

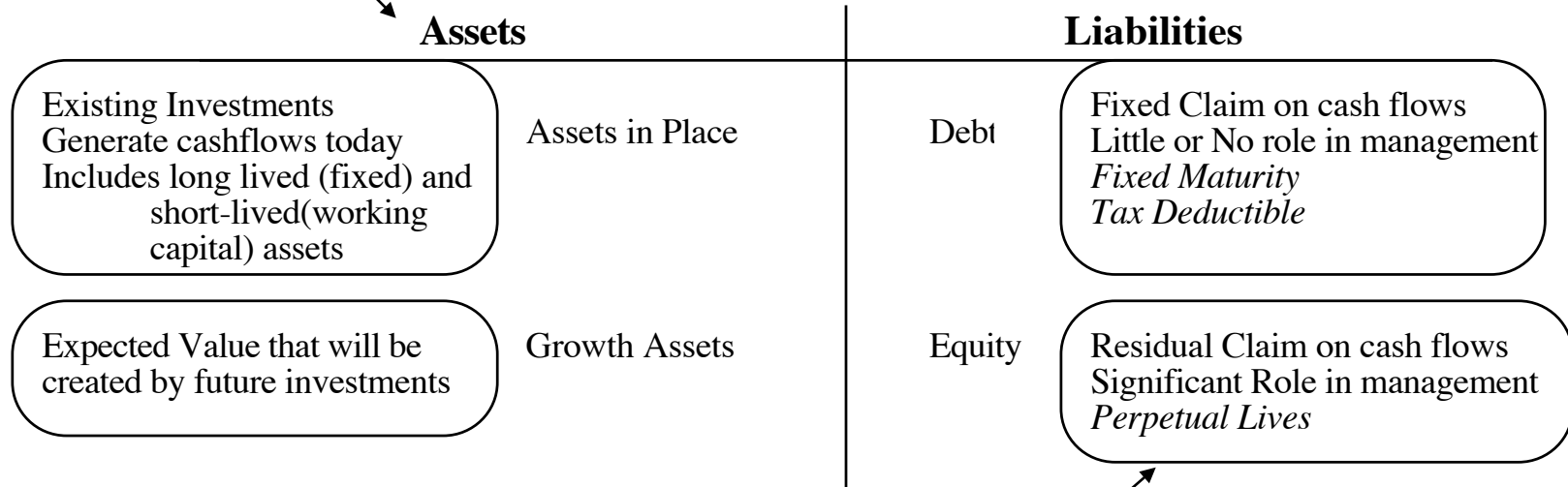
Valuation: The Basics

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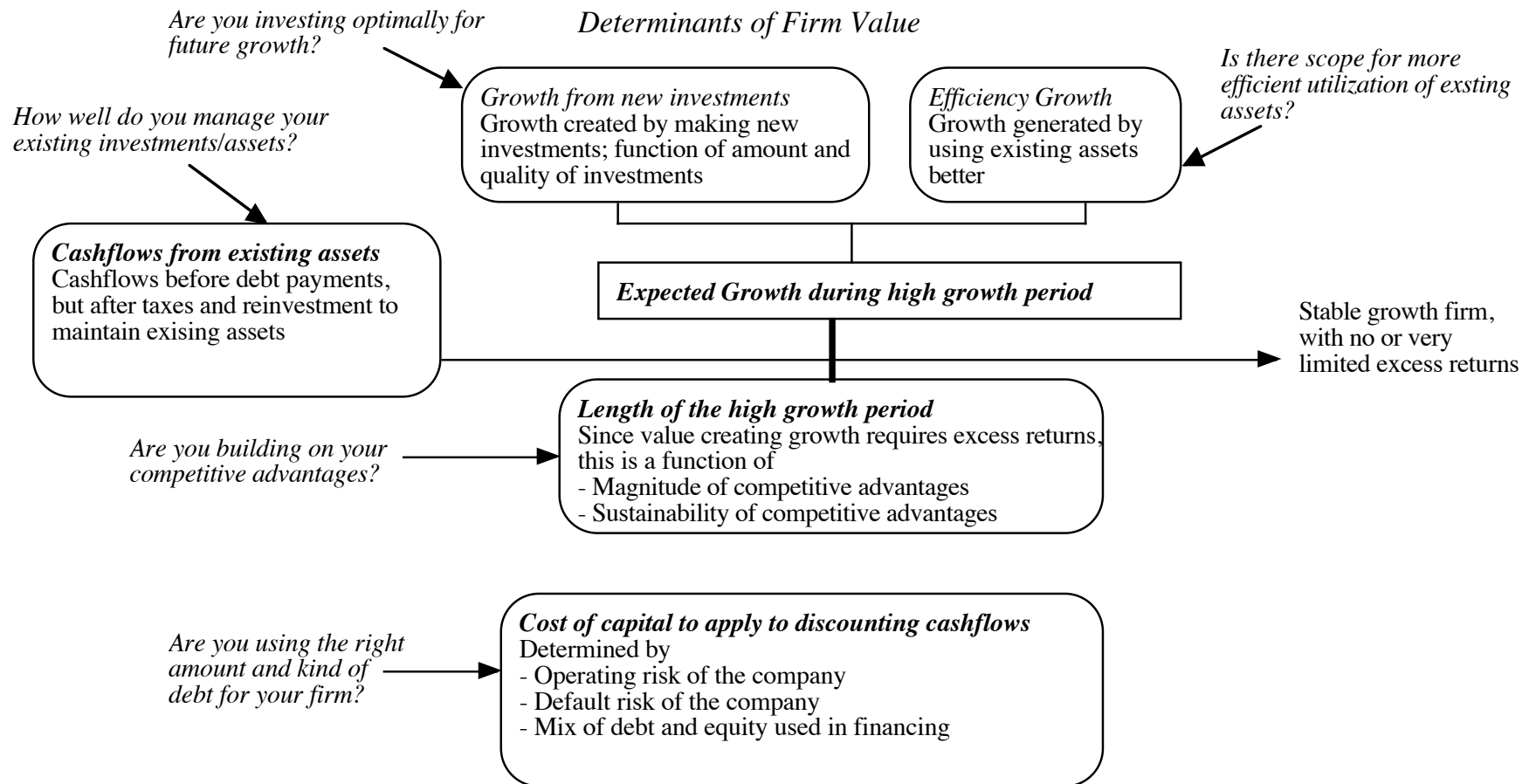
DCF Choices: Equity Valuation versus Firm Valuation

Firm Valuation: Value the entire business



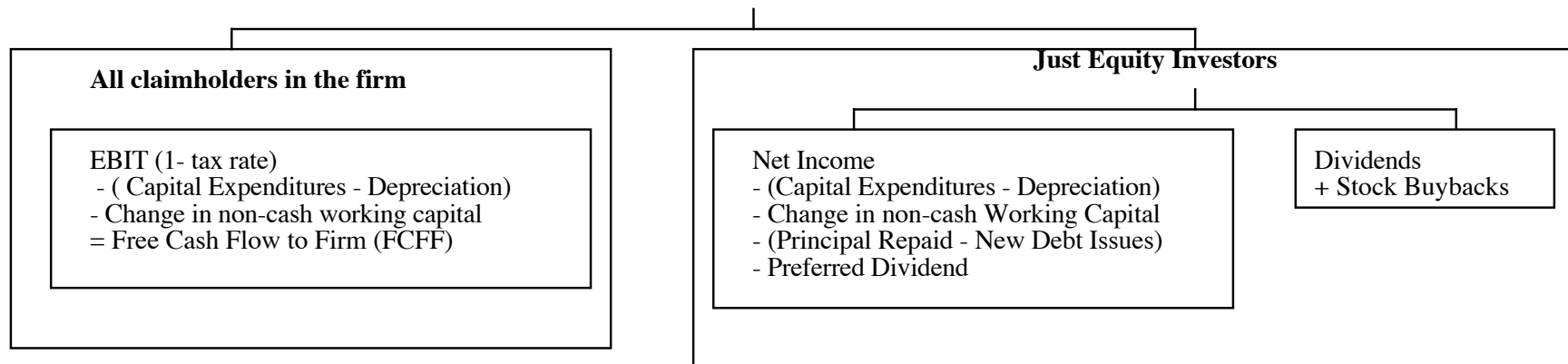
Equity valuation: Value just the equity claim in the business

More generally... The value of any business is a function of..



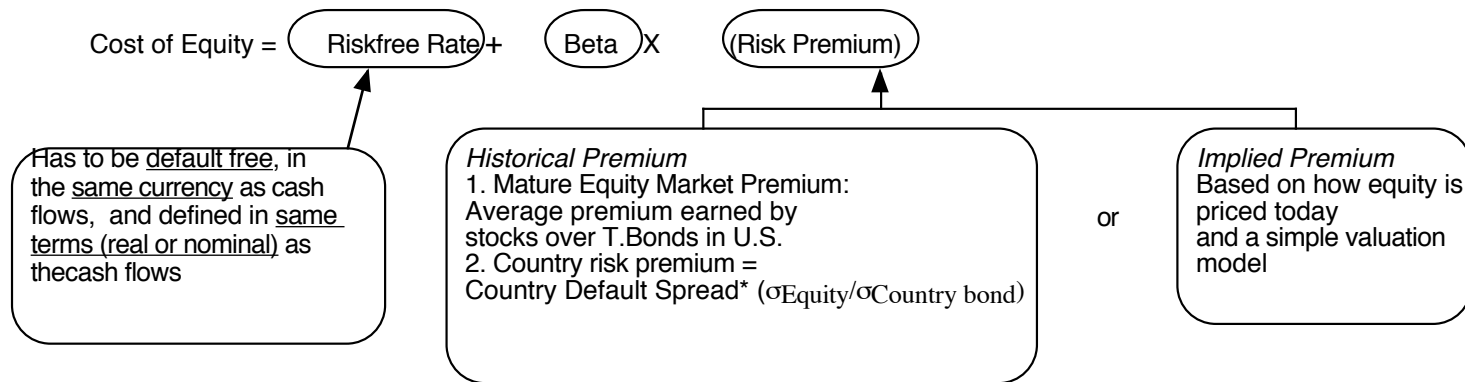
Estimating cash flows to a business

Cash flows can be measured to

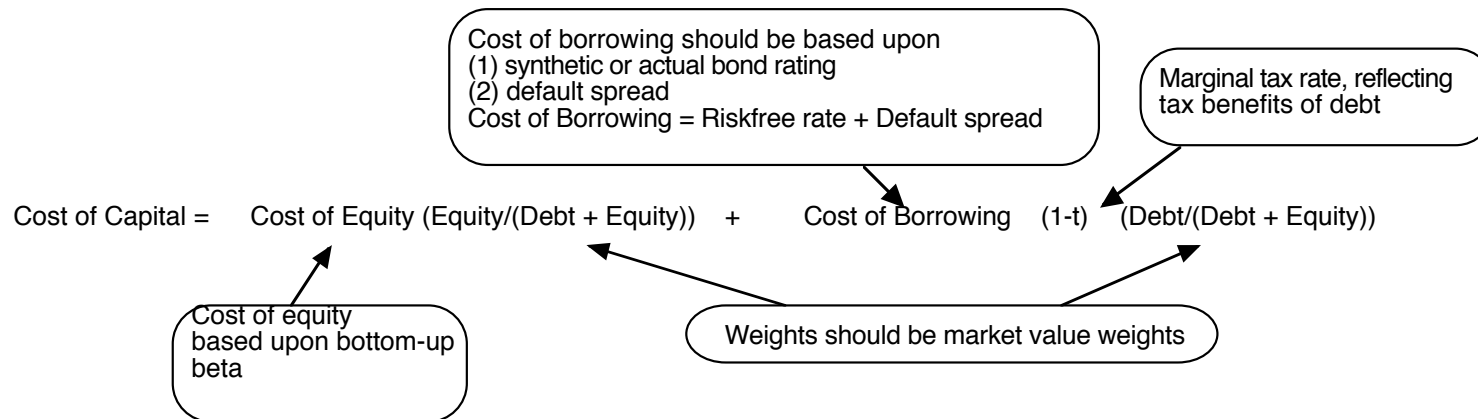


And discount rates...

Cost of Equity: Rate of Return demanded by equity investors



Cost of Capital: Weighted rate of return demanded by all investors



Let's do some valuation...

- You have been asked to value a business. The business expects to \$ 120 million in after-tax earnings (and cash flow) next year and to continue generating these earnings in perpetuity. The firm is all equity funded and the cost of equity is 10%.
- What is the value of the business?
- What is the value of equity in this business?
- If there were 100 million shares outstanding, what is the value of equity per share?
- What would happen to the value of equity per share if the firm has granted options to its managers over time? (Assume that there are 20 million options outstanding)

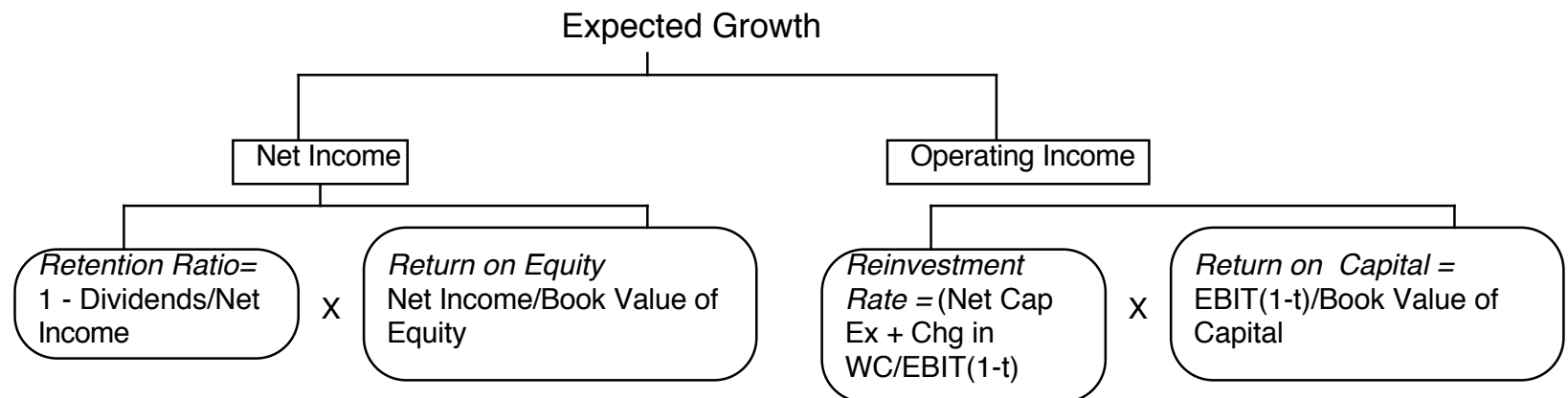
Now, let's try some growth

- Assume now that you were told that the firm can grow earnings at 2% a year forever. Estimate the value of the business.
- Now what if you were told that the firm can grow its earnings at 4% a year forever?
- What if the growth rate were 6% a year forever?

Where does growth come from?

- To grow, a company has to reinvest. How much it will have to reinvest depends in large part on how fast it wants to grow and what type of return it expects to earn on the reinvestment.
 - Reinvestment rate = Growth Rate / Return on Capital
- Assume in the previous example that you were told that the return on capital was 10%. Estimate the reinvestment rate and the value of the business (with a 2% growth rate).
- What about with a 4% growth rate?

The Determinants of Growth: How investment decisions affect value



- Quality growth is rare requires that a firm be able to reinvest a lot and reinvest well (earnings more than your cost of capital) at the same time.
- The larger you get, the more difficult it becomes to maintain quality growth.
- You can grow while destroying value at the same time.

Relative Valuation

- What is it?: The value of any asset can be estimated by looking at how the market prices “similar” or “comparable” assets.
- Philosophical Basis: The intrinsic value of an asset is impossible (or close to impossible) to estimate. The value of an asset is whatever the market is willing to pay for it (based upon its characteristics)
- Information Needed: To do a relative valuation, you need
 - an identical asset, or a group of comparable or similar assets
 - a standardized measure of value (in equity, this is obtained by dividing the price by a common variable, such as earnings or book value)
 - and if the assets are not perfectly comparable, variables to control for the differences
- Market Inefficiency: Pricing errors made across similar or comparable assets are easier to spot, easier to exploit and are much more quickly corrected.

Let's do some relative valuation..

<i>Company Name</i>	<i>PE</i>
<i>PT Indosat ADR</i>	<i>7.8</i>
<i>Telebras ADR</i>	<i>8.9</i>
<i>Telecom Corporation of New Zealand ADR</i>	<i>11.2</i>
<i>Telecom Argentina Stet - France Telecom SA ADR B</i>	<i>12.5</i>
<i>Hellenic Telecommunication Organization SA ADR</i>	<i>12.8</i>
<i>Telecomunicaciones de Chile ADR</i>	<i>16.6</i>
<i>Swisscom AG ADR</i>	<i>18.3</i>
<i>Asia Satellite Telecom Holdings ADR</i>	<i>19.6</i>
<i>Portugal Telecom SA ADR</i>	<i>20.8</i>
<i>Telefonos de Mexico ADR L</i>	<i>21.1</i>
<i>Matav RT ADR</i>	<i>21.5</i>
<i>Telstra ADR</i>	<i>21.7</i>
<i>Gilat Communications</i>	<i>22.7</i>
<i>Deutsche Telekom AG ADR</i>	<i>24.6</i>
<i>British Telecommunications PLC ADR</i>	<i>25.7</i>
<i>Tele Danmark AS ADR</i>	<i>27</i>
<i>Telekomunikasi Indonesia ADR</i>	<i>28.4</i>
<i>Cable & Wireless PLC ADR</i>	<i>29.8</i>
<i>APT Satellite Holdings ADR</i>	<i>31</i>
<i>Telefonica SA ADR</i>	<i>32.5</i>
<i>Royal KPN NV ADR</i>	<i>35.7</i>
<i>Telecom Italia SPA ADR</i>	<i>42.2</i>
<i>Nippon Telegraph & Telephone ADR</i>	<i>44.3</i>
<i>France Telecom SA ADR</i>	<i>45.2</i>
<i>Korea Telecom ADR</i>	<i>71.3</i>

The first missing component...

<i>Company Name</i>	<i>PE</i>	<i>Expected Growth in EPS - Next 5 years</i>
<i>PT Indosat ADR</i>	7.8	6.00%
<i>Telebras ADR</i>	8.9	7.50%
<i>Telecom Corporation of New Zealand ADR</i>	11.2	11.00%
<i>Telecom Argentina Stet - France Telecom SA ADR B</i>	12.5	8.00%
<i>Hellenic Telecommunication Organization SA ADR</i>	12.8	12.00%
<i>Telecomunicaciones de Chile ADR</i>	16.6	8.00%
<i>Swisscom AG ADR</i>	18.3	11.00%
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<i>Portugal Telecom SA ADR</i>	20.8	13.00%
<i>Telefonos de Mexico ADR L</i>	21.1	14.00%
<i>Matav RT ADR</i>	21.5	22.00%
<i>Telstra ADR</i>	21.7	12.00%
<i>Gilat Communications</i>	22.7	31.00%
<i>Deutsche Telekom AG ADR</i>	24.6	11.00%
<i>British Telecommunications PLC ADR</i>	25.7	7.00%
<i>Tele Danmark AS ADR</i>	27	9.00%
<i>Telekomunikasi Indonesia ADR</i>	28.4	32.00%
<i>Cable & Wireless PLC ADR</i>	29.8	14.00%
<i>APT Satellite Holdings ADR</i>	31	33.00%
<i>Telefonica SA ADR</i>	32.5	18.00%
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<i>Telecom Italia SPA ADR</i>	42.2	14.00%
<i>Nippon Telegraph & Telephone ADR</i>	44.3	20.00%
<i>France Telecom SA ADR</i>	45.2	19.00%
<i>Korea Telecom ADR</i>	71.3	44.00%

Closing Thoughts on Valuation

- Valuation is simple. We choose to make it complex.
- The biggest enemies of good valuations are biases and preconceptions that you bring into the valuations.
- You cannot value equity precisely. Be ready to be wrong and do not take it personally.
- Making a model bigger will not necessarily make it better.