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Intro to Valuation

Brain Teaser

You have an 11-minute hourglass and a 7-minute hourglass. You need to measure exactly 15 minutes. How do you do it?

There's more than one method, what is the most efficient one?

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Solution: Brain Teaser

Answer:

Flip 11 and 7 at the same times, when 7 runs out, you start your time. After 4 minutes, the 11 runs out and you flip it, combined that is 15 minutes, but it took 22 total minutes to measure.

A faster method is to flip both, but then when the 7 runs out, flip it again. After 4 minutes, 11 total minutes have passed, if you flip the 7 again (4 minutes have passed since first flipped), you can now time 15 minutes in 15 minutes

Thought Exercise

- How much would you pay for Farook’s Halal cart? Walk us through how you would think about this.

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
- Art, not a science

What are the primary types of valuation?

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

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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**

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Thought Exercise

- Back to the Farook's:
    - 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. Halal Cart A store is valued at $100,000

- Does this mean that Farook's should also be valued at $100,000?
    - If not, what are we missing?

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Earnings!

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

- If Halal Cart A makes $10,000 of earnings, and Farook's 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?
  - Why do you think we can see such a drastic difference between two companies in the same industry?

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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

- One of the most used multiples 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

- Halal Cart A
  - EV = \$100
  - EBITDA = \$20
  - EV/EBITDA = ?

- Farook's
  - 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 (other Halal carts) 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 halal carts that have been acquired in the past and see at what multiple they were acquired at

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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?

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?

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

Parts of a DCF

- Projection Period
  - Why can’t we project forever?
  - Project out FCF during projection period based on business analysis

- Terminal Value
  - Gordon Growth Method
  - Multiples Method

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

Formula for FCF

Revenue
(-) COGS
Gross Profit
(-) Operating Expenses
EBIT
(-) Cash Taxes
(+) Depreciation
(-) Changes in Net Working Capital
(-) Capital Expenditures
Unlevered Free Cash Flow

Financial Projections

- How would you go about projecting revenue for Farook's? What factors would you consider?
- How would you project costs?
- At its core you are projecting out Revenues * Margins
- Then adjusting for FCF conversion from EBIT or EBITDA
  - CapEx
  - NWC
  - Tax

Top-Down vs Bottom-Up

- ❖ Top-Down Projection
- ❖ Bottom-Up Projection

Top-Down vs Bottom-Up

- ❖ Top-Down Projection
  - ❖ TAM * Market Share

- ❖ Bottom-Up Projection
  - ❖ Units sold * Price per unit

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Farook’s Revenue Projection

- Top-Down
  - TAM -
  - Market Share –

- Bottom-Up
  - Units Sold -
  - Price Per Unit -

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Farook's Revenue Projection

- Top-Down
  - TAM
    - Total $ spent on Halal food in union square area
    - Adjust for future price increases as well
  - Market Share – Current market share adjusted for your expected changes

- Bottom-Up
  - Units Sold – Project out future units sold
  - Price Per Unit – Project out future price increases and mix shifts

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Operating Leverage

- Fixed vs. Variable Costs
- If I have $100 in revenue, and $50 in costs, profit of $50

- Revenue increases 10%
- If all my costs are fixed what happens to profit?
- How about if they are variable?

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FCF Conversion

- If EBIT is $100, and FCF is $60
- What is FCF conversion?

- Think back to the formula
- The primary factor here is CapEx
- Maintenance CapEx
  - CapEx to maintain the cart for Farook
- Growth CapEx
  - CapEx if Farook plans on building a new cart somewhere else

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

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Discount Rates

- Typically **weighted average cost of capital**
  - Reflects TVM, risk, and required rate of return

- Measured by weighted average **cost of equity** and **cost of debt**

Ways to Project Terminal Value

- **Multiple method:** Apply a multiple to final year's projection of EBITDA
- **Gordon Growth Model:**

$$\text{GGM} = \frac{Do(1+g)}{ke-g}$$

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How Are the Two Methods Connected?

- Farook produces $20k per year in EBITDA and $10k per year in FCF
- Multiples Method: Comparable Halal Carts to Farook in 5 years are being valued at 10x EBITDA
- This implies valuation of 200k for Farook in 5 years
- Gordon Growth Method: To get to 200k in valuation with 10k in FCF, at an 8% discount rate, what is the implied growth rate?

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Get in Touch

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