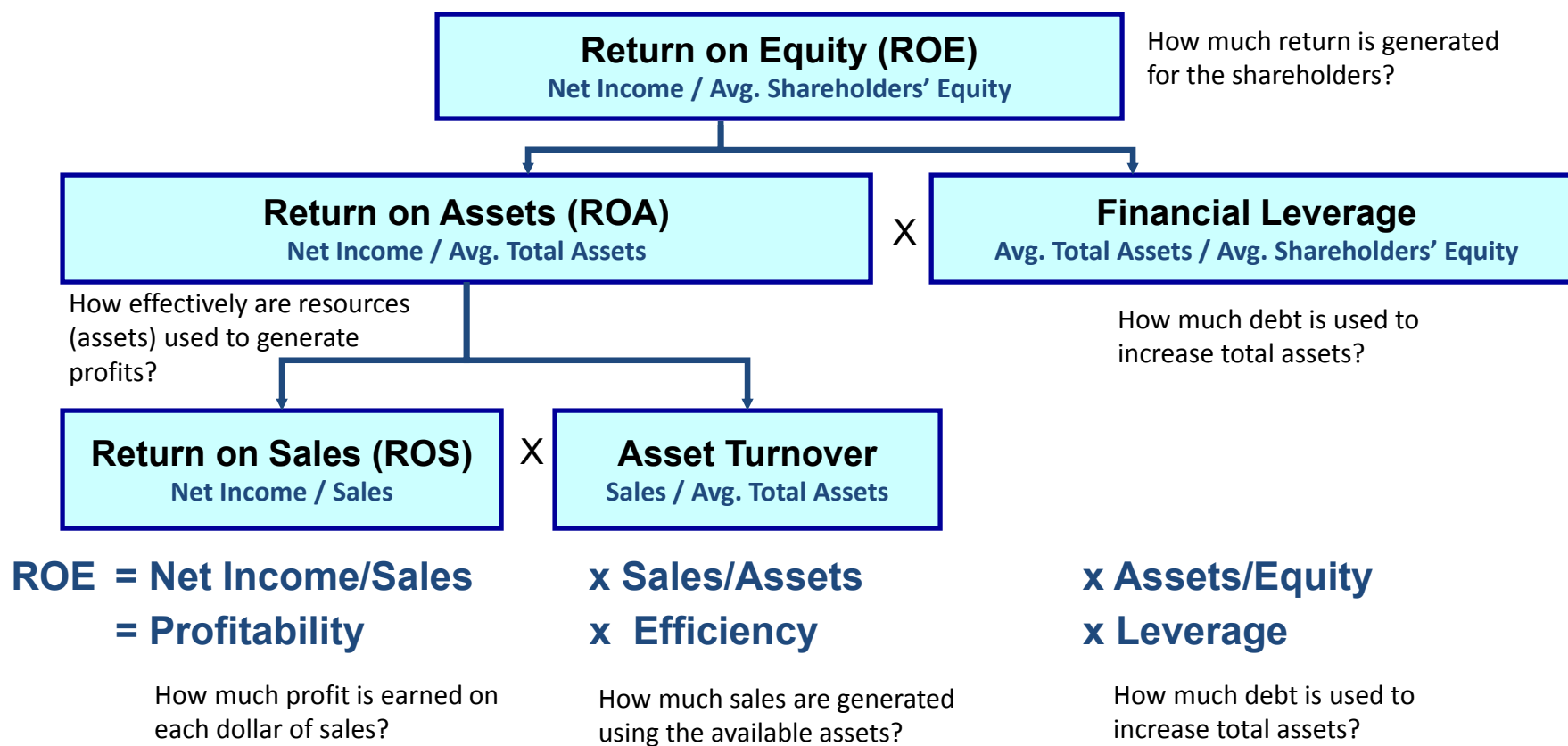


RATIO ANALYSIS: DUPONT ANALYSIS

Professor Brian Bushee



DuPont Ratio Analysis Framework



ROA and Leverage

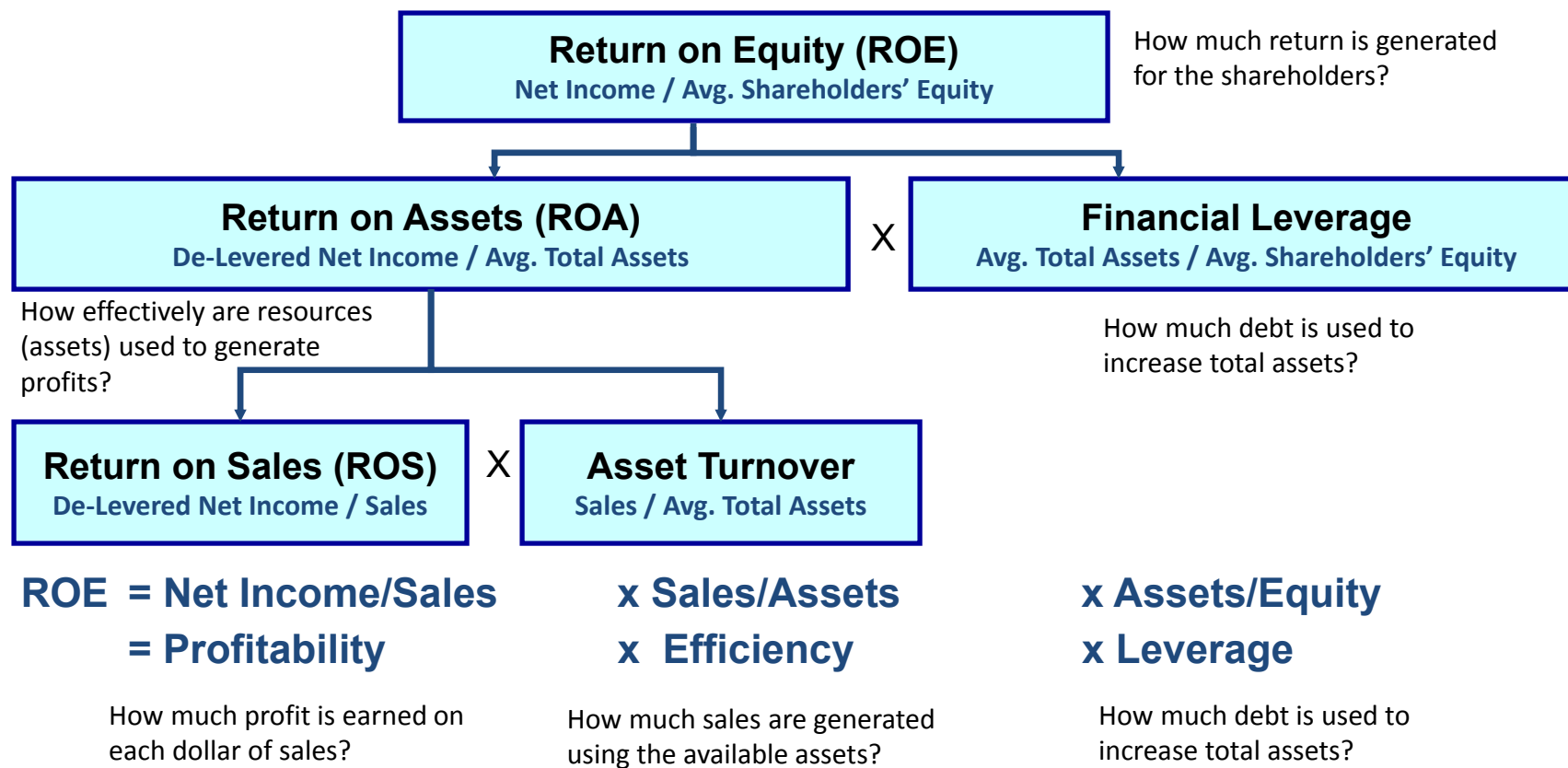
- Ideally, ROA would measure operating performance independent of the company's financing decisions
- But, the numerator of ROA, Net Income, includes Interest Expense
 - More leverage => higher Interest Expense => lower Net Income
- To truly remove all financing effects from ROA, we must de-lever Net Income
- $\text{ROA} = \text{De-Levered Net Income} / \text{Avg. Assets}$
 - $\text{De-levered Net Income} = \text{Net Income} + (1-t) \times \text{Interest Expense}$

ROA Example

De-levering NI removes effects of capital structure:

		<u>No debt</u>	<u>Some debt</u>
Pretax, pre-interest income	300	300	
Interest expense	<u>0</u>		<u>(50)</u>
Pretax income	300		250
Taxes (35%)	<u>(105)</u>		<u>(87.5)</u>
Net income	195		162.5
De-levered Net Income	195	195 $[162.5 + 50(1 - .35)]$	

DuPont Ratio Analysis Framework



Quick note on finding comparison firms

- One approach is to look at standard classification schemes for industries
 - SIC Codes: https://www.osha.gov/pls/imis/sic_manual.html
 - NAICS Codes: <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012>
- Another approach is to look at who analysts and data services use as comparisons for the company
 - Analyst reports will often mention competitors
 - Google Finance (and others) give a list of “Related Companies”
 - Reuters gives Industry and Sector comparisons
- In the end, use your judgment on whether companies are competitors based on a detailed look at business and segments

