Fundamentals - Review

Tying together accounting, business quality, and valuation

TBC New Member Education 2020—Week 4

Investing Fundamentals

Investment Decisions
(Week 6)

Business Quality (Week 2)	**Valuation (Weeks 3 + 5)**	**"Special Situations" (Mostly not Covered)**

Accounting
(Week 1)

Accounting

Accounting is the foundation on which everything else is based

It allows us to understand…

- How a business is operating (**business quality**)
- How much a business is worth (**valuation**)
- Whether there's anything weird going on ("**Special Situations**")

Investing Fundamentals

Investment Decisions
(Week 6)

Business Quality

(Week 2)

Valuation

(Weeks 3 + 5)

"Special Situations"

(Mostly not Covered)

Accounting
(Week 1)

<u>Business Quality</u>

- How good is the company at producing an economic profit?
  - ROIC vs Cost of Capital
- Will the company continue to earn economic profits in the future?
  - Competitive Analysis

<u>Valuation</u>

- How much are the company's profits worth?

Generally, **we're looking to buy high-quality businesses for cheap**

Investing Fundamentals

Investment Decisions (Week 6)

Business Quality

(Week 2)

Valuation

(Weeks 3 + 5)

"Special Situations"

(Mostly not Covered)

Accounting (Week 1)

"Special Situations"

Weird situations that influence our decisions about whether to invest in a company

Examples:

- A business is fundamentally sound and should be valuable in the long-run but is facing liquidity problems in the short-run
- A business seeks to spin-off a set of assets it believes are being undervalued
- An unappreciated clause in a contract makes a business much more valuable

Investing Fundamentals

Investment Decisions (Lecture 6)		
Business Quality **(Lecture 2)**	**Valuation** **(Lectures 3 + 5)**	**"Special Situations"** **(Mostly not Covered)**
Accounting (Lecture 1)		

Investment Decisions

Once we understand the quality of a business, how much it is worth, and whether there is anything weird going on, we can make a decision about whether to invest in it

Because investing is hard, and you'll be overwhelmed with information when trying to make investment decisions, it is important to have a philosophy towards investing that you believe in

- For us: **Value Investing**

Accounting I

Question 1

A company purchases $50 in inventory from a supplier, 50% of which is paid for with cash and 50% of which is bought with credit. The company additionally purchases a new factory for $200, the entirety of which is paid for with cash. What is the effect on the company's shareholder's equity?

Accounting I - Answer

Shareholder's equity remains unchanged

Factory Purchase

1. Buying a factory is a capital expenditure, so it's expensed over time (through D&A) instead of at the time of purchase
2. As no expense is recorded, shareholder's equity remains unchanged

Inventory Purchase

1. Inventory is expensed (as COGS) at the time that it's sold, not at the time of purchase
2. As no expense is recorded, shareholder's equity remains unchanged

Accounting II

Question 2

A company receives $100 in cash from a customer as advance payment for a product. The company doesn't intend to provide this product (or anything relating to it) to the customer for another six months. Which of the three financial statements does this affect?

Accounting II - Answer

Balance Sheet and Cash Flow Statement

Balance Sheet

- The company's cash increases by $100
- The company records a $100 deferred revenue liability to match the increase in cash

Cash Flow Statement

- The company's increase in its deferred revenue is added to net income to get to Cash From Operations (CFO)
- Consequently, CFO increases by $100

Income Statement

- The company can't record the revenue until they actual provide their customer product, so the income statement remains unchanged

Accounting III

Question 3

A company's depreciation increases by $10. Assume a tax rate of 20%. What is the effect on the company's cash from operations (CFO)?

Accounting III - Answer

CFO increases by $2

Income Statement

1. The $10 increase in depreciation decreases pre-tax income by $10
2. Given the 20% tax rate, the company's taxes paid are $2 lower than they were previously
3. These two changes net out to an $8 decrease in net income

Cash Flow Statement

1. The $8 decrease in net income flows into the top of the cash flow statement
2. To calculate CFO, we add back the $10 increase in depreciation (because it's a non-cash expense)
3. The net result is a $2 increase in CFO

Overview of a Company

We can use "market value balance sheets" to understand the structure of a company

Assets	Claims on Assets
Market Value of Non-Operating Assets *(Cash, Marketable Securities, etc.)*	Market Value of Debt
Market Value of Operating Assets ***("Enterprise Value")***	Market Value of Equity ***("Market Capitalization")***

This represents the value of the firm's operations – it is the **output of a DCF**

This represents the value of the firm's stock – it is **what we actually invest in**

Leverage

Question 4

A company announces sales numbers which beat estimates. As a result, you redo your DCF for the company and find that your estimate of its enterprise value has increased by 10%. About how much would you expect the company's stock to increase in value by?

Leverage (take two)

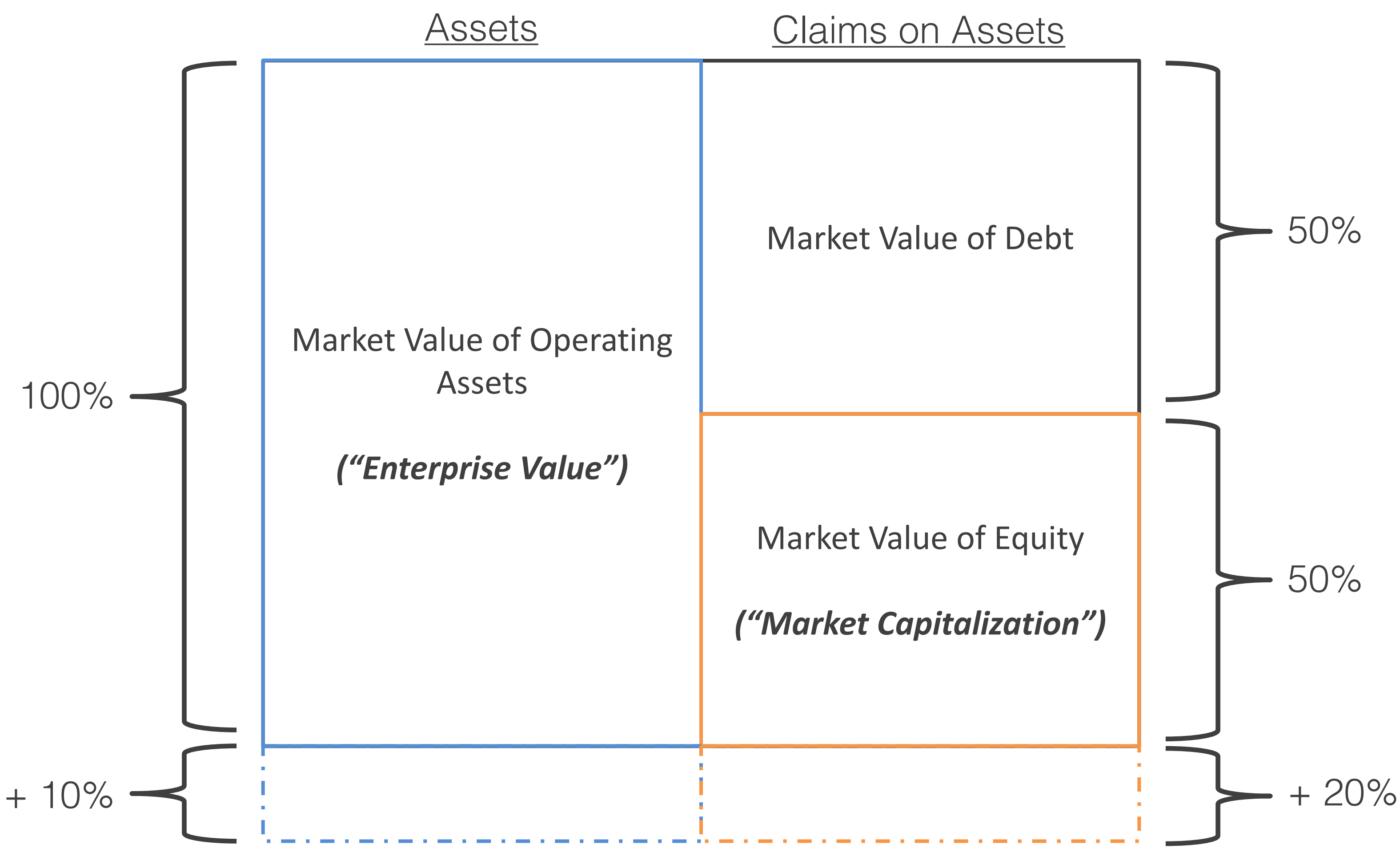
Question 5

A company announces sales numbers which beat estimates. As a result, you redo your DCF for the company and find that your estimate of its enterprise value has increased by 10%.

Additionally, you know that the company has no cash or other non-operating assets and is 50% levered (i.e. Market Value of Total Debt = Market Value of Equity).

About how much would you expect the company's stock to increase in value by?

Leverage - Answer



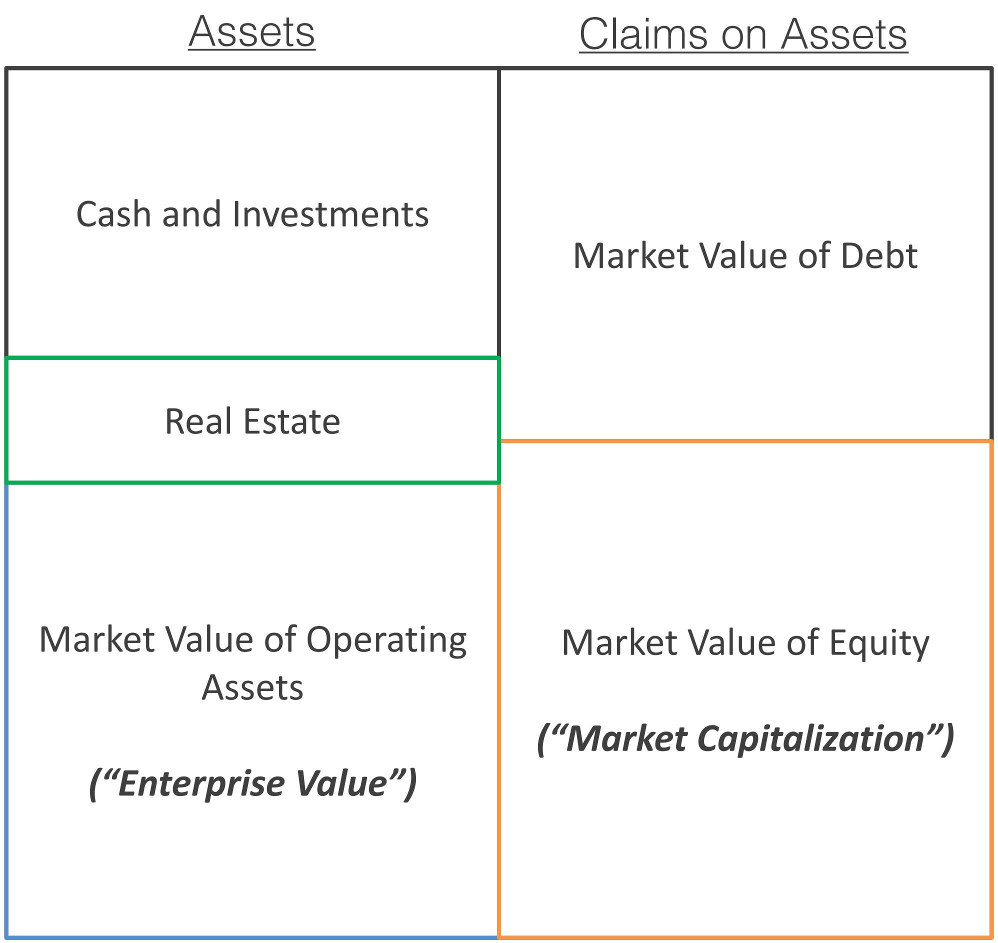
Enterprise Value #1

$$\underbrace{\text{Enterprise Value}}_{\text{DCF Output}} + \underbrace{\text{Cash and Investments} - \text{Total Debt}}_{\text{Subtract Net Debt}} = \text{Market Cap}$$

Question 6

Suppose a company owns a valuable piece of real estate which it doesn't currently use in its operations. How would you account for this real estate when converting from enterprise value to market cap?

Enterprise Value #1 - Answer



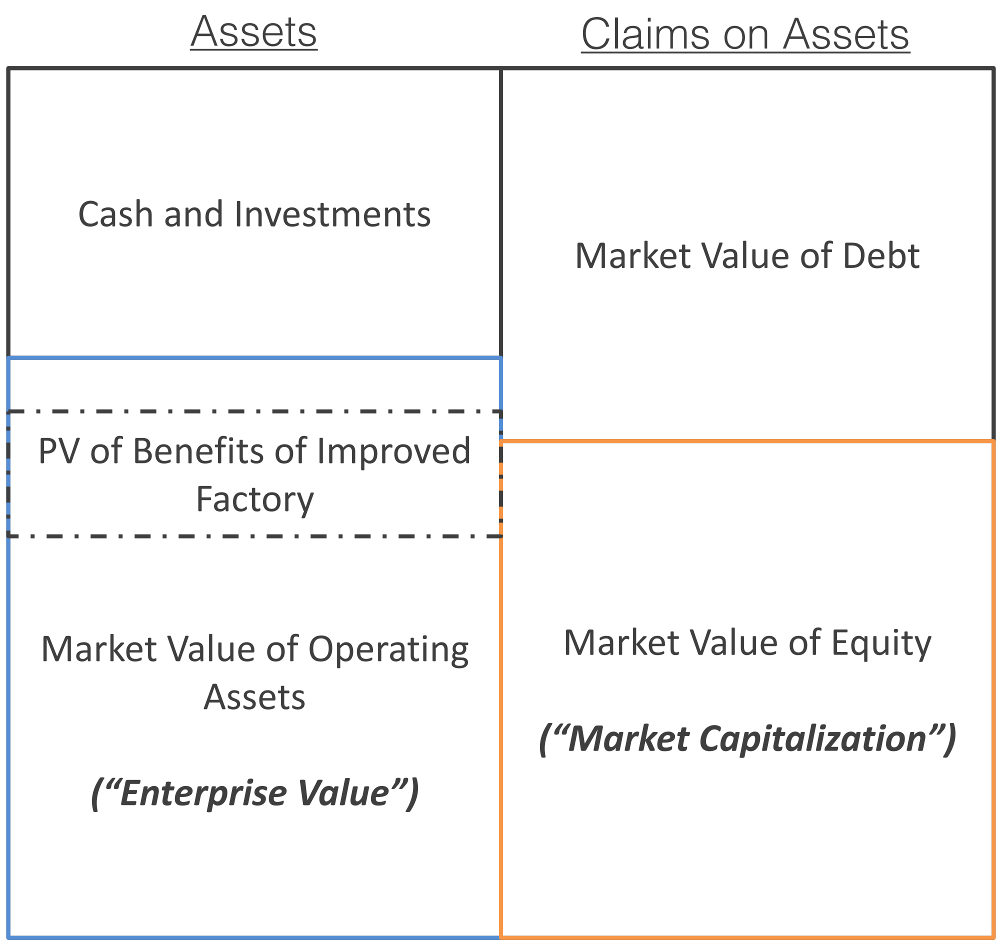
Enterprise Value #2

$$\underbrace{\text{Enterprise Value}}_{\text{DCF Output}} + \underbrace{\text{Cash and Investments} - \text{Total Debt}}_{\text{Subtract Net Debt}} = \text{Market Cap}$$

Question 7

Suppose a company has a factory which recently became much more productive. As a result, you think the factory is more valuable to the company than is reflected by its book value. How would you account for this factory when converting from enterprise value to market cap?

Enterprise Value #2 - Answer



Enterprise Value #3

$$\underbrace{\text{Enterprise Value}}_{\text{DCF Output}} + \underbrace{\text{Cash and Investments} - \text{Total Debt}}_{\text{Subtract Net Debt}} = \text{Market Cap}$$

Question 8

Preferred stock is a class of ownership in a corporation that has a higher claim on its assets and earnings than common stock. Owners of preferred stock are generally paid a fixed dividend. How would you account for preferred stock when converting from enterprise value to market cap?

Enterprise Value #3 - Answer

Assets	Claims on Assets
Cash and Investments	Market Value of Debt
Market Value of Operating Assets ***(“Enterprise Value”)***	Market Value of Preferred Stock
	Market Value of Equity ***(“Market Capitalization”)***

What do we care about?

The bulk of our research as fundamental investors centers on trying to understand a company's business

Two main things to talk about

1. **Business Quality** - What makes a good business? (Lecture 2)
2. **Valuation** - How much is a business worth? (Lecture 3)

We like to invest when we find inconsistencies between business quality and valuation:

- A great business selling for a moderate price
- A decent business selling for cheap

ROIC

Question 9

Company A has an ROIC of 10%. Company B has an ROIC of 20%. You're interested in the rate at which each company can increase the intrinsic value of its business. From this perspective, which company is better?

(You can assume that ROIC is constant, so that competitive analysis doesn't play a role in your answer)

ROIC (take two)

Question 10

Company A has an ROIC of 10% and can reinvest 100% of earnings back into the business. Company B has an ROIC of 20% and can reinvest 50% of earnings back into the business. You're interested in the rate at which each company can increase the intrinsic value of its business. From this perspective, which company is better?

(You can assume that ROIC is constant going forward, so that competitive analysis doesn't play a role in your answer)

ROIC - Answer

A high ROIC is only useful if a company can take advantage of it by reinvesting in the business at that rate of return

$$\text{Intrinsic Value Compounding Rate} = \text{ROIC} \times \text{Reinvestment Rate}$$

Question 11

Using the same companies from the previous question: Company A has a WACC of 8%; Company B has a WACC of 10%. Which company would you rather own?

(Ignore the price you would have to buy it at)

Economic Profit - Answer

The rate at which a business can compound its intrinsic value isn't the only thing that matters. We also care about the opportunity cost of tying up capital in that business.

$$\text{Economic Profit} = \underbrace{\text{Return on Capital}}_{\text{ROIC or ROE}} - \underbrace{\text{Cost of Capital}}_{\text{WACC or CoE}}$$

Question 12

Why do we care about a business' competitive positioning? Doesn't ROIC, reinvestment rate, and cost of capital tell us everything we need to know about the quality of a business?

What makes a good business?

Which is a better business?

Question 13: Hermès vs Under Armour

Question 14: Spotify vs Fox

What makes a good business?

Hermes vs. Under Armour

Hermes: ROIC of 25% - 30%; consistent growth driven by price increases; recession resilient

Under Armour: Historical ROIC in low-mid teens (recently negative); consistent growth until last couple of years

Spotify vs. Fox

Spotify: Record labels have too much leverage; potential for switching costs to arise from playlists/personalization (but not really there yet)

Fox: High-value content; Historical ROIC in mid-teens

Valuation I

In each scenario, would the enterprise value of the business increase, decrease, or stay the same?
(Assume all unmentioned variables remain constant)

Question 15

A company records an impairment charge to the goodwill associated with a past acquisition, finally acquiescing to the widely held market view that the company overpaid for the acquisition.

Valuation I - Answer

- A company's enterprise value is the **market value** of its operating assets
- The market view of the company's operating assets hasn't changed, so there's no reason to expect its enterprise value to have changed

Valuation II

In each scenario, would the enterprise value of the business increase, decrease, or stay the same?
(Assume all unmentioned variables remain constant)

Question 16

The company's WACC increases.

Valuation II - Answer

$$\text{DCF Value} = \sum_{t=1}^{\infty} \frac{\text{CF}_t}{(1+r)^t}$$

Valuation III

In each scenario, would the enterprise value of the business increase, decrease, or stay the same?
(Assume all unmentioned variables remain constant)

Question 17

The uncertainty surrounding the company's cash flows increases.

Valuation III - Answer

$$\text{Cost of Debt} \approx \underbrace{\text{Risk-Free Rate}}_{\text{Govt. Bond Yield}} + \underbrace{\text{"Credit Premium"} + \text{Risk Premium}}_{\text{Credit Spread}}$$

$$\text{Cost of Equity} = R_f + \beta \cdot (R_m - R_f)$$

$$\text{WACC} = R_d \cdot \frac{D}{D+E} \cdot (1-t) + R_e \cdot \frac{E}{D+E}$$

Valuation IV

In each scenario, would the enterprise value of the business increase, decrease, or stay the same?
(Assume all unmentioned variables remain constant)

Question 18

The expected growth rate in the company's free cash flows increases.

Valuation IV - Answer

$$\text{DCF Value} = \sum_{t=1}^{\infty} \frac{\text{CF}_t}{(1+r)^t}$$

Valuation V

In each scenario, would the enterprise value of the business increase, decrease, or stay the same?
(Assume all unmentioned variables remain constant)

Question 19

The company reinvests more into the business and grows operating income at a faster rate as a result.

Valuation V - Answer

By reinvesting to accelerate growth, the company trades cash now for cash in the future

$$\text{FCFF} = \underbrace{\text{EBIT} \cdot (1 - t)}_{\text{NOPAT}} + \underbrace{\text{D\&A} - \text{Capex} - \Delta\text{NWC}}_{\text{Net Reinvestment}}$$

Question 20

A company chooses to reinvest in its business in order to grow operating income faster. When will this reinvestment increase the enterprise value of the company?

Valuation – High-Level Approach

Three Basic Principles of Valuation

Valuations increase when…

1. Discount rates are lower
2. Growth in free cash flows is higher
3. Net reinvestment (given a fixed amount of growth) is lower

ROIC (or ROIIC) tells us how much growth we get per unit of reinvestment

> Competitive analysis tells us how a company is able to maintain a high ROIC

Q&A