# Valuation in 30 minutes, give or take a few…

Aswath Damodaran
www.damodaran.com

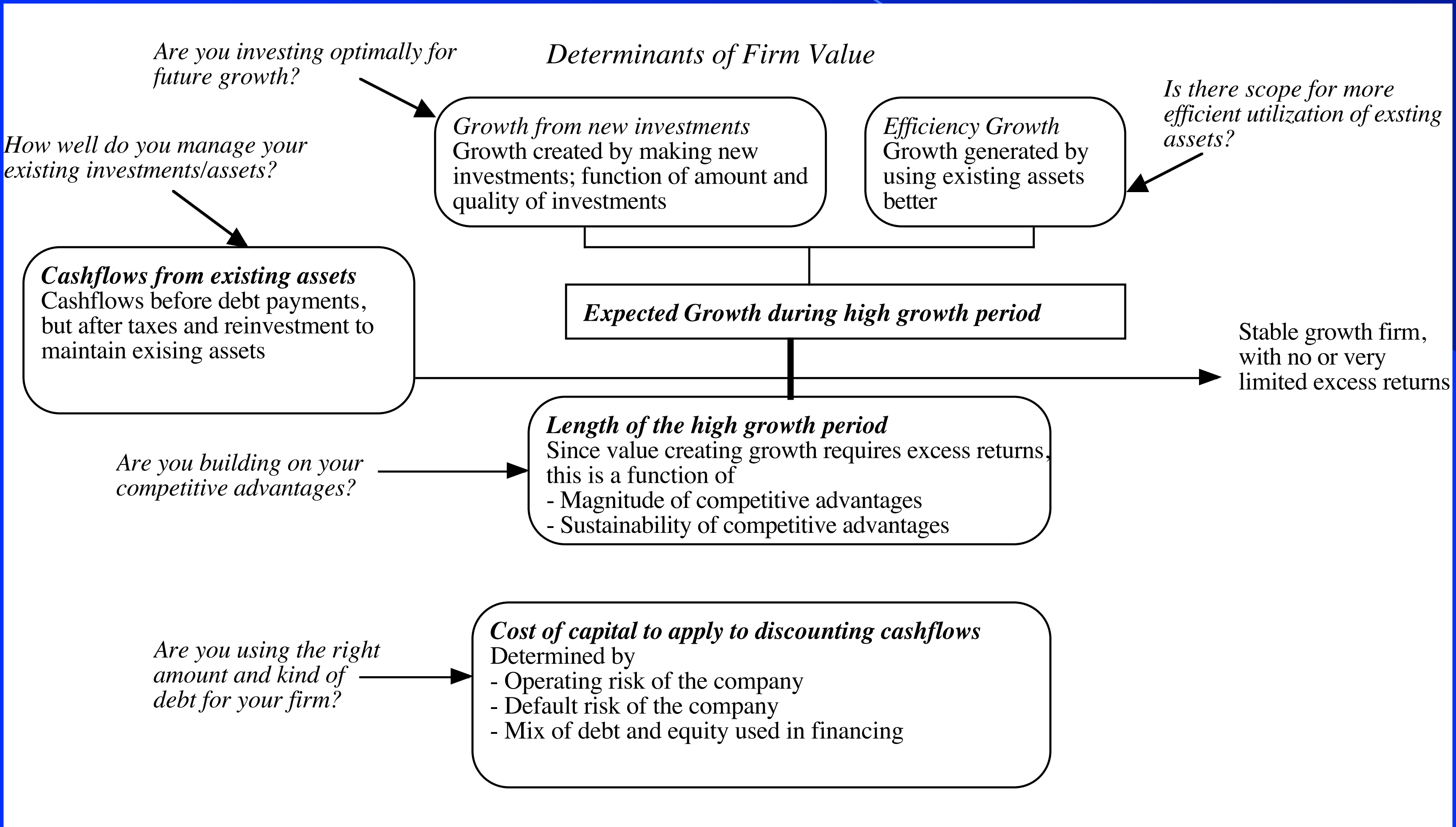
# DCF Choices: Equity Valuation versus Firm Valuation

**Firm Valuation**: Value the entire business

| Assets | | Liabilities | |
|---|---|---|---|
| Existing Investments<br>Generate cashflows today<br>Includes long lived (fixed) and short-lived(working capital) assets | Assets in Place | Debt | Fixed Claim on cash flows<br>Little or No role in management<br>*Fixed Maturity*<br>*Tax Deductible* |
| Expected Value that will be created by future investments | Growth Assets | Equity | Residual Claim on cash flows<br>Significant Role in management<br>*Perpetual Lives* |

**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**

**All claimholders in the firm**

EBIT (1- tax rate)
- ( Capital Expenditures - Depreciation)
- Change in non-cash working capital
= Free Cash Flow to Firm (FCFF)

**Just Equity Investors**

Net Income
- (Capital Expenditures - Depreciation)
- Change in non-cash Working Capital
- (Principal Repaid - New Debt Issues)
- Preferred Dividend

Dividends
+ Stock Buybacks

# And discount rates…

**Cost of Equity: Rate of Return demanded by equity investors**

Cost of Equity = Riskfree Rate + Beta X (Risk Premium)

Has to be <u>default free</u>, in the <u>same currency</u> as cash flows, and defined in <u>same terms (real or nominal)</u> as thecash flows

*Historical Premium*
1. Mature Equity Market Premium: Average premium earned by stocks over T.Bonds in U.S.
2. Country risk premium = Country Default Spread* ($\sigma_{Equity}/\sigma_{Country\ bond}$)

or

*Implied Premium*
Based on how equity is priced today and a simple valuation model

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

Cost of borrowing should be based upon
(1) synthetic or actual bond rating
(2) default spread
Cost of Borrowing = Riskfree rate + Default spread

Marginal tax rate, reflecting tax benefits of debt

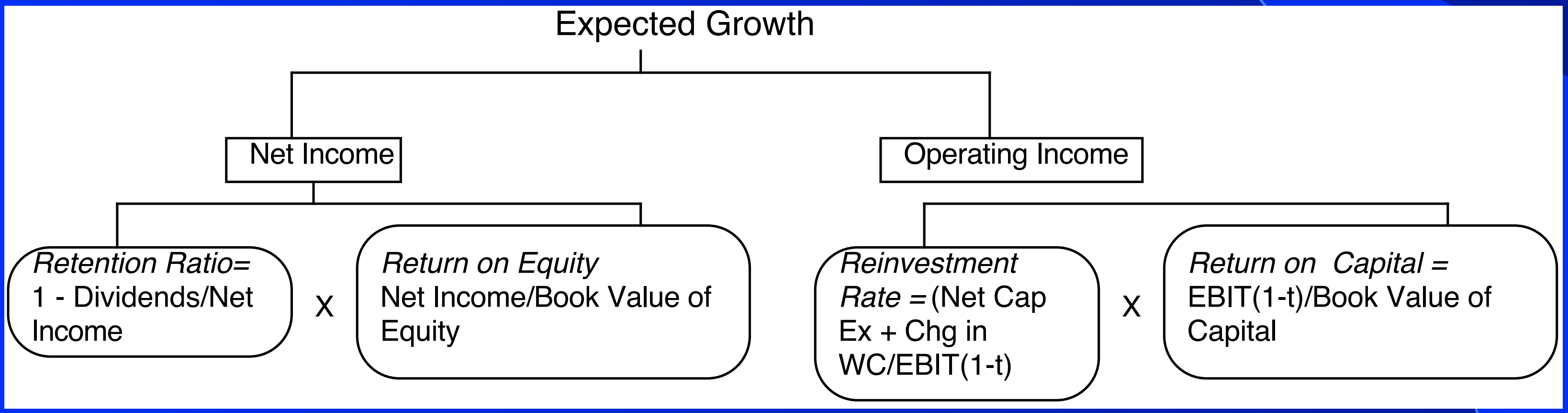
Cost of Capital = Cost of Equity (Equity/(Debt + Equity)) + Cost of Borrowing (1-t) (Debt/(Debt + Equity))

Cost of equity based upon bottom-up beta

Weights should be market value weights

# 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



# All good things come to an end… stable growth and beyond..

- No matter how great a company's products and management are, two forces operate to drag the company's growth rate down towards the growth rate of the economy. The first is scale. As companies grow, they get larger, and as they get larger, it becomes more difficult to grow. The second is competition.
- Both forces also operate to pull down the return on capital for a company towards its cost of capital. Mature companies earn much lower returns on capital, relative to their cost of capital.
- From a mechanical standpoint, this effectively allows us to stop estimating cash flows at some point and estimate a terminal value, by assuming that cash flows will grow at a constant rate forever beyond that point. The "mature" company that we visualize should have a mature company's cost of capital and a mature company's return on capital.

# 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.