

ADC Info# 12

September 1998

## Selling Price, Gross Margin & Mark-Up Determination

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Price determination for many consumer products is often a function of the cost of production and a desired level of mark-up. Price determination by this desired level of mark-up is often referred to as cost-plus pricing, mark-up pricing or full-cost pricing <sup>(1)</sup>. There are several “rules-of-thumb” related to mark-up pricing. For example, some retailers who sell to consumers may expect to price items at 20 to 100% above their cost. There is, however, a fine line between the desired mark-up, cost of production and the price that the market will bear. All of these elements must be carefully understood and respected. For instance, the price the market will bear is actually a function of demand. For example, a 20% mark-up may yield a selling price that is less than what the market will support. Luxury goods and niche products often command a premium which exceed the set mark-up. That is why cost of production, desired mark-up and market demand should all be evaluated when establishing a product's selling price.

To determine a product's selling price using the mark-up method, the total cost of producing a product on a per unit basis must be known. Total cost should include all of the costs incurred in getting the product to the point of sale. This would include but is not limited to input costs, labor, overhead costs, transportation costs, warehousing costs, distribution costs and marketing costs.

The formula for determining a product's selling price using a desired mark-up percent is:

$$\text{Selling Price} = \text{Total Cost} \times (1 + \text{Mark-Up Percent})$$

$$\text{Selling Price} = \$2.00 \times (1 + 0.27)$$

$$\text{Selling Price} = \$2.00 \times (1.27)$$

$$\text{Selling Price} = \$2.54$$

Therefore, if you want a mark-up of 27% (a profit equal to 27% of total cost) the selling price must be set at \$2.54. *Mark-up percent is the proportion of total cost represented by profit.*

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<sup>1</sup>Managerial Economics In A Global Economy, Dominick Salvatore, McGraw-Hill, 1993.

In some instances, the selling price may be set based on the comparison of the cost of production with the price that the market will bear. For example, if cost of production is \$2.00 per unit and the market appears to support a selling price of \$2.60, the selling price may be set around \$2.54. These numbers can be used to determine the mark-up percent. In this scenario, the formula for the mark-up percent is:

$$\text{Mark-up Percent} = (\text{Selling Price} - \text{Total Cost}) \div \text{Total Cost}$$

$$\text{Mark-up Percent} = (\$2.54 - \$2.00) \div \$2.00$$

$$\text{Mark-up Percent} = \$0.54 \div \$2.00$$

$$\text{Mark-up Percent} = 27\%$$

The notion of mark-up pricing should not be confused with profit margins and gross margins. The profit margin is the dollar value difference in the selling price and total cost. Therefore, the profit margin in the previous example is  $(\$2.54 - \$2.00)$  \$0.54 per unit. Consequently, while the gross margin is usually thought of as revenue minus the cost of goods sold, the gross margin percent is the percent of the selling price accounted for by the profit margin. Gross margin percent is calculated as the profit margin (difference in the selling price of \$2.54 and the total cost of \$2.00) divided by the selling price. The formula for gross margin percent is:

$$\text{Gross Margin Percent} = (\text{Selling Price} - \text{Total Cost}) \div \text{Selling Price}$$

$$\text{Gross Margin Percent} = (\$2.54 - \$2.00) \div \$2.54$$

$$\text{Gross Margin Percent} = \$0.54 \div \$2.54$$

$$\text{Gross Margin Percent} = 21\%$$

If a desired level of gross margin is known, the formula for gross margin can be modified to calculate the selling price. Using a desired gross margin percent, the formula for calculating the selling price is:

$$\text{Selling Price} = \text{Total Cost} \div (1 - \text{Gross Margin})$$

$$\text{Selling Price} = \$2.00 \div (1 - .21)$$

$$\text{Selling Price} = \$2.00 \div \$0.79$$

$$\text{Selling Price} = \$2.54$$

It is clear that the gross margin of 21% is different than the mark-up calculated earlier (27%), although both examples used a selling price of \$2.54 and a total cost of \$2.00. Mark-up and gross margins are often used in calculating and evaluating selling prices. However, they should not be used interchangeably for they are defined and calculated differently.

### **RULES -OF-THUMB**

- \* Mark-up Percent is the percent of Total Cost that is Profit**
- \* Gross Margin Percent is the percent of the Selling Price that is Profit**
- \* Profit Margin is the difference in Selling Price and Total Cost**



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