Week 5 – Enterprise and Equity Value

Investment Banking Recruiting

October 4, 2024

IBR
Brigham Young University
SINCE 2015

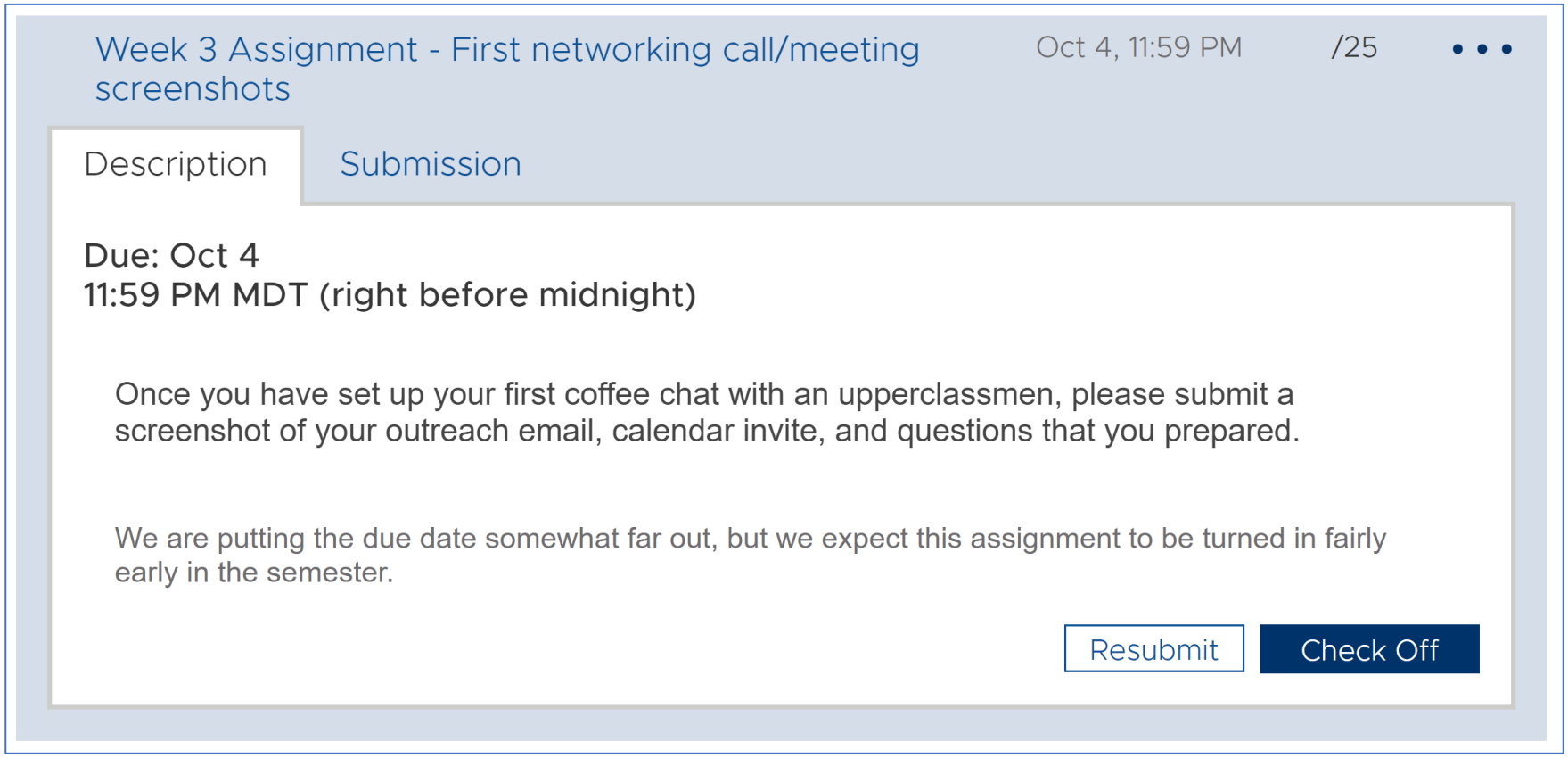
Reminder: upcoming event

Join us at the Muirhead's home for an afternoon of socializing, snacks / desserts, and stories. Brandon and his wife will be sharing their experiences from their banking days as a married couple, raising kids, and being active members of the Church.

Date: Sunday, October 13th, 3:30 - 5:00 PM (tentative)

Location: 13243 S Aintree Ave, Draper, UT 84020

Reminder: networking assignment



Current IBA News

A few reminders about resumes

****Common Errors to Address:****

- No LinkedIn profile at the top.
- Home address missing at the top.
- Bullets and margins not aligned with the template.
- Months not properly abbreviated.
- Recent internships lacking sufficient detail (should have more bullets than older ones).
- High school information (clubs, sports, etc.) get rid of it—only leave ACT scores or Eagle Scout.
- ACT scores under 30 listed (remove them).
- For incoming internships, include a bullet describing expected responsibilities.
- Lines should extend close to the end (2-3 spaces away, not 2-3 words).
- For remote internships, indicate "(Remote)" after your role and list the location of your employer.
- All files should be named in the format: `Last, First` (e.g., `Foulger, Thomas`) without any download numbers.

Question 1:

Assuming a 40% tax rate, walk me through 3 statements with a: $100 increase in stock-based compensation.

Answer 1:

IS: Pre tax income down $100, assuming 40% tax rate, NI down $60.

CFS: NI down $60, $100 stock based comp added back since non cash under CFO, Net cash up $40

BS: Assets up $40 (cash up $40), Equity up $40, (RE down $60, Stock based comp up $100)

Question 2:

Assuming a 20% tax rate, walk me through 3 statements with a: $80 interest expense (50% cash interest / 50% PIK interest) and $40 interest income.

What is PIK Interest?

PIK Interest, or "Paid-in-Kind" interest, is a feature of debt that allows interest expense to be accrued for a set number of years, rather than be paid in cash in the current period.

In exchange for the deferred payout of the cash interest expense and the borrower retaining the cash for additional time, the debt principal coming due on the date of maturity increases.

Answer 2:

IS: Pre tax income down $40, assuming 20% tax rate, NI down $32

CFS: NI down $32, $40 PIK interest added back since non cash under CFO, Net cash up $8

BS: Assets up $8 (cash), Liabilities up $40 (PIK), Equity down $32 (RE)

Question 3:

Assuming a 30% tax rate, walk me through 3 statements with

a: $20 decrease in Deferred Revenue

Answer 3:

IS: $20 decrease in Deferred Rev means a $20 increase in Rev, Pre Tax income up $20, assuming 30% tax rate, NI up $14

CFS: NI up $14, $20 decrease in Deferred Rev lowers CFO, Net cash down $6

BS: Assets down $6 (cash), Liabilities down $20 (DR), Equity up $14 (RE)

Question 4:

MULTI-STEP: Assuming a 20% tax rate, walk me through 3 statements with a:

You raise $100 debt with 5% interest and 10% yearly principal repayment. You use that money to purchase $100 of short-term assets that have 10% yearly interest income attached.

Part 1) Right when you raise the debt and purchase short term assets, walk me through the 3 statements.

Part 2) After one year, walk me through the 3 statements.

Answer 4:

Step 1:

IS: No change CFS: CFF: up $100 due to debt,

CFI: lowered $100 due to asset purchase

BS: Assets up $100, Liabilities up $100

Step 2:

IS: Pre tax income up $5, assuming 20% tax rate, NI up $4

CFS: NI up $4, CFF down $10 due to principal repayment, net cash down $6

BS: Assets down $6 (cash), Liabilities down $10 (LTD), Equity up $4 (RE)

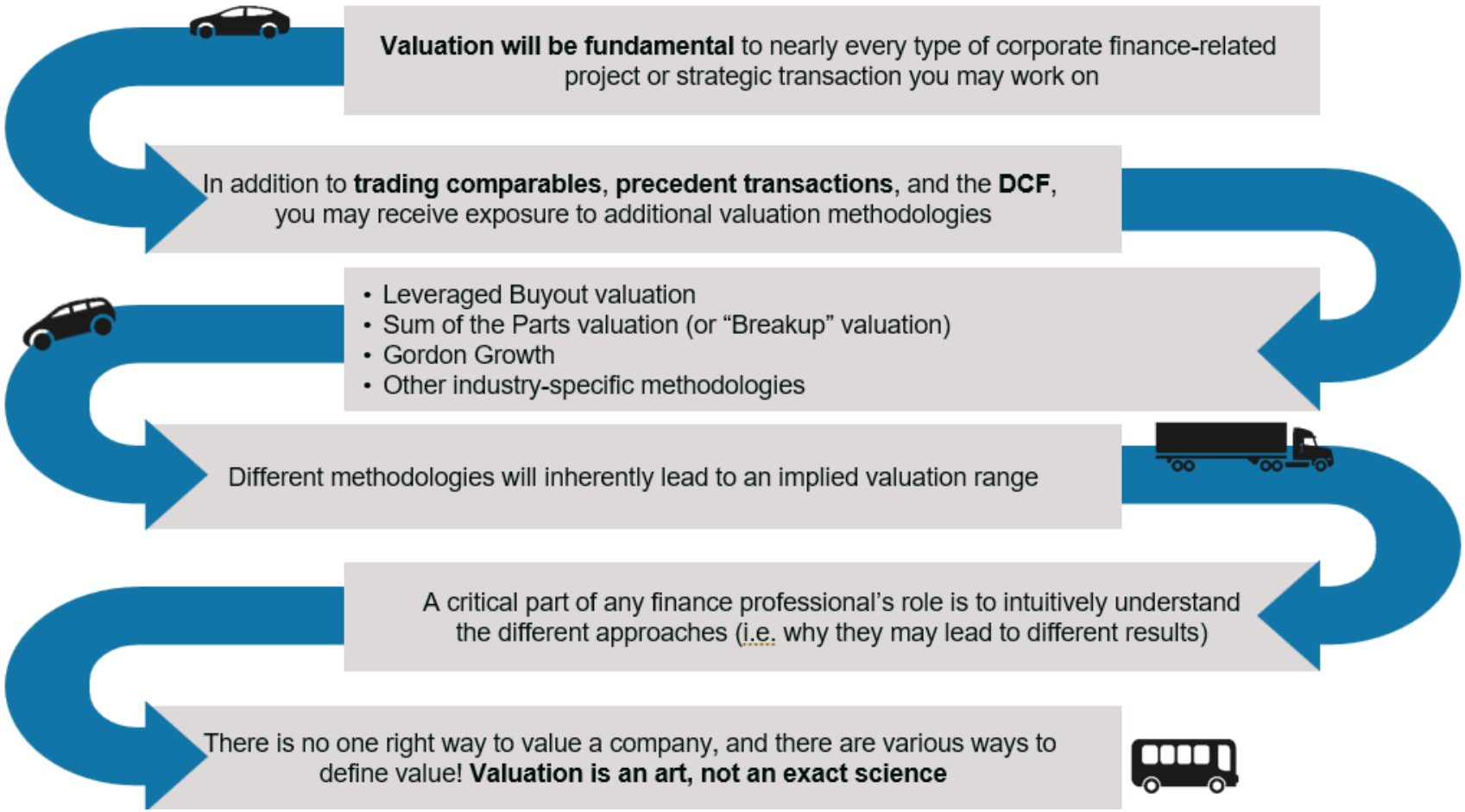
Table of Contents

Who's Been Paid

In the world of finance, you will often hear the word levered used to describe whether the impacts of capital structure have been taken into consideration when looking into cash flows, multiples, and valuation

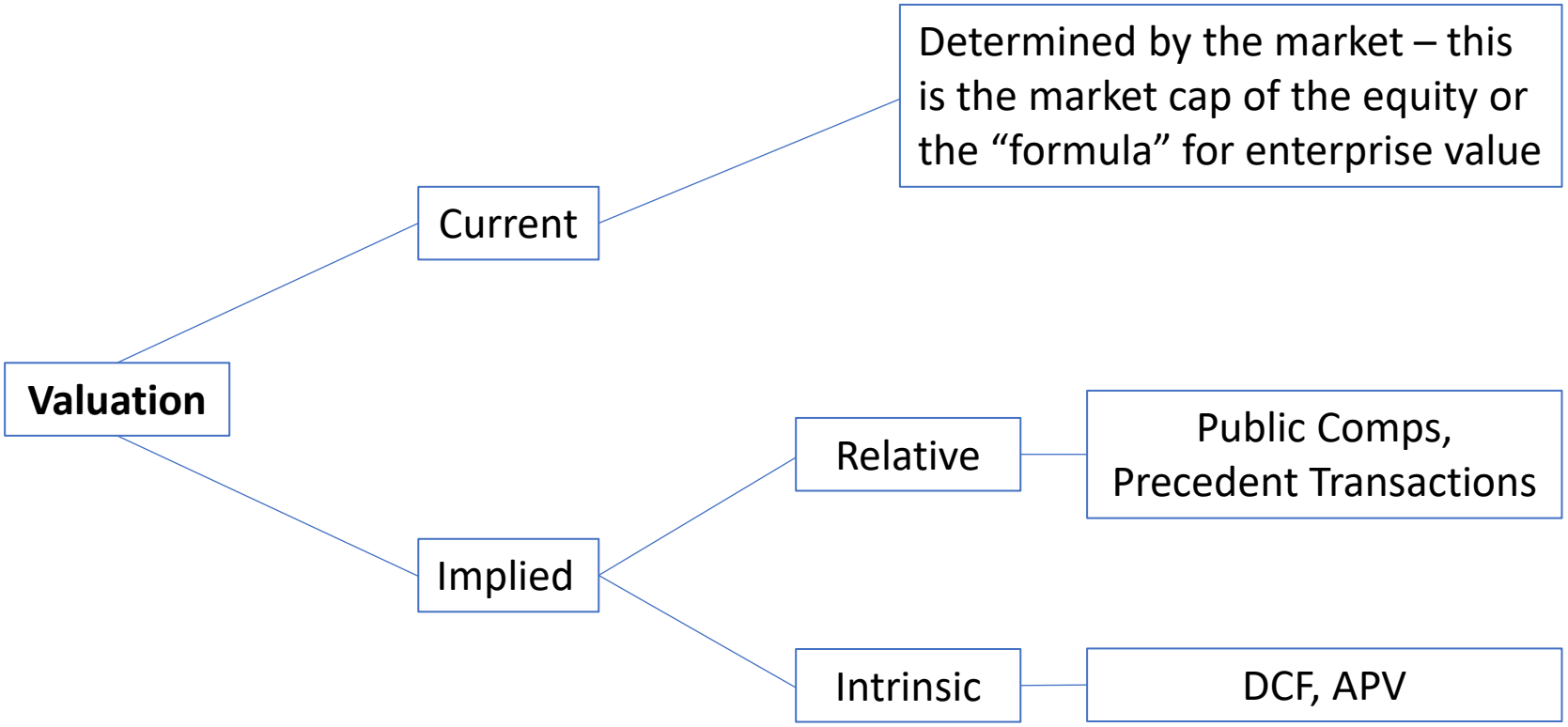
Unlevered	**The impacts of capital structure have not yet been considered** FCFF (UFCF) = NOPAT + D&A – NWC – Capex EV Multiples
Levered	**The impacts of capital structure (financial leverage), including the payment of interest, have been considered** FCFE (LFCF) = NI + D&A – NWC – Capex – Net Borrowing Equity Value Multiples

Valuation Roadmap



Current vs Implied Valuation

The most effective tool for valuing an asset is a financial market – analysis made by an investment banker seeks to represent value on either a relative or intrinsic basis to cross check market valuations and value private firms



Company Value

$$DCF = \sum_{t=1}^{N} \frac{CF_t}{(1+r)^t}$$

How do you measure company value?

- Does it refer to what **the market** believes a company is worth? Or does it refer to **our opinion** of what the company is worth?
- Does value include all the company's assets or just those related to its core business?
- Does value refer to **certain** investors, or **all** investors?

Enterprise and Equity Value

Enterprise Value	**The value of a company's core business operations to all the investors and creditors in the company**
Equity Value	**The value of a company's net assets attributable to the equity holders – also known as the market capitalization of the firm**

Finding Enterprise and Equity Value

Over the course of the class, we will explore different "valuation methodologies" that are used to determine a firm's enterprise and/or equity value – Intrinsic Valuation (DCF, APV) and Relative Valuation (Comps, Precedents)

Approach	Definition/Application	Benefits	Considerations
Intrinsic 	• Valuation based on a company's potential future free cash flow generation • **Discounted Cash Flows**	• Directly linked to traditional academic theory • Useful if there are limited comparable companies or precedent M&A deals	• Subject to assumptions used to project future FCF • FCF projections may differ from those implied by current public markets
Relative 	• Valuation based on how a company compares relative to its peers • **Trading Comps or Precedent Transactions**	• Provides a benchmark to determine market value • Reflects the current public market valuation and overall sentiments	• Can be distorted by several items (market volatility) • Not based on fundamental FCF generation • Depending on industry, universe of comparable comps may be limited

Valuation in Everyday Life

As an investment banker, you will lean on your understanding of valuation in advisory role in the M&A process; however, examples of valuation exist all around you in the world

Valuation and Asset Example

1 Market Value

When selling an asset, both the buyer and seller care about the **market value**. While the original cost (**book value**) is a consideration to the seller, current market value will drive the decision to sell

2 Enterprise Value

When considering buying an asset, the buyer cares about the **total value of the core asset** (including any part of that value which may be funded by a loan or mortgage)

3 Equity Value

While a home or car-owner's ability to build **Equity Value** in the asset over time is important, the total value of the asset is of greater importance

4 Relative Valuation

When considering the purchase or sale of an asset, buyers and sellers frequently rely upon sales of comparable homes or cars as the basis for valuation

5 Intrinsic Valuation

While used less frequently, one could also consider the present value of potential future income from renting or leasing a house or car

Valuation Use Cases

The valuation methodologies discussed in coming weeks will not only be useful to you in your career as an investment banker, but also in related fields such as private equity, asset management, corp dev, etc.

Valuation Type	Who Uses It	What It Determines	Why It's Useful
Equity Value Multiples	**Retail Investors**	• Common Equity Value • Relative Valuation	• Easy to calculate and understand based on readily available info.
Enterprise Value Multiples	**Sophisticated Investors**	• Value of the Enterprise (or Firm), from which Equity Value can be calculated • Relative Valuation	• Free of capital structure decisions • Reflects firm value as opposed to value only for equity investors • Driven by current market sentiment
DCF	**Sophisticated Investors and Academics**	• Fundamental Firm value based on projected future cash flows • Intrinsic Valuation	• Not subject to market abnormalities • Fundamental driver of value
Levered Value	**Financial Sponsors**	• How much debt can a company support to help fund a sale to a Private Equity investor? • Intrinsic Valuation	• To estimate the total value a financial sponsor can pay to acquire control of a business

Table of Contents

Enterprise value

- The enterprise value is a capital structure-neutral metric that measures the value of a company's operations to all stakeholders, including equity and debt capital providers.

- The enterprise value facilitates fair, "apples to apples" comparisons between companies because the metric is more capital structure independent, i.e. less affected by differences in the mixture of debt and equity.

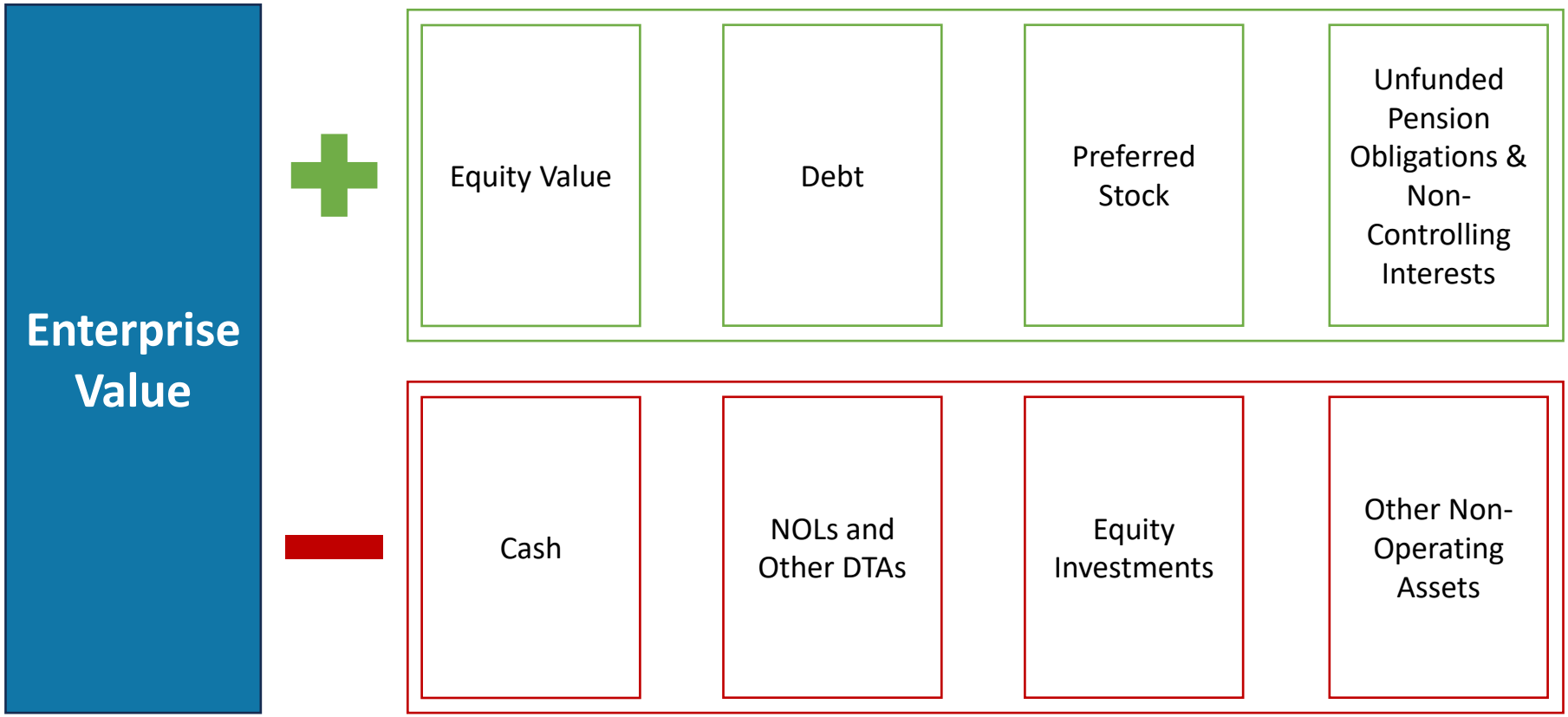
Enterprise Value (TEV) = Equity Value + Net Debt + Preferred Stock + Minority Interest

Where:

Net Debt = Total Debt – Cash and Cash Equivalents

Solving For Enterprise Value from Equity Value

Solving for enterprise value can be done either by converting from market cap or by using intrinsic/relative valuation methodologies – both provide insight into the value of the businesses core operations to all investors



Enterprise value

Equity Value vs. Enterprise Value (cont'd)

- Enterprise value: value of the operating business (operating assets minus operating liabilities).

Enterprise value

Enterprise value: largely capital structure neutral

- Let's think about buying a house as an example:
  - The house costs $500k to buy
  - You pay for the $500k house with $100k from your bank account plus a $400k mortgage

This is the value of the house (the **enterprise value**)

This is the **debt value** of the house

This is how much your **equity value** is worth: how much you would get if you sold the house tomorrow

Why EV isn't really capital structure neutral

- Cost of equity, will rise as more debt is issued because it means higher risk for common shareholders
- The company stands a higher chance of going bankrupt, which increases the risk for all the investors
- Instead of saying, "Enterprise Value stays the same regardless of capital structure, but Equity Value changes as the capital structure changes," it's better to think of it as:
  - **"Enterprise Value is less affected by capital structure than Equity Value."**

Debt / Total Capital	Debt / Equity:	Relevered Beta:	Risk Spread:	Cost of Debt: Pre-Tax:	Cost of Debt: After-Tax:	Cost of Equity:	Implied WACC:	"Accounting" Enterprise Value:	Implied Enterprise Value:
–	–	0.72	1.0%	2.2%	1.6%	4.9%	4.9%	$14,852.4	$15,068.8
10.0%	11.1%	0.78	1.5%	2.7%	2.0%	5.2%	4.9%	14,852.4	15,080.6
20.0%	25.0%	0.85	2.0%	3.2%	2.4%	5.6%	5.0%	14,852.4	15,008.0
30.0%	42.9%	0.95	2.5%	3.7%	2.8%	6.1%	5.1%	14,852.4	14,852.4
40.0%	66.7%	1.08	5.0%	6.2%	4.6%	6.8%	5.9%	14,852.4	13,983.4
50.0%	100.0%	1.26	6.0%	7.2%	5.4%	7.7%	6.6%	14,852.4	13,357.6
60.0%	150.0%	1.53	7.0%	8.2%	6.1%	9.1%	7.3%	14,852.4	12,630.3
70.0%	233.3%	1.98	8.0%	9.2%	6.9%	11.5%	8.3%	14,852.4	11,827.0
80.0%	400.0%	2.88	9.0%	10.2%	7.6%	16.1%	9.3%	14,852.4	10,973.6
90.0%	900.0%	5.57	10.0%	11.2%	8.4%	30.1%	10.6%	14,852.4	10,095.1

The company gets riskier and riskier for *all* investors as it takes on more Debt.

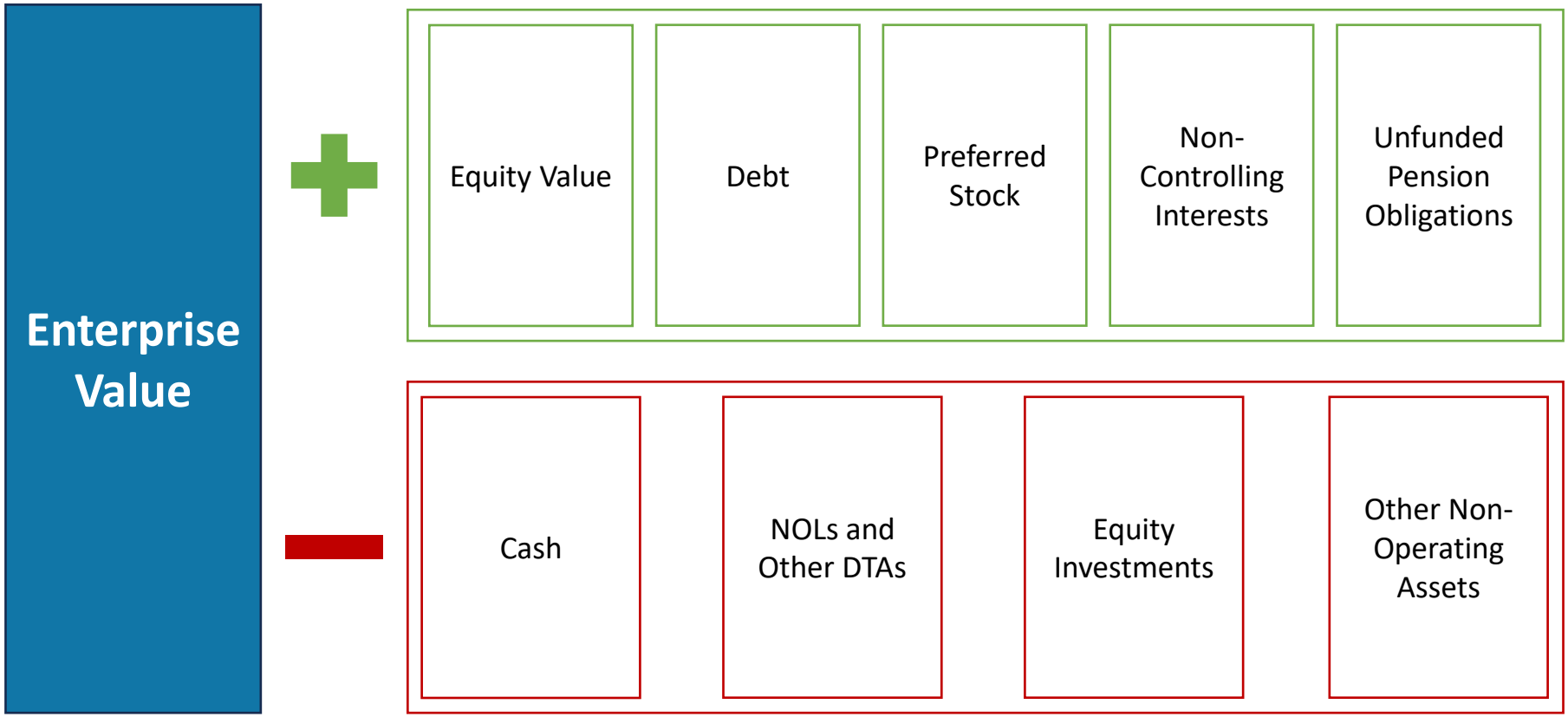
Initially, the Discount Rate decreases (or stays about the same) as the company uses more Debt, but past a certain point, more Debt starts to *increase* risk and therefore *increases* the Discount Rate.

If you pretend that the Discount Rate does NOT change as the company uses more Debt, you get these results.

But in reality, the Discount Rate WILL change, so these results are more accurate.

Solving For Enterprise Value from Equity Value

Solving for enterprise value can be done either by converting from market cap or by using intrinsic/relative valuation methodologies – both provide insight into the value of the businesses core operations to all investors



Why is equity value added?

- Equity value is net assets, or total assets – total liabilities
- Captures the net value of all operating assets (the things we want to include in EV, as well as non-operating assets such as cash and equity investments)
- The things we will go on to subtract will rectify all of the non-operating items in equity value

Why is debt added?

- Enterprise value can be seen as the value of the operations of a business or the cost of acquiring the operations of the business
- Terms of debt agreements usually say that debt must be refinanced in an acquisition, so debt becomes a cost of acquiring
- So, if you want to own the operations of the business, you must pay off the debt investors

Why is preferred stock added?

- Preferred stocks are hybrid securities that have features of both equity and debt.
- They are treated more as debt, in this case, because they pay a fixed amount of dividends and have a higher priority in asset and earning claims than common stock.
- In an acquisition, they normally must be repaid just like debt.

Why is non-controlling interest added to EV?

- Non-controlling interest refers to when a company owns more than 50% of a company, but less than 100% of a company
- The portion they do not own is non-controlling interest, and it is reported on the balance sheet
- Even thought they own less than 100% of the company, they report revenue as if they owned 100%
- To account for this, EV must also include 100% of the non-controlling interest

Why are unfunded pension obligations added to EV?

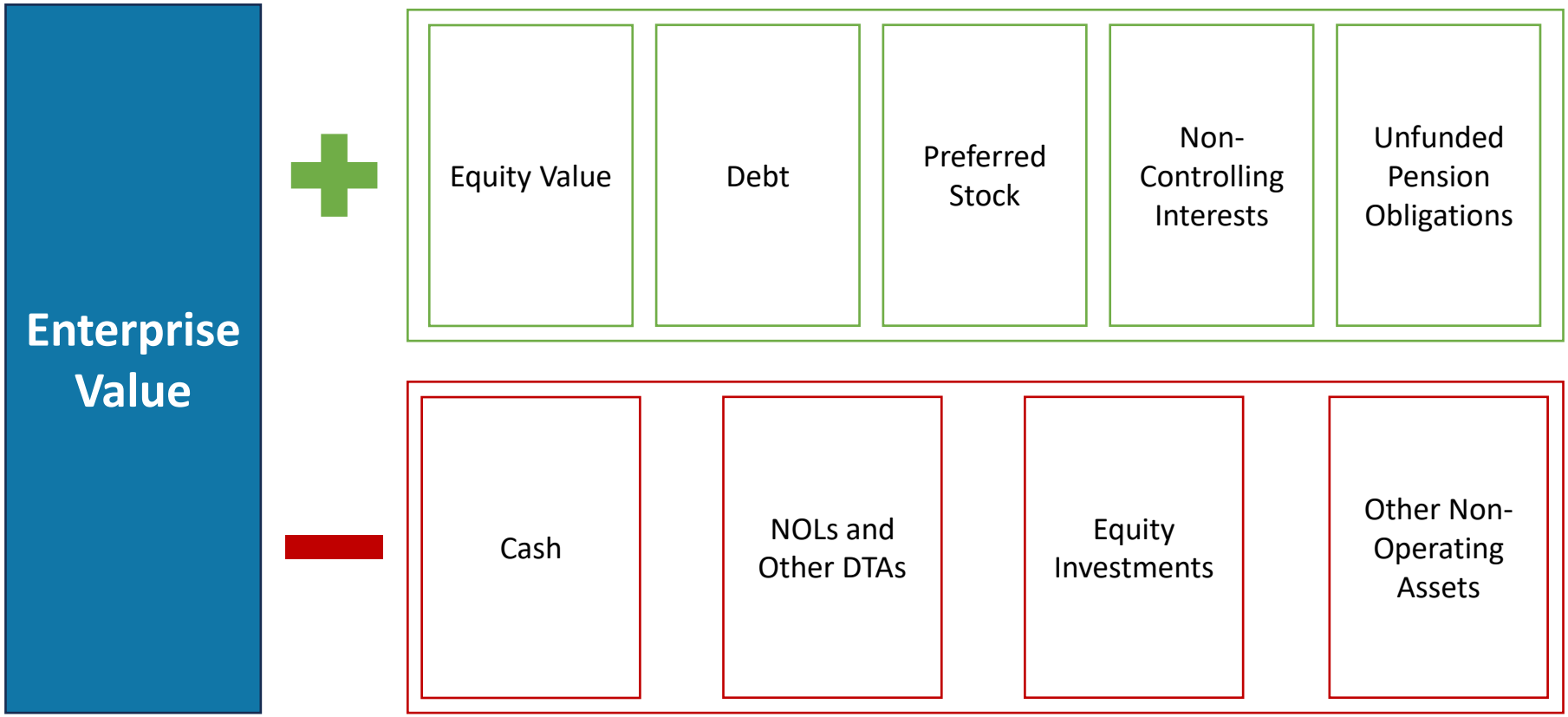
- Unfunded pension obligations represent the gap between the pension liabilities (defined benefit plan only) and the assets the company holds to cover future payments.

- When the present value of all future cash outflows to meet the pension liability is greater than the value of the assets existent to cover the pension requirements, an unfunded pension exists.

- This can be seen as another investor group because workers are agreeing to work for less today in exchange for cash flows in the future.

Solving For Enterprise Value from Equity Value

Solving for enterprise value can be done either by converting from market cap or by using intrinsic/relative valuation methodologies – both provide insight into the value of the businesses core operations to all investors



Why is cash subtracted?

- Cash sitting on a company's balance sheet could hypothetically be used to pay down outstanding debt if deemed necessary.
- Can also be thought of as a non-operating asset
- Cash's value is already captured with equity value

Think of this example

You buy a home

- 200k of equity
- 300k of debt
- 100k of cash in a treasure chest that comes with the home

Why are equity investments subtracted?

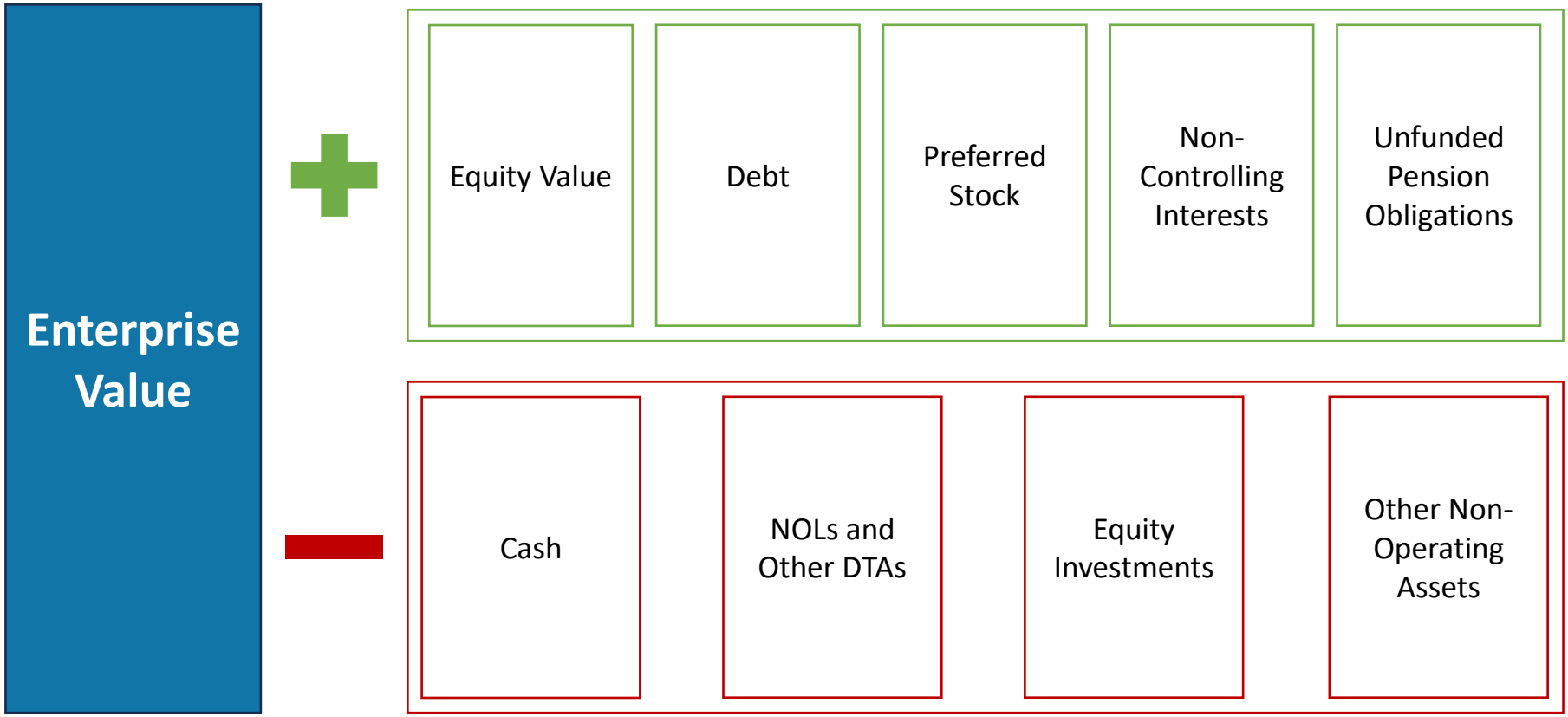
- Represent minority stakes in other companies (the Parent Company owns < 50% of these other companies)
- For example, Company A owns 30% of Company B. Company A records an Equity Investment or “Associate Company” on the Assets side of its Balance Sheet for this 30% stake
- The Parent Company owns less than 50%, so it cannot “control” these other companies. Therefore, its stakes are considered non-core to its business
- Equity Value (Market Cap) implicitly includes the values of these partial stakes
- Because of accounting rules, you will see either 0% or 100% of the other companies’ EBIT and EBITDA in the Parent Company’s metrics.

Why are NOLs and DTAs subtracted?

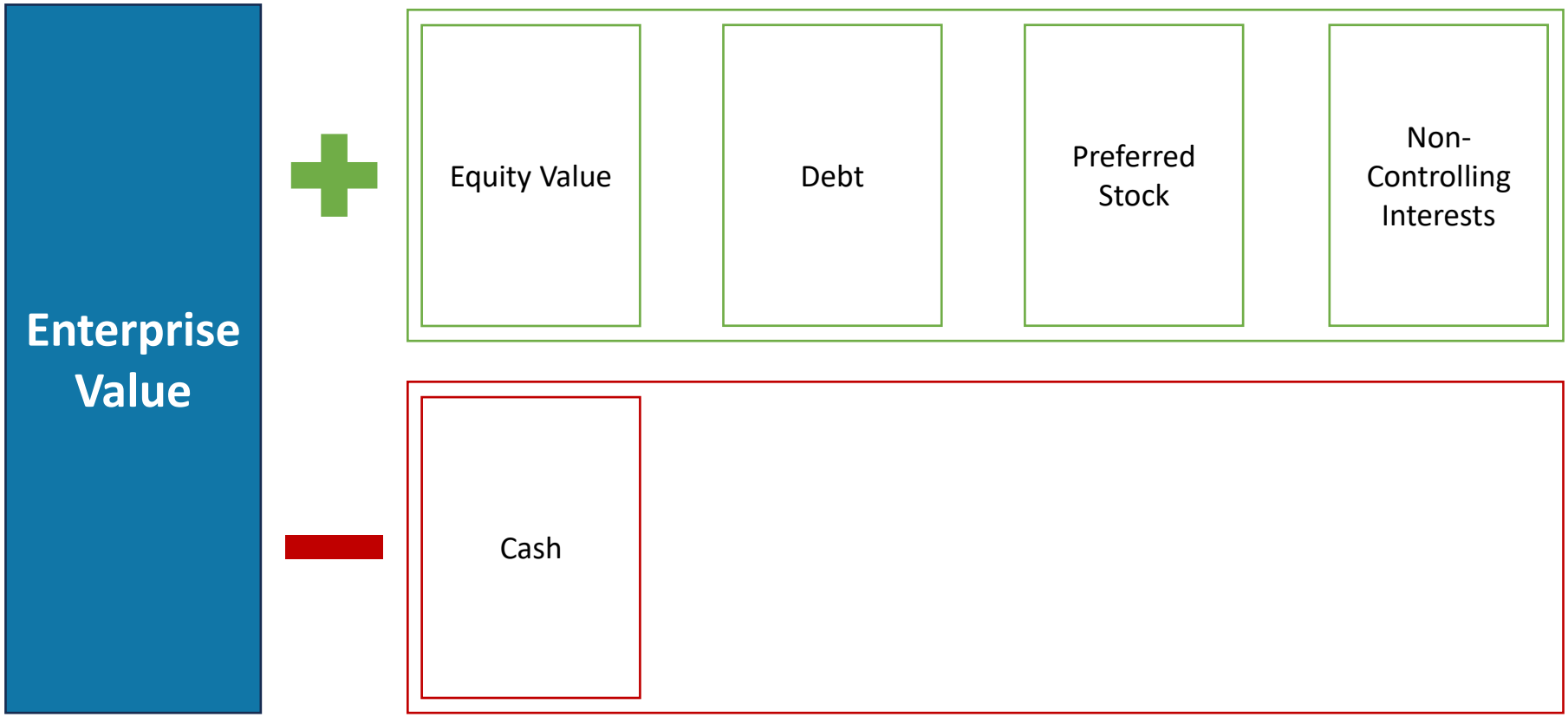
- Net Operating Losses (NOLs) accumulate when a company records negative Pre-Tax Income
- The off-Balance Sheet NOL increases by –Pre-Tax Income, and the Deferred Tax Asset increases by –Pre-Tax Income * Tax Rate
- When the company finally records positive Pre-Tax Income, it can use these NOLs to reduce its taxable Income, thereby reducing its Cash Taxes
- The logic is that the NOLs are not core to the company's business because they're not required to sell and deliver products and services.

Solving For Enterprise Value from Equity Value

Solving for enterprise value can be done either by converting from market cap or by using intrinsic/relative valuation methodologies – both provide insight into the value of the businesses core operations to all investors



In interviews, just give the simple formula!



Enterprise value: approximation of a “true” takeover price

Example - you purchase a business

- 500k market cap
- 700k of debt
- 100k of cash
- 200k non-controlling interests
- 100k of equity investments
- 50k of unfunded pension obligation
- 100k of preferred stock

What is the enterprise value?

Answer

ADD UP

- 500k market cap
- 700k of debt
- 200k non-controlling interest
- 50k of unfunded pension obligation
- 100k of preferred stock

TOTAL = 1,550k

SUBTRACT

- 100k of cash
- 100k of equity investments

TOTAL = -200k

EV = 1,350k

Can you have a negative enterprise value?

- **Yes! But you cannot have a negative equity value**
- Current Enterprise Value could easily be negative
- For example, what if the company's Current Equity Value is $100 million, but it has $200 million in Cash and no Debt?
  - Its Current Enterprise Value is negative $100 million
- This scenario is rare; it's most common for pre-bankruptcy companies that are burning through cash at high rates and that are likely to die soon

How does a DCF quantify enterprise value?

- Unlevered free cash flow (UFCF) represents the cash flow left over for all capital providers, such as debt, equity, and preferred stock investors
- In a DCF you are estimating future UFCF and then discounting them back to today
- Once you find EV, you can back into what equity value is

$$EV = \sum_{i=1}^{n} \frac{FCFF_i}{(1+WACC)^i} + \frac{TV}{(1+WACC)^n}$$

Solving For Enterprise Value Relatively

Solving for enterprise value can be done either by converting from market cap or by using intrinsic/relative valuation methodologies – both provide insight into the value of the businesses core operations to all investors

$$\text{EV/EBITDA Multiple} = \frac{\text{Enterprise Value}}{\text{EBITDA}}$$

Common metrics that pair with enterprise value

EV / Revenue

Enterprise Value divided by Revenue

EV / EBITDA

Enterprise Value divided by EBITDA

EV / EBIT

Enterprise Value divided by EBIT

Why do certain multiples not work with EV?

EV / Net Income

Enterprise Value divided by Net Income

EV / Stock Price

Enterprise Value divided by stock price

EV / EBT

Enterprise Value divided by earnings before tax

A couple real life examples

BREAK


Investment bankers be like
TikTok
@ wallstreetoasis
@wallstreetoasis

Table of Contents

Introduction to Equity Value

Equity Value represents the **value of the firm's net assets attributable to the equity holders** – this is also the market capitalization.

Methods of Determining Equity Value

There exist at minimum four methods for determining the equity value of a firm – can you think of more?

Market Cap	Fully Diluted Shares Outstanding * Price Per Share
Relative	Multiple * Relevant Metric
Intrinsic	Present Value of all FCFE (Levered FCF)
Net Assets	Market Value of Assets – Market Value of Liabilities

Current Equity Value – Market Capitalization

The most effective and easily observable way to value the equity of a publicly traded firm is to multiply the fully diluted shares outstanding by the share price – this is known as the market capitalization

Solving For Equity Value Relatively

Implied valuation by way of multiples is a trustworthy cross check to the market's valuation of a firm; multiples are applied to levered metrics – line items from the P&L appearing after interest has been deducted

$$\text{Equity Value} = \text{Earnings} \times \text{P/E ratio}$$

Other Common Equity Value Multiples

Implied valuation by way of multiples is a trustworthy cross check to the market's valuation of a firm; multiples are applied to levered metrics – line items from the P&L appearing after interest has been deducted

$$\text{Price-Earnings Ratio (P/E)} = \frac{\text{Stock Price}}{\text{Earnings Per Share (EPS)}}$$

$$\text{Price to Book Ratio (P/B)} = \frac{\text{Market Capitalization}}{\text{Book Value of Equity (BVE)}}$$

$$\text{P/FCF Multiple} = \frac{\text{Equity Value}}{\text{Free Cash Flow to Equity (FCFE)}}$$

Solving For Equity Value Intrinsically

Using the DCF to value the equity of a firm by discounting the levered free cash flows at the cost of equity is a common valuation technique when working with distressed firms or financial institutions

$$\text{Equity Value} = \sum_{t=1}^{n} \frac{LFCF_t}{(1+Re)^t} + \frac{TV}{(1+Re)^n}$$

Dilution

- **Dilution occurs when a company issues new shares, resulting in a reduction of existing shareholders' ownership percentage and a potential decrease in the value of their shares**. This happens because the total number of shares outstanding increases, but the company's total value may not necessarily increase in proportion to the new share issuance.

- The **effect of dilution is typically negative for existing shareholders**, as their proportional ownership and voting rights decrease.

Metrics of Dilution

Dilution represents a decrease in value of the underlying equity security – this can be measured in a variety of ways in a financial context ranging from ownership to claim on the company's cash flow

Ownership Dilution	When a company issues new shares, the existing shareholders own a smaller percentage of the company, which reduces their control or influence over company decisions
EPS Dilution	Dilution can also impact earnings per share (EPS) - when more shares are outstanding, the company's earnings are distributed among a larger number of shares, leading to a lower EPS, which might make the stock less attractive to investors
Price Per Share	While the company's total market capitalization might increase with new shares, the per-share market value could decrease if the market perceives that the issuance dilutes the value of existing shares, especially if the new capital raised doesn't immediately create equivalent value
Voting Power Dilution	If additional shares are issued, especially to new strategic investors or insiders, existing shareholders may see their voting power diluted, making it harder for them to influence key corporate decisions

Dilutive Securities: Warrants, Options, RSU, PSU, Converts, etc.

Fully diluted equity value is the market value of a company if all dilutive securities (such as stock options, convertible debt, and warrants) are exercised and converted into common stock

1 Stock Options / Warrants

- **Stock Options:** Right granted to an employee to purchase shares of the company' stock at a predetermined price ("exercise" or "strike" price)
- **Warrants:** Very similar to options, but key differences are that they are used in the financing of deals rather than as employee compensation

2 Convertible Bonds

- **Convertible Bonds:** Type of hybrid financial instrument with features of debt and equity
  - Give the holder the option to convert the bond into a predetermined number of shares – in your questions this conversion rate is based off the conversion price

3 RSU / PSU

- **Restricted Stock Units (RSUs):** Type of equity compensation offered by companies to their employees. Represent a promise to deliver shares of stock under conditions
- **Preferred Stock Units (PSUs):** Rather than time-based vesting, it is performance-based

The Money (Options)

- **In-the-Money:** When the current share price is above the exercise price
- **Out-of-the-Money:** When the current share price is below the exercise price
  - Only in-the-money securities have a dilutive effect

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Dilutive Securities: How to Factor it in

You will often be given a situation in which a firm has dilutive equity securities in addition to common shares – although several methods exist for the treatment of dilutive securities, the following are the most important

1 Treasury Stock Method (Options)

- **Options and Warrants:** Applies to options and warrants
  - You assume that the option / warrant holders pay the company and get new shares, and that the company uses this money to repurchase some of these new shares

2 "If Converted" Method (Converts)

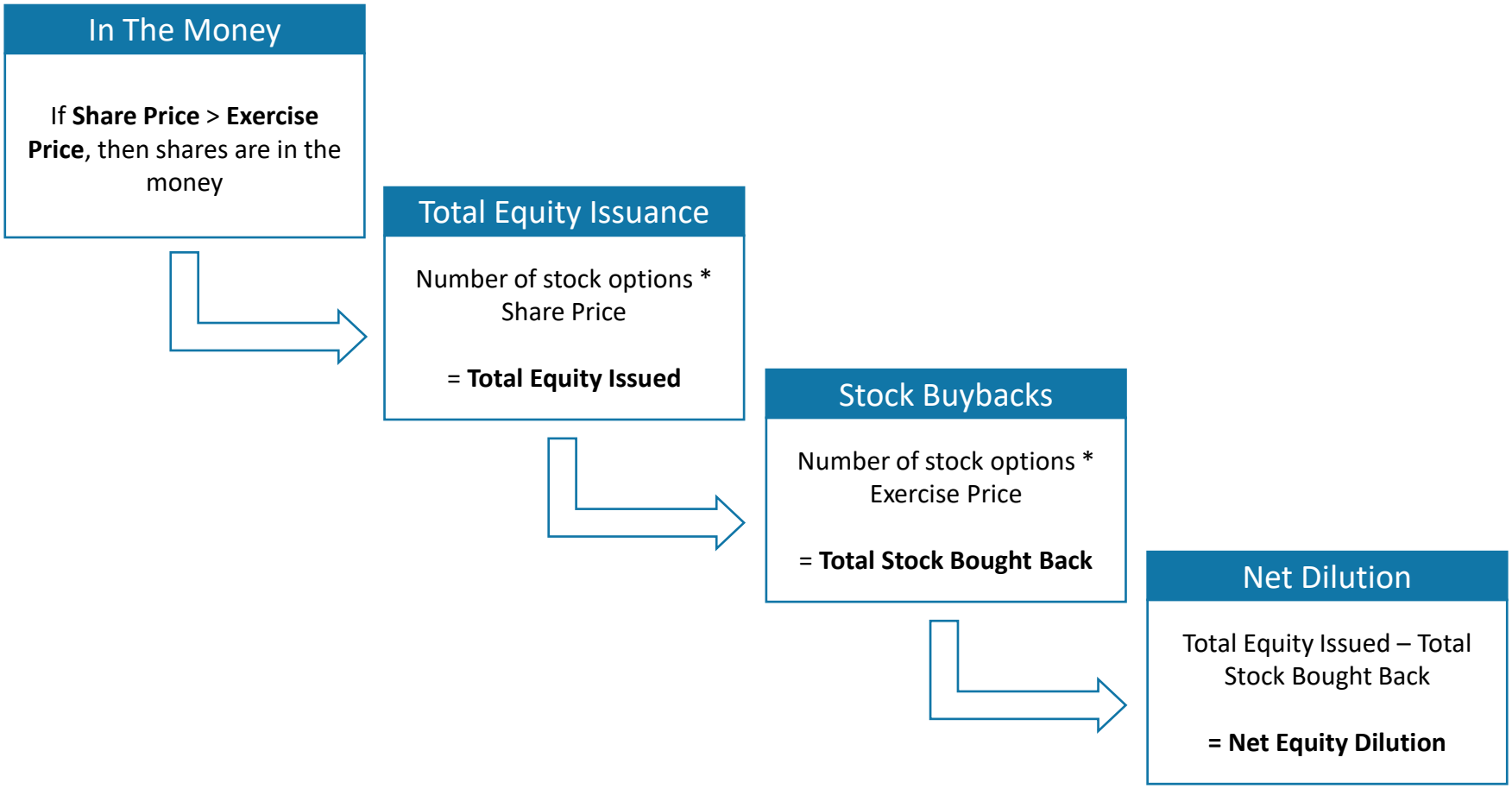
- **Convertible Bonds:** Applies to convertible bonds and sometimes other securities that are linked to the company's share price
  - You check to see if the company's share price is above a certain level; if it is, you count the shares, and if it is not, you don't count the shares (with a convertible bond, you count it as debt

3 Straight-Up Addition (RSU / PSU)

- **Straight-Up Addition:** This one applies to restricted stock, restricted stock units (RSUs), and sometimes other variants of these
  - You simply add these units to the company's share count to calculate the diluted shares

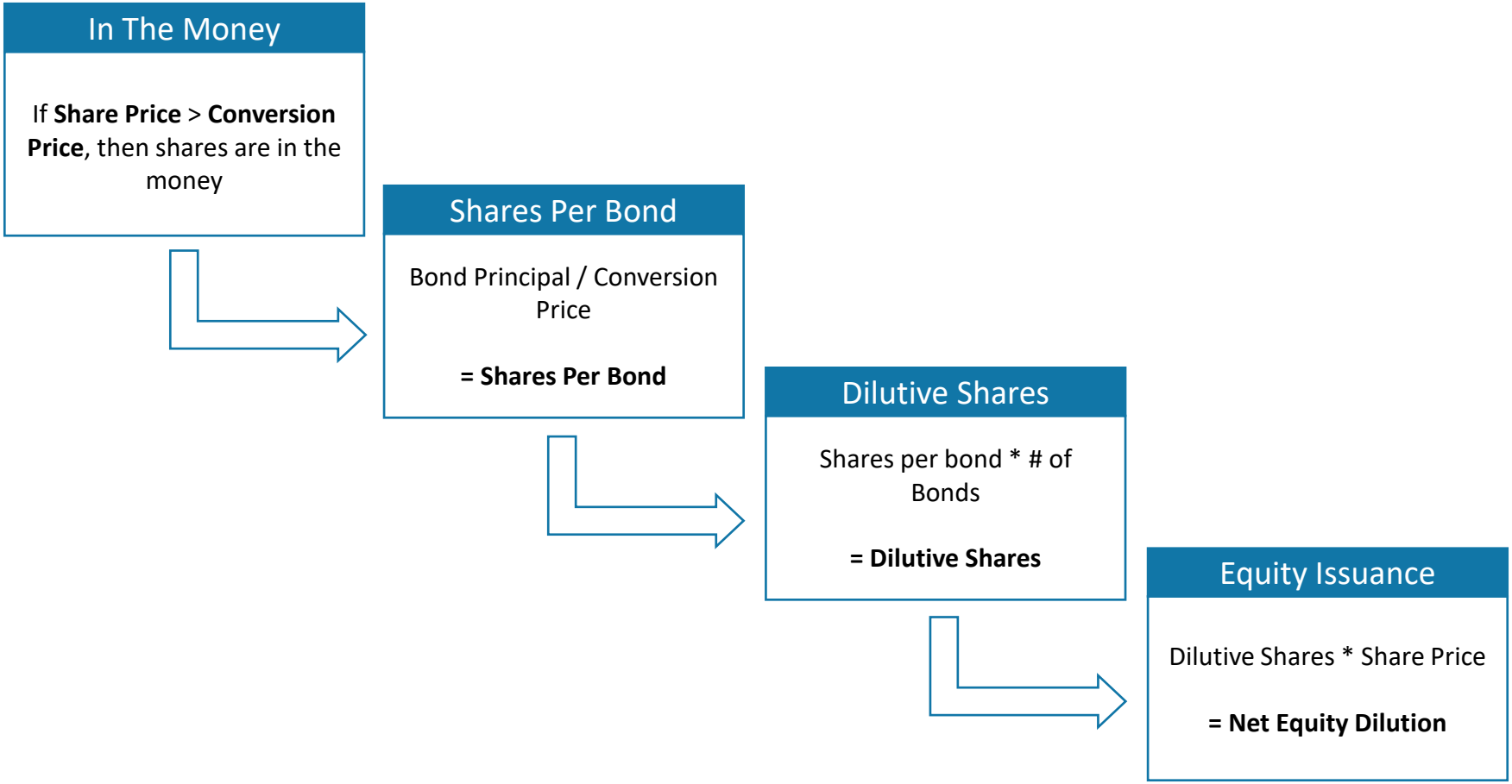
Treasury Stock Method

The treasury stock method (TSM) is used to determine the impact of dilutive securities in the form of stock options and warrants – the method is known as the TSM because small fraction of the dilutive equity will be bought back



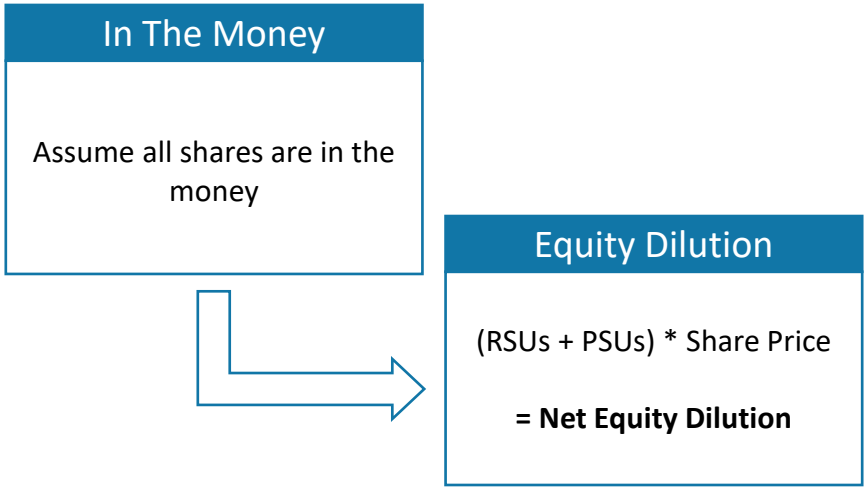
If Converted Method

The if-converted method is used to determine the dilutive affect of convertible debt securities – such financial instruments are treated as if they were common equity as long as the conversion price is in the money



Straight Up Addition

Restricted stock units and performance stock units are all aggregated with the share count to determine fully diluted equity value



Accretive or Dilutive?

What if the interest rate on debt is exceptionally high – could conversion be accretive? How?

Performance stock units are often tied to milestones in the firm's earnings – could PSUs also drive accretion in equity value? How?

Example 1

For your interviews, there are certain ways you will learn to factor in dilution from the securities. All you should care

A company has 10,000 shares at $20 a share. There are 100 call options at an exercise price of $10, 50 RSUs and 100 convertible bonds at a price of $10 and a par value of $100. What is the diluted equity value?

Treasury Stock Method		If Converted Method		Straight Up Addition
Determine if the shares are **in the money** Share Price * # of Options = **Equity Issuance** Exercise price * # of options = **Equity Buybacks** Equity Issuance – Equity Buybacks = **Net Equity Dilution**	+	Determine if convertibles are **in the money** Face Value / Conversion Price = **# of Shares per Bond** # of Shares per bond * # of bonds = **# of Shares Created** # of Shares * Share Price = **Net Equity Dilution**	+	Determine total count of RSUs and PSUs # of RSUs and PSUs * Share Price = **Net Equity Dilution**

Example 1 Answers

For your interviews, there are certain ways you will learn to factor in dilution from the securities. All you should care

A company has 10,000 shares at $20 a share. There are 100 call options at an exercise price of $10, 50 RSUs and 100 convertible bonds at a price of $10 and a par value of $100. What is the diluted equity value?

Treasury Stock Method	If Converted Method	Straight Up Addition
Share price is $20, exercise price is $10, **shares are in the money** 100 Call Options * $20 = **$2,000 Equity Issuance** 100 Call Options * $10 = **$1,000 Buybacks** $2,000 Issued - $1,000 Bought Back = **$1,000 Net Equity Dilution**	Share Price is $20, conversion price is $10, **bonds are in the money** Par Value $100 / Conversion Price $10 = **10 Shares Per Bond** 100 Convertible Bonds * 10 Shares Per Bond **= 1,000 Shares** 1,000 Shares * $20 Per Share = **$20,000 Net Equity Dilution**	50 RSUs to be added in 50 RSUs * $20 Share Price = **$1,000 Net Equity Dilution**

Example 1 Answers

After determining the effect of dilutive securities, put it all together by adding the sum of the dilutive effects to the company's market capitalization to determine fully diluted equity value

A company has 10,000 shares at $20 a share. There are 100 call options at an exercise price of $10, 50 RSUs and 100 convertible bonds at a price of $10 and a par value of $100. What is the diluted equity value?

Treasury Stock Method		If Converted Method		Straight Up Addition
= **$1,000 Net Equity Dilution**	+	**$20,000 Net Equity Dilution**	+	**$1,000 Net Equity Dilution**

$200,000 Market Cap + $22,000 Dilutive Effects
= $222,000 Fully Diluted Equity Value

Example 2

For your interviews, there are certain ways you will learn to factor in dilution from the securities. All you should care

A company has 5,000 shares at $40 a share. There are 200 call options at an exercise price of $10, 100 PSUs and 200 convertible bonds at a price of $50 and a par value of $100. What is the diluted equity value?

Treasury Stock Method		If Converted Method		Straight Up Addition
Determine if the shares are **in the money** Share Price * # of Options = **Equity Issuance** Exercise price * # of options = **Equity Buybacks** Equity Issuance – Equity Buybacks = **Net Equity Dilution**	+	Determine if convertibles are **in the money** Face Value / Conversion Price = **# of Shares per Bond** # of Shares per bond * # of bonds = **# of Shares Created** # of Shares * Share Price = **Net Equity Dilution**	+	Determine total count of RSUs and PSUs # of RSUs and PSUs * Share Price = **Net Equity Dilution**

Example 2 Answers

For your interviews, there are certain ways you will learn to factor in dilution from the securities. All you should care

A company has 5,000 shares at $40 a share. There are 200 call options at an exercise price of $10, 100 PSUs and 200 convertible bonds at a price of $40 and a par value of $100. What is the diluted equity value?

Treasury Stock Method	If Converted Method	Straight Up Addition
Share price is $40, exercise price is $10, **shares are in the money** 200 Call Options * $40 = **$8,000 Equity Issuance** 200 Call Options * $10 = **$2,000 Buybacks** $8,000 Issued - $2,000 Bought Back = **$6,000 Net Equity Dilution**	Share Price is $40, conversion price is $40, **bonds are in the money** Par Value $100 / Conversion Price $40 = **2.5 Shares Per Bond** 200 Convertible Bonds * 2.5 Shares Per Bond **= 500 Shares** 500 Shares * $40 Per Share = **$20,000 Net Equity Dilution**	100 PSUs to be added in 100 PSUs * $40 Share Price = **$4,000 Net Equity Dilution**

Example 2 Answers

After determining the effect of dilutive securities, put it all together by adding the sum of the dilutive effects to the company's market capitalization to determine fully diluted equity value

A company has 5,000 shares at $40 a share. There are 200 call options at an exercise price of $10, 100 PSUs and 200 convertible bonds at a price of $50 and a par value of $100. What is the diluted equity value?

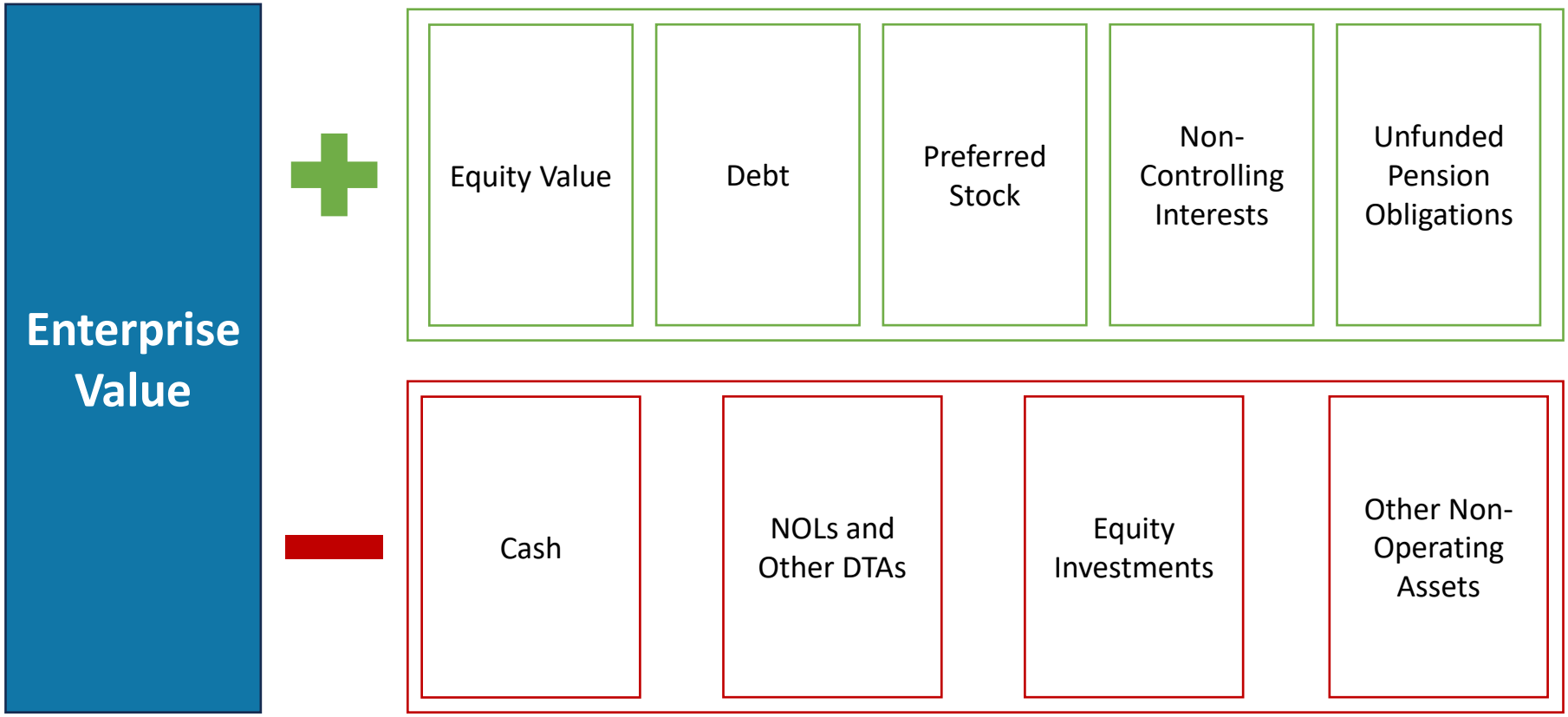
Treasury Stock Method		If Converted Method		Straight Up Addition
$6,000 Net Equity Dilution	+	**$20,000 Net Equity Dilution**	+	**$4,000 Net Equity Dilution**

$200,000 Market Cap + $30,000 Dilutive Effects
= $230,000 Fully Diluted Equity Value

Table of Contents

Just follow the formula

- The DCF usually produces the company's Implied Enterprise Value.
- We need to jump across the "bridge" from Enterprise Value to Equity Value so that we can divide Equity Value by the share count to get the Implied Share Price



Just follow the formula

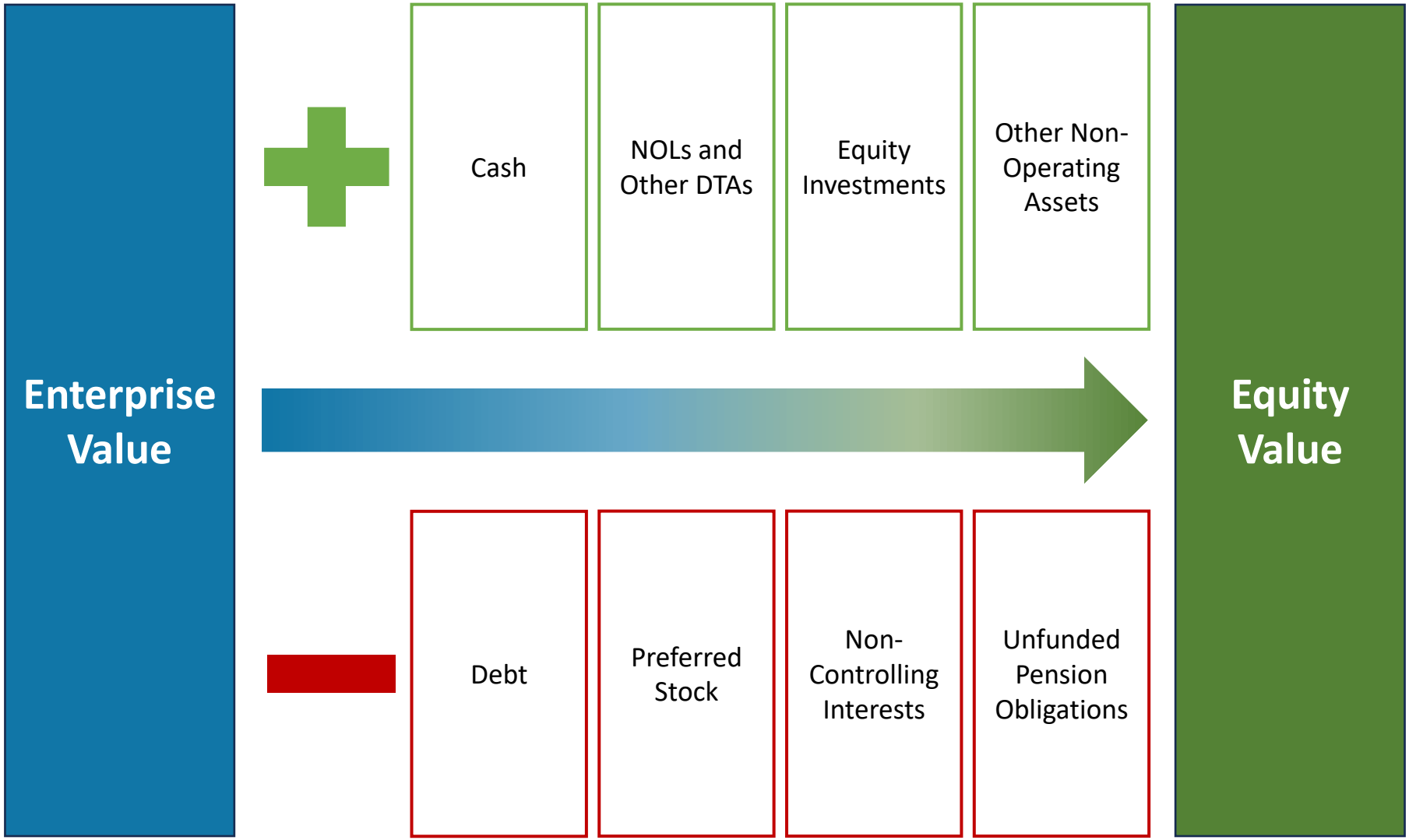


Table of Contents

Impact of Events on Enterprise and Equity Value

Interviewers will commonly assess your knowledge of changes to enterprise and equity value – when determining how valuation has changed always work within the framework of the following questions

Equity Value

Does common shareholders equity change?

If yes, then our equity value has changed. Further information is required to determine if our EV has changed as well.

Enterprise Value

Do net operating assets change?

If yes, then our EV will change by the amount that NOA changes – it doesn't matter which investor group paid because EV reflects all investors.

Practice 1 - Capital Structure Changes

Company issues $100 of common stock and holds the proceeds as cash

Does common shareholders equity change?

If yes, then our equity value has changed. Further information is required to determine if our EV has changed as well.

Do net operating assets change?

If yes, then our EV will change by the amount that NOA changes – it doesn't matter which investor group paid because EV reflects all investors.

Answer 1 - Capital Structure Changes

Company issues $100 of common stock and holds the proceeds as cash

Does common shareholders equity change?

Yes – a $100 increase in common stock equates to a $100 increase in shareholders equity

Do net operating assets change?

No – because the proceeds are held as cash, which is a non-operating asset and excluded in the EV formula, the enterprise value has not changed

Practice 2 - Capital Structure Changes

Company issues $100 of common debt and acquires inventory with the proceeds

Does common shareholders equity change?

If yes, then our equity value has changed. Further information is required to determine if our EV has changed as well.

Do net operating assets change?

If yes, then our EV will change by the amount that NOA changes – it doesn't matter which investor group paid because EV reflects all investors.

Answer 2 - Capital Structure Changes

Company issues $100 of common debt and acquires inventory with the proceeds

Does common shareholders equity change?

No – the $100 increase in debt doesn't affect the equity value of the firm

Do net operating assets change?

Yes – because the increase in financing is accompanied by the acquisition of an operating asset, net operating assets and therefore EV have increased by $100

Practice 3 - Operating Asset and Liability Changes

Company uses excess cash to boost capital expenditures worth $500

Does common shareholders equity change?

If yes, then our equity value has changed. Further information is required to determine if our EV has changed as well.

Do net operating assets change?

If yes, then our EV will change by the amount that NOA changes – it doesn't matter which investor group paid because EV reflects all investors.

Answer 3 - Operating Asset and Liability Changes

Company uses excess cash to boost capital expenditures worth $500

Does common shareholders equity change?

No – the financing of the PP&E was internal and thus does not affect the CSE

Do net operating assets change?

Yes – whereas cash was previously excluded from EV it has now become an operating asset and because our net operating assets have increased, so has our EV

Attendance word

GFC