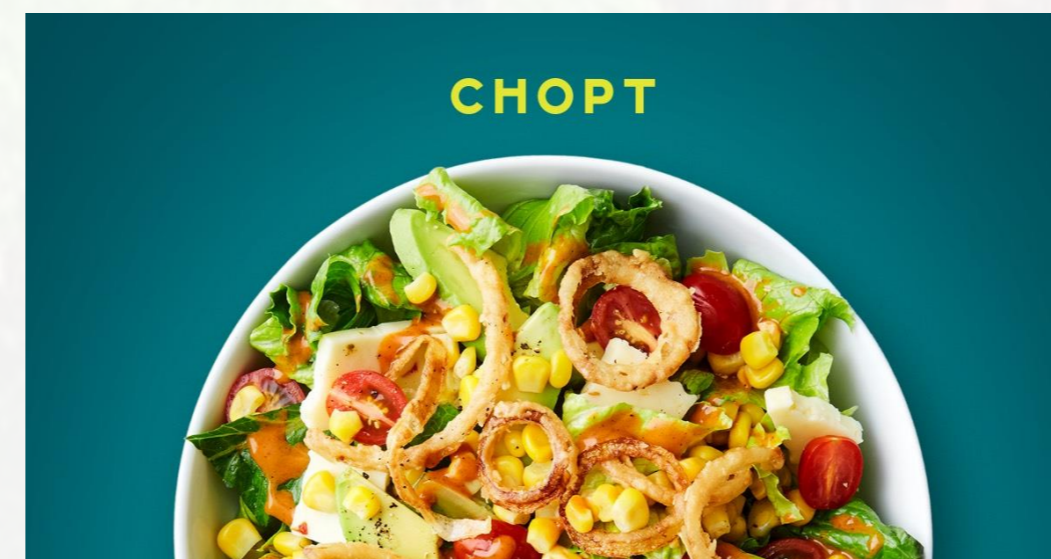- Around the same **size**

Thought Exercise

❖ Back to the Just Salad store:

- What would you compare it to when trying to value it?

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How Do You Compare?

❖ Price that these other businesses are valued at
  • Eg. SweetGreen store is valued at $100,000

❖ Does this mean that the Just Salad should also be valued at $100,000?
  • If not, what are we missing?

Earnings!

❖ Companies from the same industry can have different levels of profitability that we need to consider

❖ If SweetGreen makes $10,000 of Net Earnings, and Just Salad makes $50,000, but they are both valued at $100,000 – is this fair?
  ▪ Just based on this, which one would you rather invest in?

What is a Valuation Multiple?

❖ A ratio of A/B
- A is usually defined as price or value of the business
- B is a financial metric of the company (Revenue, Earnings, etc…)

❖ Price / Net Earnings (P/E Ratio) is the most well-known multiple, but another valuation multiple is much more common

EV/EBITDA

- ❖ Most commonly used multiple in relative valuation

- ❖ Numerator: **Enterprise Value**
  - ▪ Value of the core operating assets of the business
  - ▪ EV = Equity Value + Debt – Cash
    - Considers both the debt and equity investors of a business

- ❖ Denominator: **EBITDA**
  - ▪ Earnings Before Interest, Tax, Depreciation, and Amortization

Example

❖ SweetGreen
- EV = $100
- EBITDA = $20
- EV/EBITDA = ?

❖ Just Salad
- EBITDA = $50
- What should the EV be assuming that the two companies trade at the same multiple?

Comparable Companies Analysis

❖ What you just did is a comparable companies valuation!
  ▪ In practice, you would find the multiple for a group of comparable companies (eg. SweetGreen, Chopt, Fresh&Co) and find the median/mean
  ▪ Can also use other multiples besides EV/EBITDA

❖ Company is worth what the market will pay for it

Precedent Transactions Analysis

❖ Similar to comparable companies analysis except that you use historical transactions
  ▪ Eg. Use a list of salad stores that have been acquired in the past and see at what multiple they were acquired at

Intrinsic Valuation

Intrinsic Valuation

❖ Based on a company's ability to bring in cash

❖ Valuation doesn't reference the market value

❖ Most popular form of intrinsic valuation:
  • Discounted Cash Flow Analysis (DCF)

Time Value of Money

❖ Let's say you are working a job that pays you $100 a week. Would you rather be paid now? Or in a year? Why?

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❖ Now!
- Opportunity Cost! Money received today can be invested and you can earn interest on it.
- Less Risk

Time Value of Money

❖ Money today is worth more than money tomorrow!

Discounted Cash Flow Analysis (DCF)

❖ Value of a firm equals the present value of future cash flows

❖ Values a company based on how much cash it generates in the future
  - Cash generated next year will be worth more than cash generated 5 years from now

Terminal Value

❖ If I asked you, how much cash is Coca Cola going to generate 15 years from now, how well do you think you could estimate?

Terminal Value

❖ Not very well! Do you think Coca Cola is going to go out of business within the next 15 years?

Terminal Value

❖ Value of a business beyond the forecast period when future cash flows can't be estimated

❖ Assumes that a company will grow into perpetuity

❖ Can represent a significant part of the value in a DCF

Reach Out If You Have Questions

Feel free to reach out to us over Facebook or email if you have any questions

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