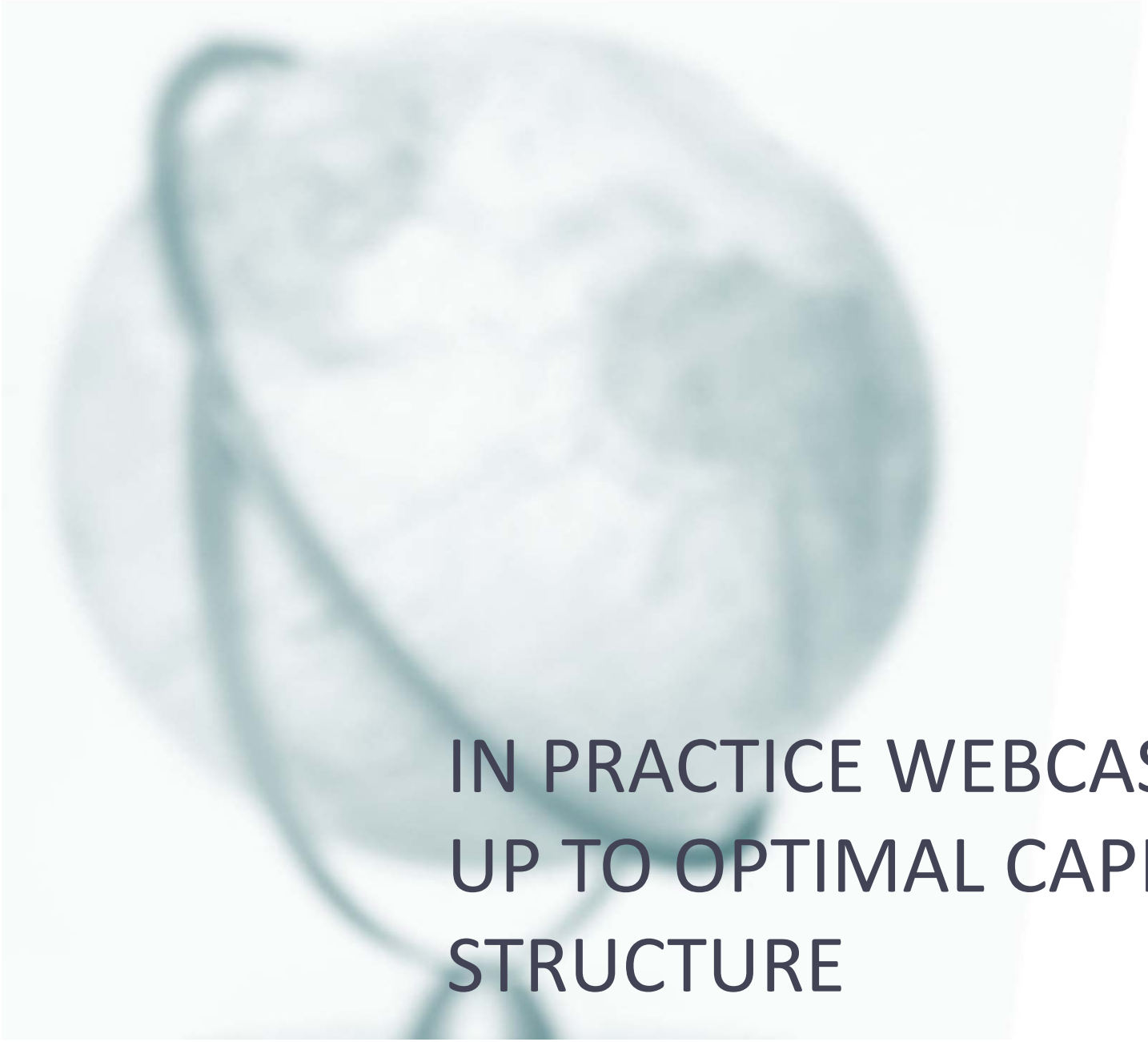

IN PRACTICE WEBCAST: FOLLOW UP TO OPTIMAL CAPITAL STRUCTURE

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Optimal Debt Ratio Analysis: The Three Possible Outcomes

- Using the tools that you have for assessing the capital structure for a firm, you can arrive at an optimal debt ratio for your firm.
- By comparing the optimal to the actual debt ratio, you can come to one of three judgments:
  - Actual < Optimal: You are under levered
  - Actual > Optimal: You are over levered
  - Actual = Optimal: You are correctly levered
- In making this judgment, use common sense in deciding whether the difference between the optimal and actual debt ratio is significant, both in terms of debt ratio change and value change.

My four examples

Company	Actual	Optimal
Amgen	22.88%	50.00%
American Eagle	37.83%	60.00%
Tesla	22.00%	0.00%
Town Sports	81.03%	10.00%

Step 1: Is time your ally?

- When you are under or over levered as a firm, you have left value on the table, by settling for a cost of capital that is higher than it needs to be, and a firm value that is lower.
- If you view this as a problem, the question then becomes how urgently you need to solve it.

1a. For under levered firms: Are you the target of a hostile takeover?

- If you are under levered, you can become the target of a hostile acquirer, who plans to borrow money (using your debt capacity) to take you over.
- There are (at least) three factors to consider in whether you are likely to be a target:
  - The size of your firm (As firm size increases, it gets more difficult to raise the capital for the acquisition)
  - Insider stockholdings (If the company is run by family or insiders who have a controlling stake, a hostile bid is less likely to succeed)
  - Stock price performance: If your stock has done worse than expected (relative to market and sector), you are more likely to be a target.

1b. For over levered firms: Are you under threat of default/bankruptcy?

- For a firm with too much debt, the danger is that it will be unable to make a contractual payment (interest or principal) to a lender, leading to default.
- To assess the threat of imminent default, you can check the
  - Bond rating of the company
  - Operating income, relative to interest expenses
  - Cash balance, relative to principal payments due

Is time your ally?

Company	Market Cap (in US $ millions)	Insider Holdings	Jensen's alpha
Amgen	$128,900	0.15%	5.71%
American Eagle	$ 3,230	5.87%	-9.69%
Company	Bond Rating	EBIT/Interest Expenses	Debt/EBITDA
Tesla	B3	- 3.30	19.88
Town Sports	Caa1	1.15	17.55

2. If time is not your ally, you need to recapitalize

To decrease the debt ratio

Sell operating assets and use cash to pay down debt.

Issue new stock to retire debt or get debt holders to accept equity in the firm.

Assets	Liabilities
Cash	Debt
Opearing Assets in place	
Growth Assets	Equity

Sell operating assets and use cash to buy back stock or pay or special dividend

Borrow money and buy back stock or pay a large special dividend

To increase the debt ratio

For my under levered firms

- Amgen is under levered but is unlikely to be a takeover target because
  - It's large market capitalization
  - It's good stock market performance in the period leading into this analysis
- American Eagle is under levered and is likely to be a takeover target because
  - It's market cap is small
  - It's stock has done badly in the period leading into the analysis
  - It does have insider holdings, but not enough to deter a hostile acquirer
- American Eagle should consider borrowing money and buying back stock.

Step 3: If time is your ally, what do your investment opportunities look like?

- If you have time to change your debt ratio, use it, since it will allow you to:
  - Move gradually to your optimal debt ratio
  - Let managers adjust as the firm's leverage changes
  - Reassess the optimal as you get more information
- To make the best use of your additional debt capacity, you need to assess whether you have good investment opportunities (projects that earn more than the cost of capital)
  - If your history of excess returns is at odds with your claims on projects, you need to explain what's changed.

Step 3a: If time is your ally, and you are under levered, here are your options

- If you have good investment opportunities and you have excess debt capacity, you should use disproportionately large amounts of debt in funding new projects.
  - Value Increase = NPV of new projects + Value change from moving to the optimal debt ratio
- If you don't have good investment opportunities and you have excess debt capacity, you need to return more cash to shareholders (in dividends and buy backs) over time, replacing equity with debt on your existing projects.

Step 3b: If time is your ally, and you are over levered, here are your options

- If you have good investment opportunities and you have too much debt, you should
  - Stop returning cash to shareholders; cut dividends and don't do buybacks
  - Use retained earnings disproportionately in funding new projects.
  - Value Increase = NPV of new projects + Value change from moving to the optimal debt ratio
- If you don't have good investment opportunities and you have too much debt, you need to stop returning cash to shareholders and use equity earnings to pay down debt over time.

Investment Opportunities

Company	ROC – Cost of Capital	Comments
Amgen	11.33%	Health care reforms and cost controls are reducing excess returns, but significant advantages remain.
American Eagle	0.77%	Apparel business is getting more competitive and less profitable.
Tesla	-11.55%	Much of its value comes from future growth potential. Still in wait 7 see mode, but market is optimistic.
Town Sports	-2.55%	Business has become a bad one.

Step 4: Once you are at your right debt ratio, this is your maintenance plan

- If you already are at your optimal or get to it, you need to
  - Reevaluate your optimal debt ratio each year, as the world changes around you
  - Keep tabs on your actual debt ratio, as your debt and equity values change
- On new projects, you want to try to keep close to your "right" mix across all your projects. In project analysis, you should use this mix in computing the cost of capital, not the actual debt mix of the project.