

## DUPONT SYSTEM OF ANALYSIS

- I. **Objective:** Find out why a company's profitability, as measured by ROA and ROE, is higher or lower than the industry average ROA or ROE or last year's company ROA or ROE.
- a. Example: Kohl's – company wanted to grow fast, and was able to grow ever faster than its planned growth rate because its profitability as measured by ROE was higher than expected
  - b. DuPont formula: **ROA = Net Profit Margin x Total Asset Turnover**
    - i. Pricing and expense control captured by Net Profit Margin
    - ii. Efficiency of asset use captured by Total Asset Turnover
    - iii. Company's over- or underperformance on ROA is due to one or both of these causes, or "drivers"
  - c. Modified DuPont formula:  
**ROE = Net Profit Margin x Total Asset Turnover x Financial Leverage Multiplier**
    - i. Financial Leverage Multiplier, or "Equity Multiplier" as some call it, is really a debt ratio
    - ii. More assets financed with debt mean less assets financed with equity, so higher this number is, the greater the use of financial leverage
    - iii. Company can "lever up" ROE by using more debt (up to a point, because interest expense starts driving down Net Profit Margin)
    - iv. Company's over- or underperformance on ROE is due to one of three causes, or "drivers"
      1. NPM
      2. TAT
      3. FLM (also called Equity Multiplier)
    - v. Compare company to itself over time and to industry for most recent year when doing your DuPont analysis of ROE
- II. **Example:**
- a. Kohl's has NPM of 5.35%, TAT of 1.3, FLM (or EM) of 1.87
  - b. Department stores industry has NPM of (2.52%), TAT of 1.4, and FLM (or EM) of 2.75
  - c. Format with which show your DuPont analysis:

Company/Industry	ROE	NPM	TAT	FLM* or EM
Kohl's	13.0%	5.35%	1.3	1.87
Dept. store industry	-9.7%	-2.52%	1.4	2.75

*Source: Kohl's Corp – Comparison Data – Hoover's Premium – through Malone Library  
 Accessed: 1/28/10. \*1 calculated FLM or EM = ROE / (NPM \* TAT)*

- d. Conclusion: Kohl's has a much better ROE than its industry because (1) its pricing and cost control allow it to achieve a much higher net profit margin, (2) despite the fact that its use of assets is slightly less efficient (it generates fewer sales per dollar of asset investment), and (3) despite the fact that it uses less debt financing. Less use of debt constitutes a smaller risk for Kohl's relative to its competitors because it is better able to handle the interest payments and principal repayment.