

In Chapter 1 you learned that the Return on Sales ratio (Net Income/Sales) measured the profitability generated by \$1 of sales. Now in Chapter 2 you have learned that the Return on Investment ratio (Net Income/Average Total Assets) measures the return generated by the money invested in the firm's assets. There is, however, another method of analysis that measures a company's Return on Investments - the DuPont Method of Analysis which allows you to determine the driving force behind a company's productivity and profitability. The DuPont method provides information about how effectively the firm's assets were used and also the efficiency of the firms operations.

The DuPont Model for Calculating Return on Investments

$$\frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

The DuPont Model says that performance of the firm, as measured by the Return on Investment ratio, is the result of the combination of how efficiently and effectively the firm operates. First, the DuPont model measures the firm's operating efficiency by using the Return on Sales ratio which shows how much profit each dollar of sales generates. The higher this ratio the more efficient the firm's operating activities. The second ratio is called the Asset Turnover ratio and measures how effectively the assets are producing sales. The number generated by the Asset Turnover ratio describes the ability of the firm's management to generate sales from the assets it has at its disposal. The larger the asset turnover figure, the more effective management is in using its assets to produce sales.

The DuPont method allows you to analyze a firm's profitability by separating the two factors that determine a firm's profitability (efficiency, as measured by Return on Sales, and effectiveness, as measured by Asset Turnover). This method identifies the factors driving or hindering the profitability of the firm. Let's use the DuPont method to analyze Apple's profitability.

$$\begin{array}{rcccl}
 \text{Return on Sales (\%)} \times \text{Asset Turnover} & & & & \text{Return on Investment (\%)} \\
 \hline
 \frac{\$276}{\$8,279} & \times & \frac{\$8,279}{(\$8,050 + \$6,815)/2} & = & \frac{\$276}{(\$8,050 + \$6,815)/2}
 \end{array}$$

Return on Sales = .0333 or 3.3% of every dollar of sales become profit.

Asset Turnover = 1.1139 and means assets produced 1.1139 sale for every dollar of assets used by Apple during the year.

Return on Investments = .0371 or 3.71% and means that the average assets used (investments made by Apple to create profit) produced a 3.71% return

To improve its profitability Apple must increase its Return on Sales by decreasing expenses and, therefore, increasing net income (its efficiency) and/or increase the amount of sales generated by the assets employed (effectiveness).