

PULLING THE LEVERS TO IMPROVE PROFITABILITY

by Michael Gunderson, Josh Detre and Michael Boehlje

Editor's Note: This column is the first of two pieces on the topic of improving profitability. The second column, titled "Marketing's Role In Managing Assets," will appear in the September 2005 issue.

Wouldn't operating an agribusiness be much easier if it were possible to simply pull a lever and improve profitability? Although not quite that effortless, the DuPont Financial Analysis Model is a rather straightforward method for assessing the factors that influence a firm's financial performance. This model identifies three "levers" of profitability of the firm as measured by return on equity. These three levers are (1) margins or return on sales, (2) asset turnover and (3) financial leverage. More simply stated, these levers are "earnings, turns, and leverage." We will first introduce the model and then discuss each of these levers in this two-part series. The DuPont Analysis framework will be used specifically to demonstrate the critical role of marketing as a driver of profitability.

THE MODEL

The DuPont model allows businesses to understand and manage the drivers (levers) that have the most bearing on profitability. Generally, two streams impact the profitability of the firm, the investment stream and the income stream (Figure 1). The investment stream is where the CFO might spend most of his efforts. The key lever driving the investment stream is leverage, more specifically total assets divided by owners' equity.

The COO will typically focus on the income stream. The income stream is driven by the earnings and turns levers. Earnings refers to the ability of the firm to control margins by managing its revenues and costs. Generally, a firm can improve margins by raising prices, managing input costs and/or improving pro-

duction efficiency. Turns refer to the ability of the firm to generate larger amounts of sales out of fewer resources than do competitors or the market. One can improve asset turnover by improving sales while holding the asset base constant and/or by reducing the size of the asset base while maintaining or improving revenues.

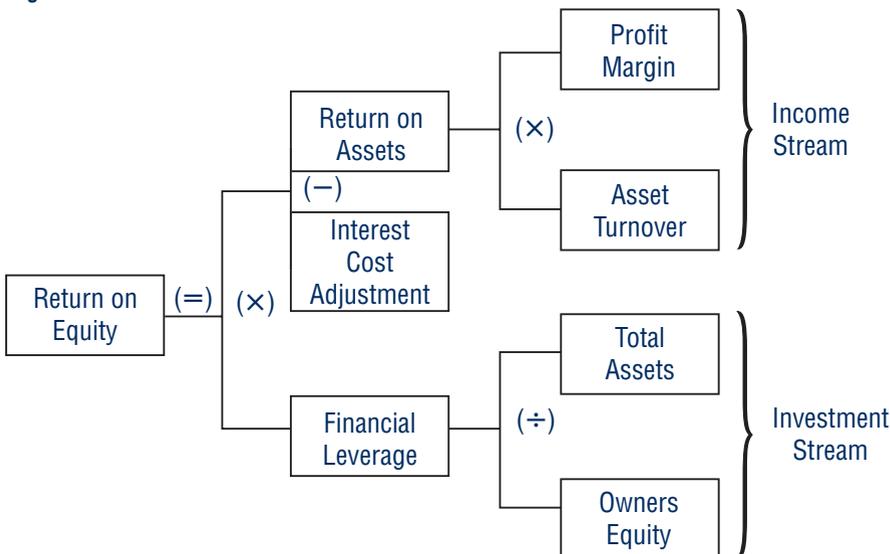
AN EXAMPLE

All of the numbers used in a DuPont Analysis are easily found on an accurate income statement and balance sheet. An example analysis for an agribusiness can be found in Table 1. This firm is generating nearly \$63 million of sales on more than \$162 million of assets. The firm is earning a substantial operating margin of 19.73 percent. However, shareholders are likely disappointed with the paltry 7.68 percent they are earning on their equity. It might be time for the CEO to demand that his VPs identify the means to improve shareholder value. The CFO might focus on the investment flow, while operating managers will focus on controlling costs to improve the income flow. However, it is the marketing manager that can provide a "triple whammy" to Return on Equity (ROE) by improving revenues through pricing and volume.

MARKETING'S TRIPLE WHAMMY

Focusing exclusively on the income stream, it is easy to identify two options the firm has to improve Return on Assets (ROA) and consequently ROE. First, the firm can "pull the earnings lever" by fattening the operating margin. Alternatively, the firm can "pull the turns lever" by improving sales and/or decreasing the asset base. Considering that an operations manager will be concerned primarily with decreasing

Figure 1. DUPONT FINANCIAL ANALYSIS MODEL



costs, this improvement impacts just one side of the income stream. The marketer has more to offer in terms of improving ROE.

The marketer can provide a multiplicative impact on ROA and ROE. Improving revenues can increase the operating margin (earns) and increase the asset turnover ratio (turns). Moreover, because these are multiplied together in the DuPont model, the ability of marketers to improve sales provides a “triple whammy” improvement in ROA and ROE for the shareholders. Let’s return to the example and consider a 10 percent decline in costs versus a 10 percent increase in revenues.

If an operating manager is able to squeeze 10 percent savings from the budget, the firm saves about \$5.25 million and improves the operating margin to more than 28 percent. This is an improvement of about 8.4 percent in this ratio, resulting in a 3.23 percent increase in ROA to 10.85 percent. ROE jumps almost 4 percent to 11.58 percent given the existing capital structure. Although impressive to shareholders, results are even better when the improvements come on the revenue side.

If a marketing manager is able to improve sales through a 10 percent price increase, growing the revenues from \$62 million to more than \$69 million, the operating margin improves to 27 percent. Wait, this is 1 percent less than the margin improvement due to the 10 percent cost savings! So how is this going to be a better story for shareholders? The triple whammy comes from the fact that increasing sales increases earns and turns, and they are multiplicative. The asset turnover ratio has improved to more than 42.5 percent, an increase of about 4 percent, whereas the cost savings did not affect asset turnover. Now ROA will improve to 11.5 percent. The revenue improvement increases ROE by more than 4 percent to 12.35 percent. Therefore, a 10 percent revenue

Table 1. DUPONT MODEL FOR AN EXAMPLE AGRIBUSINESS

Operating Profit Margin				
Gross Revenue ¹	–	Total Expense ¹	=	Operating Income
\$62,855,300		\$52,536,700		\$10,318,600
Operating Margin				
Operating Income + Interest Expense ¹	÷	Gross Revenue	=	Operating Margin
\$12,400,523		\$59,855,300		20.72%
Asset Turnover Ratio				
Gross Revenue	÷	Total Assets ²	=	Turnover Ratio
\$62,855,300		\$162,650,272		38.64%
Return on Assets (ROA)				
Profit Margin	×	Turnover Ratio	=	Return on Assets
20.72%		38.64%		8.01%
Return on Equity (ROE)				
Return on Assets	–	Interest Cost Adjustment	=	Adjusted ROA
8.01%		1.28%		6.73%
Return on Equity				
Adjusted ROA	×	Assets/Equity ²	=	Return on Equity
6.73%		1.21		8.14%

¹These numbers are obtained from the Income Statement

²These numbers are obtained from the Balance Sheet. Equity is \$134,421,712

improvement results in a 0.77 percent larger increase in ROE compared to the 10 percent cost savings.

If the 10 percent gain in gross revenue is attributable to increased volume, there is an impact on both gross revenues and expenses. Assume the firm must spend approximately 30 percent of the additional revenue on cost of goods sold or an additional \$1,885,659 in expenses. Here the marketing manager cannot increase the operating margin as much as a 10 percent increase in price; however, the firm still observes a 4.57 percent increase in this margin over the base case. The turnover ratio increase is the same as with the price increase; nevertheless, the increase in ROA is 1.16 percent less because of the smaller improvement in the operating margin. The result is an ROE of 10.95 percent — an increase of 3.27 percent over the base case but less than the ROE of the cost reduction and the price increase strategies.

PULLING THE EARNS AND TURNS LEVERS SIMULTANEOUSLY

So, how can revenues be improved? The easiest way is to sell the same amount at a higher price. If a product is generating value for its users, then a “cost-plus” pricing approach might be an inadequate means of

pricing. Instead, it might be more profitable to consider a “value-added” pricing system that allows the firm to sell the same amount of goods at a higher price. Alternatively, units sold can increase while holding prices constant. The sales volume increases needed to achieve the same ROE as the 10 percent increase in prices and the 10 percent cost reduction in our earlier example would be 14.3 percent and 12 percent respectively. Improving the targeting of customer segments, deploying sales associates more efficiently and offering an improved product are methods for accomplishing this.

Here we have focused almost exclusively on the income stream and for the most part on the “earns” lever. In the next part of this series, we will consider more thoroughly the “turns” and “leverage” levers. The marketing manager can play a key role in ensuring these levers are also pulled in ways that improve shareholder value. **AM**

Michael Gunderson and Josh Detre are USDA National Needs Fellows and Michael Boehlje is a professor with the Center for Food and Agricultural Business at Purdue University. Additional information on this topic can be obtained by e-mailing Dr. Boehlje at boehljem@purdue.edu.