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Assessing Growth

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The original model of the sustainable growth rate by Robert Higgins

$$\text{sustainable growth rate} = \Delta s/s^* = \frac{p\,(1-d)\,(1+L)}{t - p\,(1-d)\,(1+L)}$$

p = the profit margin on new and existing sales after taxes,
d = the target dividend payout ratio [(1 − d) therefore is the target retention ratio],
L = the target total debt to equity ratio,
t = the ratio of total assets to net sales on new and existing sales,
s = sales at the beginning of the year, and
Δs = increase in sales during the year.

$$p = \frac{Net\ Profit}{Revenues}$$

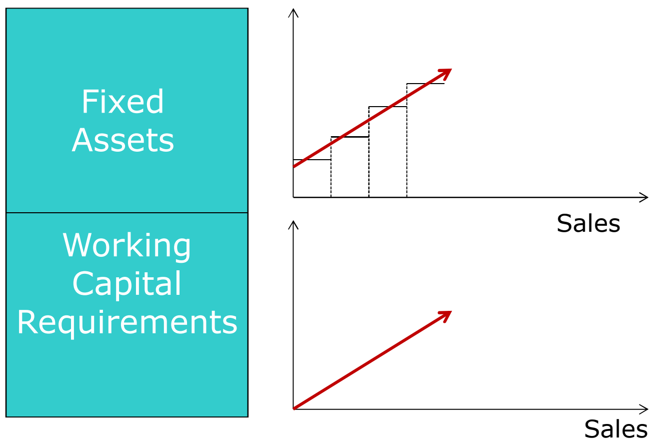
$$d = \frac{Dividends}{Net\ Profit}$$

$$L = \frac{Debt}{Equity}$$

$$t = \frac{Assets}{Revenues}$$

Source: Robert C. Higgins (1977) How Much Growth Can a Firm Afford?, *Financial Management*, Fall

Assumptions of the sustainable growth rate on invested capital



Assumptions of the sustainable growth rate on financing side

$$\Delta IC = \Delta E + \Delta D$$

<u>1) Capital structure should not change from previous year</u>

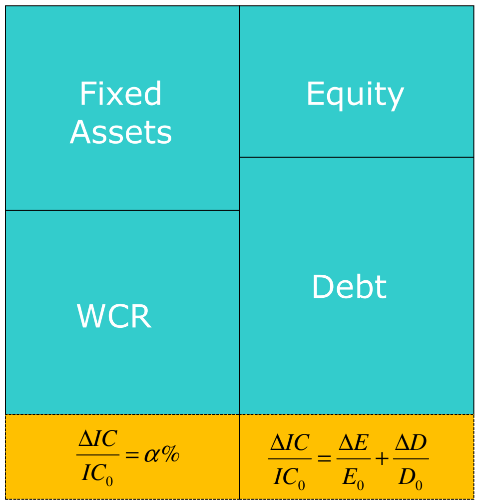
$$\frac{D_1}{E_1} = \frac{D_0}{E_0}$$

$$\frac{\Delta IC}{IC_0} = \frac{\Delta E}{E_0} + \frac{\Delta D}{D_0}$$

<u>2) No use of additional funds from shareholders</u>

$$g^* = \frac{NP_1 \times (1-d_1)}{E_0} = \frac{NP_1}{E_0} \times (1-d_1)$$

Assumptions of the sustainable growth rate on financing side

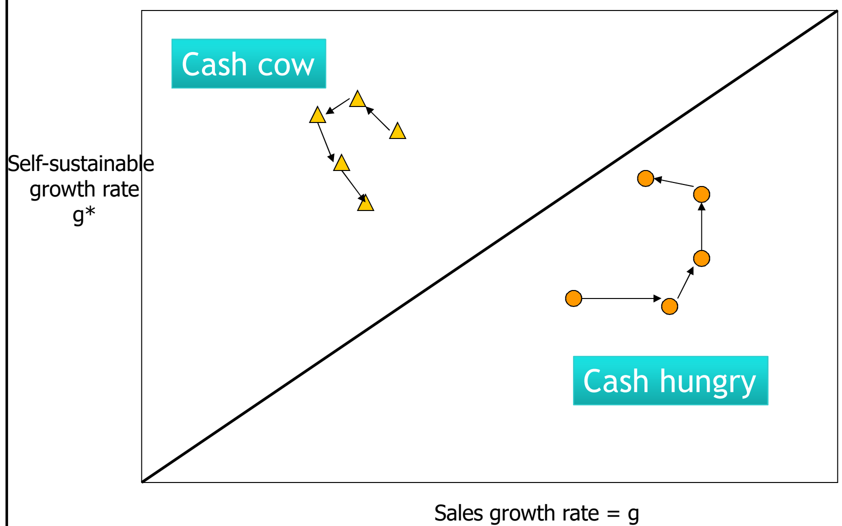


Increase on Invested Capital equals Financing

Sustainable growth rate should be compared to

- Revenues growth
- But also with:
  - Fixed asset growth
    - Fixed asset turnover efficiency was a source of funds?
  - WCR growth
    - Cash conversion cycle efficiency was a source of funds?
  - Equity growth
    - Was there any other source of funds than retained earnings?

Matrix of growth and expected liquidity



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Growth rate within the additive model

$$g^* = \frac{NP_1 \times (1 - d_1)}{E_0} = \frac{NP_1}{E_0} \times (1 - d_1)$$

$$g^* = \boxed{\left[ROIC + (ROIC - k_D) \times \frac{D}{E}\right] \times \frac{EBT}{Recurring\ Earnings} \times (1 - t)} \times (1 - d)$$

Where Invested Capital on the denominator of ROIC is at the beginning of the year:

$$ROIC = \frac{Operational\ Profit_1}{IC_0}$$

D/E is also in the beginning of year

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Questions

- What is the growth of the company in comparison to major competitors
- The growth is sustainable based on the market expectations?
- What are the implications of actual and future growth to the financial strategy of the company?