



Basic Pricing Strategies for Small Businesses

Revised and updated by James C. McConnon, Jr. Extension Business and Economics Specialist, and Professor of Economics, University of Maine.

Originally developed by Francis E. Montville, former Extension Business and Economic Specialist.

The key to setting profitable prices is to set them high enough to cover costs but low enough to encourage people to buy. How much the public is willing to pay for your product or service depends in large part on the quality you offer, prices charged by your competition, the distinctiveness of your product or service, your reputation, and how strongly the customer feels about wanting or needing your product or service.

The prices you charge for goods and services can sometimes make the difference between success and failure of a business. Consider these three guiding principles when determining prices:

1. Prices should be sufficient to cover your total costs and provide a reasonable profit.
2. Prices should be competitive with those of similar products or services.
3. Prices should be in a range that a majority of your potential customers (i.e., target market) are willing to pay.

When setting prices, strive for a three-way balance among selling price, sales volume and expenses. Consider the following possibilities. If you set prices too low, sales volume may be high, but does not generate enough gross income to cover all expenses. If prices are set too high, sales volume may not be great enough to generate the gross income needed to cover all expenses. If prices match those of your competitors, you may generate a good

sales volume, but be losing money if your expenses are higher than those of competitors. Your objective is to make the largest total profit (i.e. total gross income minus expenses), not the greatest sales volume.

Know Your Costs

The first essential element to pricing goods and services is knowing your costs. Otherwise, you may be selling items for less than they cost you to produce. Adopting a good record-keeping system, covering all aspects of the business, is a necessary first step.

Your costs will fall into two categories: variable costs (also referred to as operating or direct costs) and fixed costs (overhead). Variable costs are related directly to production. This includes the cost of raw materials used to produce an item for sale, hired labor, packaging, advertising, delivery charges, office supplies, etc. Fixed costs include all the things you have to pay for, whether or not you produce anything. Included are such items as rent, insurance, taxes, utilities, licenses, depreciation, interest, and any other regularly occurring expenses.

Pricing Crafts for Profit

Consider the value of your time when determining prices for crafts you produce. Calculate the amount of time required to make various products by keeping a record of how long it takes for each task to complete the product. Add these together to determine the total time required. To determine labor cost, multiply the total time by the hourly rate you want.

You must also consider overhead expenses in determining prices. Some craft businesses need little space and supplies. Others require a special area, tools, and supplies that break and wear out. Keep an ongoing record of expenses and total them at the year's end. Divide the total expenses by the number of units produced to determine the overhead cost per unit produced. For some items, this cost may be small, but it is a business expense that should be reflected in your price.

Keeping a record of material costs is easy. Simply keep the receipts for all materials purchased to make your products – wood, nails, paint, yarn, etc.

Pricing Formulas

Some pricing formulas only allow you to determine prices without any profit. Others factor in some profit. Here are some examples.

Sample Problem—You want to determine the prices for five “widgets” you have produced. Materials cost \$30. You spent ten hours making the “widgets” and you want to earn \$10 an hour for your time. Your labor cost in this case is \$100 (10 hours x \$10/hour). Overhead expense is determined to be \$20. The desired weekly wage is \$600 for a 40-hour work week. You also need a profit of \$40 per week for expansion, inflation, and investment.

A. A simple formula used by many beginning craft and home-based businesses is:

$$\frac{\text{Cost of materials + labor cost}}{\text{Number of units}} = \text{Selling price per "widget"}$$

$$\frac{\$30 + \$100}{5} = \$26 \text{ per "widget"}$$

Although this seems to provide a reasonable selling price, there is no allowance for overhead costs, profit or inflation. At the break-even price per unit (before overhead expenses), you do not lose money or make a profit. You simply break-even. [Material cost of \$30 plus \$100 labor cost equals \$130]. At the \$26 per widget price, your total income is \$130 (5 x \$26).

B. A second method, also used by beginning craft and home-based businesses, does not use an hourly wage rate for labor. Instead, the cost of materials is multiplied by a fixed number, often three. However, the result can be misleading. The profit margin using this formula is likely to be very slim or non-existent unless production time is extremely efficient and materials relatively inexpensive and readily available.

$$\frac{\text{Cost of materials x 3}}{\text{Number of units}} = \text{Selling price per "widget"}$$

$$\frac{\$30 \times 3}{5} = \frac{90}{5} = \$18 \text{ per "widget"}$$

This formula may not always result in a fair price for your products. For example, with a materials cost of only \$20, your selling price using this formula would drop to \$12:

$$\frac{\$20 \times 3}{5} = \frac{60}{5} = \$12 \text{ per "widget"}$$

C. A third formula is an individualized approach that is tailored to your business. You make a conscious decision about what you want from your business. You decide on a satisfactory wage and the amount of time spent earning that wage and you also factor in overhead expense and a profit.

In this sample problem, ten hours or $\frac{1}{4}$ of the work week was spent making five "widgets": $\frac{1}{4}$ of \$600 = \$150 desired weekly wage; $\frac{1}{4}$ of \$40 profit = \$10 profit.

$$\frac{\text{Cost of materials + overhead} + \text{desired weekly wage + profit}}{\text{Number of units}} = \text{Selling price per unit}$$

$$\frac{\$30 + \$20 + \$150 + \$10}{5} = \frac{\$210}{5} = \$42 \text{ per "widget"}$$

- D. At some point, you may consider wholesaling some of your products. This pricing method assumes efficiency of production and a steady demand.

$$\frac{\text{Cost of materials + labor cost} + \text{overhead + profit}}{\text{Number of units}} = \text{Wholesale price per unit}$$

Using the example above:

$$\frac{\$30 + \$100 + \$20 + \$10}{5} = \frac{160}{5} = \$32 \text{ per "widget" (wholesale price)}$$

When you wholesale to retailers, remember that the buyer may double your wholesale price. Take this into consideration when determining your wholesale price. If they double the wholesale price, the final price may be too high for the item to sell. As illustrated in the example above, your wholesale price is likely to be lower than your retail selling price. So, it's important to determine the minimum wage (i.e., \$10/hour in this example) you would be willing to accept in return for the higher sales volume.

It is a good practice to visit several shops and compare prices on identical or very similar products. The price tag may reflect as much as 100 percent or more markup. Use the highest price, or an average of the highest and middle prices, to determine the market value of your product. Base your pricing decisions on this information. If your price is too high to be competitive, improve your production efficiency, reduce overhead, cut your profit margin, or locate a better buy on same quality of materials used in production. Avoid saving money by using lower quality materials. This may affect the quality of your product.

Pricing Services For Profit

The total cost to produce any service is composed of material costs, labor costs, and overhead costs. The direct material costs and direct labor costs, plus overhead, equal the total cost of the service.

Direct Material Cost

Direct material costs are made up of the supplies you use for the specific job. Also included are handling and shipping charges you encounter when purchasing materials. Develop a list of materials and supplies to be used. Then check with suppliers for up-to-date costs.

Direct Labor Cost

Direct labor costs include those labor costs identified with a specific job service. Labor costs are determined by multiplying the number of direct labor hours required to perform a service by the labor cost per hour. To accurately determine the amount of direct labor hours involved, you must use a time clock, worksheet, or a daily time card for each employee.

The hourly cost of labor can be figured two ways. It can be the hourly wage only, with fringe benefits, Social Security, Workers' Compensation, and other expenses allocated as overhead. Or the hourly direct labor cost can include hourly wages plus your contribution to Social Security, unemployment compensation, disability, holidays and vacations, health, and other fringe benefits. These are often referred to as payroll costs.

Using this second method, the added payroll costs are expressed as percentages of your direct hourly wages. If two weeks of vacation and ten holidays are given annually, this amounts to four weeks per year or 7.7 percent [i.e., four weeks off divided by fifty-two weeks = 7.7%] of the total labor cost for time off. Therefore, to determine the total direct labor cost per hour by this method, you must add the prorated cost of payroll taxes, Workers' Compensation, holidays and vacation pay, health benefits, etc. to the hourly wage paid. This method is more complicated, but more precise. The higher labor cost includes labor-related payroll costs, in addition to hourly wages in direct labor costs. Table 1 shows a sample calculation for figuring the total direct labor cost using this method.

Table 1. Direct Labor Cost Calculation Example					
(1)	(2)	(3)	(4)	(5)	(6)
Hourly Wage	Payroll Tax @ 12%	Worker's Compensation @ 3%	Total Direct Labor Cost Per Year*	Total Direct Labor Cost Per Hour**	Actual Direct Labor Cost Per Working Hour***
\$9.00	\$1.08	\$.27	\$21,528.00	\$10.35	\$11.21
12.00	1.44	.36	28,704.00	13.80	14.95
15.00	1.80	.45	35,880.00	17.25	18.69

* 40 hrs/wk. x 52 wks./yr. = 2,080 hrs./yr. x columns (1) + (2) + (3)

** Columns (1) + (2) + (3)

*** Column (4) divided by 1,920 hrs./yr (i.e., 2080-160). Assumes four weeks of vacation and holiday time (i.e., 160 hours) given annually.

Note: The hourly wages, payroll tax rate, and workers' compensation percentage used in Table 1 are not reflective of current law and are used only to illustrate the method of calculating direct labor costs.

Overhead Cost

Overhead is the indirect cost of the service and is made up of indirect materials, indirect labor and other costs related to particular services.

Overhead costs include all job-related costs other than direct materials and direct labor needed to perform the service. If you did not include labor related payroll benefit costs in calculating direct labor expenses, then you must include them in overhead. These include office supplies, machine and equipment maintenance, wages for clerical workers, janitors, and other employees who do not perform the service but serve a support function. Other costs, like taxes, depreciation, insurance, transportation, rent, licenses, advertising, etc., are also overhead. To figure the portion of overhead related to particular services or jobs, you use overhead costs to calculate the **overhead rate**.

The overhead rate can be expressed as a decimal, as a percentage, or as an hourly rate. The overhead rate helps to assure that all overhead costs expended throughout the year will be recovered.

When employees' wages vary, as higher paid employees work with more expensive equipment, the overhead cost is allocated on the basis of direct labor cost. This is because a large proportion of the overhead cost consists of equipment depreciation (another indirect cost), interest on capital invested in equipment, and electrical costs. The overhead rate is determined as follows:

$$\text{Overhead Rate} = \frac{\text{Total Overhead Cost}}{\text{Total Direct Labor Cost}}$$

This is the most common method for allocating overhead cost for a specific service performed.

In some cases, there is little difference in the wages paid to different employees. In other cases, no relationship exists between the level of the employee's skill and amount of equipment used by the employee. In either case, total overhead cost may be allocated on the basis of direct labor hours instead of direct labor costs. In this case, the overhead rate is determined as follows:

$$\text{Overhead Rate} = \frac{\text{Total Overhead Cost}}{\text{Total Direct Labor Hours}}$$

This rate is suitable for service-oriented businesses, such as administrative assistants, office cleaning services, etc. The overhead costs result mainly from the workplace, supervision, and electricity that the workers need to provide the service. Using the formula based on the direct labor hours it is possible to determine the overhead cost per hour.

Calculating Overhead Costs

To illustrate the method of calculating overhead costs, let's assume you are in the repair business. The cost calculation procedure illustrated for the repair business can also be used for other types of service businesses. As mentioned earlier, the total cost of producing any service is made up of: (1) material cost, (2) labor cost and (3) overhead cost. Assume that a specific repair job will require \$20 of parts and two hours of labor at a rate of \$13.80 per hour. To determine the total direct labor cost, multiply the number of direct labor hours used by the direct labor cost per hour.

$$\text{Total Direct Labor Cost} = \text{Direct Labor Cost per Hour} \times \text{Hours Worked}$$

$$\text{Total Direct Labor Cost} = \$13.80 \text{ per Hour} \times 2 \text{ Hours}$$

$$\text{Total Direct Labor Cost} = \$27.60$$

Assume that the total overhead expenses were projected to be \$75,000 per year. In a repair business, the overhead costs are more closely related to direct labor costs than to direct material costs. Also, assume the total projected direct labor costs are, including payroll taxes and fringe benefits, \$50,000. The formula you would use to determine the overhead rate based upon the direct labor cost is:

$$\text{Overhead Rate} = \frac{\text{Total Overhead Cost}}{\text{Total Direct Labor Cost}}$$

Using this formula, and the example above:

$$\text{Overhead Rate} = \frac{\$75,000}{\$50,000}$$

$$\text{Overhead Rate} = \$1.50$$

To determine the overhead cost of a specific job, the direct labor cost is multiplied by the overhead rate as follows:

$$\text{Overhead Cost} = \text{Direct Labor Cost} \times \text{Overhead Rate}$$

Using the example above:

$$\text{Overhead Cost} = \$27.60 \times \$1.5$$

$$\text{Overhead Cost} = \$41.40$$

To determine the total cost of the repair job, add the material cost, direct labor cost, and overhead cost together. For instance, if the materials cost \$20, then:

Material Costs	=	\$20.00
Direct Labor Costs	=	27.60
Overhead Costs	=	41.40
Total Cost	=	\$89.00

Pricing Alternatives

Material costs are easy to estimate accurately. Labor and overhead costs, however, are more difficult to estimate accurately. For example, equipment breakdowns, and ill or absent employees affect labor and overhead costs, often resulting in higher than estimated costs.

You can be prepared for fluctuations in labor and overhead costs by adding a percentage of profit to each of the three costs: materials, labor and overhead. This allows for variations in labor and overhead costs among jobs. For example, assume 10 percent profit on material, a 30 percent profit on direct labor and 30 percent profit on overhead. If you apply these percentages to the costs listed in the previous example, you get:

	<u>Profit</u>
Material Costs + Profit on Material \$20.00 + (\$20.00 x 10%) = \$22.00	\$2.00
Direct Labor Costs + Profit on Direct Labor \$27.60 + (\$27.60 x 30%) = \$35.88	\$8.28
Overhead Costs + Profit on Overhead \$41.40 + (\$41.40 x 30%) = \$53.82	\$12.42
\$89.00 Cost	\$111.70 Price
	\$22.70 Profit

This is one method of dealing with the differences in labor and material costs that exist in most service businesses. Profit on labor and overhead should be higher than profit on materials, to allow for fluctuations in the cost of labor and overhead as you move from job to job.

Direct Cost Pricing

The direct cost pricing method allows you to set your selling price based on direct materials cost and direct labor costs. In the example of a repair business, direct materials costs of \$20.00 plus direct labor costs of \$27.60 equal total direct costs of \$47.60.

Overhead costs are \$41.40. To earn \$11.00 profit, your selling price must be at least \$52.40 above your direct costs. To determine the percentage of profit on direct cost to charge, divide direct costs into overhead costs plus needed profit:

$$\frac{\text{Overhead Costs} + \text{Needed Profit}}{\text{Direct Costs}} = \text{Percentage of Profit on Direct Cost}$$

$$\frac{\$41.40 + \$11.00}{\$47.50} = \frac{\$52.40}{\$47.60} = 110.1\%$$

Proof:

$$(\$47.60 \times 110.1\%) - \$41.40 = (\$47.60 \times 1.101) = \$52.40 - \$41.40 = \$11.00 \text{ profit}$$

Profit Margin Pricing

Profit margin pricing is expressed as a percentage of your total costs. The profit you need is divided by the total cost to determine the percentage of profit margin:

$$\frac{\text{Needed Profit}}{\text{Total Cost}} = \text{Percentage of Profit Margin}$$

For instance, if you want a profit of \$11 and your total cost is \$50:

$$\frac{\$11}{\$50} = 22\%$$

Proof:

$$\$50 \times 22\% = \$11.00 \text{ profit}$$

Using these methods, you can calculate a selling price for your service. Sometimes you will start with the selling price established by your competition and/or the economic conditions. Then you must figure out the highest cost you can incur and still earn your needed profit.

Remember, the total cost of producing a service is composed of direct material, direct labor and overhead costs. This cost information is used as a basis for setting prices and

profit. You must have a pricing strategy that keeps your service business competitive and profitable. The more precisely you calculate your costs and set prices, the better your chances for a profitable business.

Retail Pricing

In a retail business, your prices directly affect sales as well as the profitability of each product. Unrealistic markups, from a competitive point of view, may show large profits on paper, but no money is made unless you sell the item. Conversely, with low-markups items may sell, but result in low overall profits.

Profit is the difference between what you pay for an item and what you sell it for. Generally, the amount of profit is referred to as a **margin of profit** on the selling price. Your selling price must cover (1) **the cost of the item**, (2) **selling and other operating expenses**, and (3) **provide a margin of profit**.

Markup

Markup is the difference between the cost of the item and its selling price. It may be expressed as a percentage or in dollars and cents. When markup is expressed as a percentage, it is based on either the cost or the selling price. Basing your markups on a selling price is more meaningful since it includes selling and operating expenses, and an amount for net profit, as well as the cost of the item. The amount of markup tells you how much of your sales dollar can be used to pay bills and how much will be left over for net profits.

Determining markup on your cost for the item may not provide an adequate margin of profit to work with. Also, it will be difficult to evaluate the day-to-day profitability of your retail business. Managing your business knowing the markup based on selling price increases your chances of operating a successful retail business. At the day's end, you'll have a better idea of how much of your total sales is contributing to profit. Here are some formulas that will help you understand the relationship between markup based on cost versus markup based on selling price. Note: Markups based on cost are referred to as "markups" and markups based on selling price are referred to as "margins of profit" or "margins" in the retail industry.

Markup Formulas

Key

c = Cost
 sp = Selling Price
 mu = Markup

Components of Selling Price

$Cost + Markup = Selling\ Price$
 $Cost = Selling\ Price - Markup$
 $Markup = Selling\ Price - Cost$

Markup Based on Cost

$$\frac{\text{Markup}}{\text{Cost}} \text{ or } \frac{\text{Selling Price (sp)} - \text{Cost (c)}}{\text{Cost (c)}} \times 100 = \% \text{ Markup on cost}$$

Markup Based on Selling Price (aka, Margin of Profit or Margin)

$$\frac{\text{Markup}}{\text{Selling Price}} \text{ or } \frac{\text{Selling Price (sp)} - \text{Cost (c)}}{\text{Selling Price (sp)}} \times 100 = \% \text{ Markup on price}$$

A simple example will illustrate the use of the above formulas and the difference between markup based on costs and markup based on selling price. Assume an item is purchased at a cost of \$1.00 and retailed at a selling price of \$1.50. To determine markup based on cost, divide the markup (sp-c) by the cost (c) of the item as follows:

$$\frac{\text{sp-c}}{c} = \frac{\$1.50 - \$1.00}{1.00} = 50\% = \text{Markup on Cost}$$

To determine the markup based on selling price, divide the markup (sp-c) by the selling price (sp) as follows:

$$\frac{\text{sp-c}}{c} = \frac{\$1.50 - \$1.00}{1.50} = \frac{.50}{1.50} = 33.3\% = \text{Markup on Price (Profit Margin)}$$

There is a large difference between a markup based on cost versus a markup based on selling price. In the example above a 50 percent markup on cost is only a 33 1/3 margin of profit based on selling price. In each case the dollar profit of 50 cents is the same. If an item sells for a \$1.50 and carries a 50 percent markup on price (i.e., margin of profit), then 75 cents (\$1.50 x 50% = \$.75) of that sale is profit to pay expenses and provide a net profit. On the same \$1.50 sale, a 50 percent markup on cost would only be a 50-cent profit (\$1.00 x 50% = \$.50).

Determine Selling Price

In the actual operation of your retail business, you know the unit purchase price (i.e., cost) of each item you stock. But you also need to determine how much is needed to cover selling and operating expenses, and provide a net profit.

Assume you purchase an item at a cost of \$1.00 and want to determine a unit selling price that will cover selling and operating expenses and provide a net profit. To determine the markup, let the selling price equal 100 percent. You mark it up 40 percent to cover selling and operating costs, and provide a 10 percent net profit. Using the following information:

$$\begin{array}{rcl}
 \text{cost (c)} & = & \$1.00 \text{ each} \\
 \text{Selling Price (sp)} & = & 100\% \\
 \% \text{ Markup (mu)} & = & \begin{array}{l} 30\% \text{ Selling and Operating Costs} \\ 10\% \text{ Net Profit} \\ \hline 40\% \text{ Markup (Margin of Profit)} \end{array}
 \end{array}$$

The unit selling price is determined in the following manner:

$$\frac{\text{Cost (c)}}{\text{Selling Price (sp)} - \% \text{ Markup (MU)}} = \text{Unit Selling Price}$$

$$\frac{\$1.00}{100\% - 40\%} = \frac{\$1.00}{60\%} = \$1.66 \text{ Unit Selling Price}$$

In this example, you purchased an item for \$1.00 and marked it up 40 percent to cover selling and operating costs, and provide a 10 percent net profit. This resulted in a unit selling price of \$1.66.

If you had computed a 40 percent markup based only on cost, the unit selling price would be \$1.40. This means that you would lose 26 cents for each item sold (\$1.66 - \$1.40 = \$.26). Also, you would be selling at just a little over a 28 percent margin of profit (((\$1.40 - \$1.00)/1.40 = 28.6%) rather than at a 40 percent margin of profit.

Failure to understand the difference between markup based on costs versus markup based on selling price can lead to another problem. An item purchased for \$1.00 and marked up 50 percent on cost would sell for \$1.50. Suppose the item did not sell very well and you wanted to lower the selling price near the end of the season by 40 percent. At a selling price of \$1.50, a 40 percent reduction would result in a sale price of 90 cents (\$1.50 - \$.60 = \$.90). You would be selling at 10 cents below your purchase price (cost) of the item, and not covering any of your selling and operating expenses, and profit goal.

Markup Table

Markup tables can also be used to determine selling price. Markup tables, like Table 2 on page 13, are easy to use. The markup table consists of two columns of percentages. Select the percent markup on selling price you desire (left column). Read across the opposite

column to find the percentage of cost you must markup to achieve the margin of profit you desire. For example, if you need a 30 percent markup for a certain item based on selling price, multiply your cost by 1.4286. This will result in a selling price for that item that will provide a 30 percent margin of profit.

Table 2. Markup Table			
Markup as Percentage of Selling Price (Margin)	Markup as Percentage of Cost	Markup as Percentage of Selling Price (Margin)	Markup as Percentage of Cost
5%	5.26%	28%	38.89%
6	6.38	29	40.85
7	7.53	30	42.86
8	8.70	31	44.93
9	9.89	32	47.06
10	11.11	33	49.25
11	12.36	34	51.52
12	13.64	35	53.85
13	14.94	36	56.25
14	16.28	37	58.73
15	17.65	38	61.29
16	19.05	39	63.93
17	20.48	40	66.67
18	21.95	41	60.49
19	23.46	42	72.41
20	25.00	43	75.44
21	26.58	44	78.57
22	28.21	45	81.82
23	29.87	46	85.19
24	31.58	47	88.68
25	33.33	48	92.31
26	35.15	49	96.08
27	36.99	50	100.00

Determine the Break-Even Point

Once you have determined the price for a certain line of merchandise, it is desirable to know what the breakeven point is. Your objective is to determine the point at which a line of merchandise can begin to earn you a profit. To illustrate this point, assume you purchase 100 shirts at a price of \$450. You want to determine how many shirts to sell at a given price to breakeven and how many must be sold to earn a given overall profit level, say \$150.

First you must determine the selling price as follows:

- A. Purchase Cost for 100 shirts...\$450.00
- B. Operating and Selling Cost15.0%
- C. Profit..... 33.3%
- D. Markup (on selling price).....48.3%

The selling price of \$8.70 per shirt (\$870.40/100 shirts = \$8.70) covers the purchase

Key
sp = Selling Price
c = Cost
mu = Markup

Selling Price Formula
$sp = \frac{c}{100\% \mu}$

$$sp = \frac{\$450}{100\% - 48.3\%} = \frac{\$450}{51.7\%} = \$870.40$$

price, selling and operating expenses, and allows for a 33-1/3 percent profit. The total cost of the shirts is not only the \$450 purchase price, but also includes selling and operating costs – which amount to \$67.50 (\$450 x 15%). Adding this to the purchase price of the shirts results in a total cost of \$517.50 (\$450 + \$67.50) which must be recovered to breakeven. The following table illustrates the effect on gross income and profit as an increasing number of shirts are sold.

The data in Table 3 on page 15 indicate that the breakeven point is somewhere between the sale of 50 and 60 shirts – about 59 shirts. If no more were sold, you would at least cover the purchase price and selling and operating costs of \$517.50. When the 60th shirt is sold you begin to realize a profit. The goal of earning at least \$150 profit is reached when 77 shirts are sold (((\$517.50 + \$150)/\$8.70 = 76.7 shirts).

Assume that these were summer shirts, the end of the season is approaching and to date you have sold 77 shirts at a profit of \$150. From the original inventory of 100 shirts, this will leave 23 shirts available for sale. You now have two choices: 1) try to sell the remaining 23 shirts at \$8.70 and carry over to next year those that do not sell, or 2) discount the selling price in hopes of selling the remaining 23 and not have any carryover.

Table 3. Estimated Gross Income And Profit

(1) Number of Shirts Sold	(2) Selling Price	(3) (1) x (2) Gross Income	(4) (3) – (\$517.50) Profit
30 x	\$8.70 =	\$261	-\$256.50
40	\$8.70 =	348	-169.50
50	\$8.70 =	435	-82.50
60	\$8.70 =	522	+4.50
70	\$8.70 =	609	+91.50
80	\$8.70 =	696	+178.50
90	\$8.70 =	783	+265.50
100	\$8.70 =	870	+352.50

Table 3 indicates that, if all 100 shirts are sold at \$8.70, a profit of \$352.50 will be realized. If you do not sell all 100 shirts, the remainder must be packed away and carried over to next year. By discounting the selling price by 30 percent, you may have a better chance of selling the remaining 23 shirts and eliminate carryover. Reducing the selling price by 30 percent results in a sale price of \$6.09 per shirt. If you sell all 23 shirts at this price, it results in a gross income of \$140.07. Remember, you have already covered your total cost plus a \$150 profit on the sale of the first 77 shirts. Your total profit on the sale of all 300 shirts is \$290.07 (\$150 + \$140.07) with no shirts to carryover.

Other Pricing Situations

In addition to determining the initial markup to arrive at a retail selling price, other circumstances may occur that will require a change in the retail price. Depending on the situation you may be faced with retail reductions, additional markups or markdowns.

Retail Reductions

Retail reductions cover all reductions of the original retail price (selling price) including markdowns and shrinkage. They are expressed as a percentage of the final selling price or percentage of costs.

Additional Markups

Sometimes an item is erroneously under priced or an increase in the original price is desirable for some reason. Increases after the original markup has been taken are called additional markups.

Markdowns

Downward revisions of an original selling price are also common. A reduction of an original selling price is called a markdown. After a retail price is established on any item (by adding a markup to its cost) the price may have to be reduced for any one of the following reasons:

- ▶ Special sales to stimulate volume,
- ▶ To clear out remnants, leftovers, poor assortments, or damaged goods,
- ▶ To clear out poor buys,
- ▶ To meet sudden changes in the market price.

Early markdowns are typically the smallest and will likely result in the smallest loss. Be sure to sell when people want to buy rather than at the end of the season when fewer people are looking to buy. Once you start to mark down, continue marking down until the goods you want to clear out are sold.

Gross Margin

Gross margin, also referred to as gross profit, is the difference between the costs of goods sold and the income derived from their sale calculated during a specific period of time. It is expressed in dollars or as a percentage of sales.

$$\text{Cost} \times \text{Markup Percentage} = \text{Markup (\$)}$$

$$\text{Cost} + \text{Markup} = \text{Selling Price}$$

Example: All items in a retail outlet are marked up by 30% on cost (which is equivalent to a markup of 23% on selling price – see Table 2).

$$\text{Item Cost} = \$1.50$$

$$\text{Markup (\$)} = \text{Cost} \times \text{Markup Percentage} = \$1.50 \times 30\% = \$0.45$$

$$\text{Selling Price} = \text{Cost} + \text{Markup} = \$1.50 + \$0.45 = \$1.95$$

Average Markup

Retail outlets that carry a variety of merchandise have different rates of markup for various lines. Some lines of merchandise have relatively low profit markups because of strong competition or are used as leaders to attract customers and bring trade in while others have average markups. Some items carry a high profit markup. Other items are sold at different markup rates as salability comes and goes.

Determine Average Markup – Assume a retail store is comprised of three departments (e.g., produce, craft items, and plants) with sales, maintained markup percentage and gross margin as follows (see Table 4):

Table 4. Sales, Markup and Gross Margin by Department			
Department	Sales	Maintained Markup (%)	Gross Margin
A	\$20,000 x	20% =	\$4,000
B	\$10,000	25%	\$2,500
C	\$5,000	35%	\$1,750
Totals	\$35,000	-----	\$8,250

The average store markup in this example is calculated as follows:

$$\text{Average Store Markup} = \frac{\text{Total Goss Margin}}{\text{Total Sales}} = \frac{\$8,250}{\$35,000} = 23.6\%$$

If your average store markup is not enough to allow for a net profit after expenses are deducted, then one or a combination of the following decisions must be made:

If your average store markup is not enough to allow for a net profit after expenses are deducted, then one or a combination of the following decisions must be made:

- ▶ Reduce expenses,
- ▶ Revise the lines of merchandise so more goods are sold at a higher markup,
- ▶ Raise selling price or increase sales volume to lower the expense percentage.

The most difficult of these options to achieve is to increase margins by arbitrarily raising selling prices.

Incorporating Retail Price Reductions into your Pricing Strategy

One way of accounting for possible future retail price reductions is to calculate an initial markup to establish original prices that allow for retail reductions (markdowns and shrinkage). Failure to consider possible future retail price reductions could result in realized margins that are below the total you planned to cover expenses and profits should markdowns and/or shrinkage occur. Retail price reductions apply more to some types of merchandise than others. Many staple lines in steady demand, with little or no spoilage, breakage or theft, and on which no cut price sales are made, are seldom subject to reductions. The initial markup may be counted on as a maintained markup. Items subject to spoilage, breakage, theft, shrinkage, etc. require an initial markup higher than initially planned. In general, you should strive to keep markdowns to a minimum.

For those items subject to retail reductions, the time to plan a markdown is when you are setting the original price. That way, if you markdown later, you still end up with the amount of profit you originally planned on.

To include a future markdown in the original markup, use the formula below:

$$\frac{\% \text{ Gross Profit Desired} + \text{Markdown} \%}{1.0 + \text{Markdown} \%} = \text{Markup on Selling Price}$$

For example, if you want to include a future markdown of 5% and achieve a 40% gross profit, you will need a 43% markup on selling price or 75.4% markup on cost to hit both of these targets.

$$\begin{aligned} \% \text{ Gross Profit Desired} &= 40\% \\ \text{Markdown \%} &= 5\% \end{aligned}$$

$$\frac{40\% + 5\%}{1.00 + 5\%} = \frac{0.45}{1.05} = .4286 \text{ or } 43\% \text{ Markup on Selling Price (i.e., Margin of Profit)}$$

For the situation above, a 43 percent markup on selling price is required. To obtain a 43 percent markup on selling price, the cost has to be increased by 75.4 percent. The markup on cost required for a given markup on price can be selected from Table 2 or calculated using the formula below:

$$\frac{\text{Markup (mu)}}{\text{Cost (c)}} = \frac{43\% (\text{mu})}{1.00 (\text{sp}) - 43\% (\text{mu})} = \frac{.43}{.57} = 75.4\% \text{ Markup on Cost}$$

Many items will be sold at a designated retail price based on your competition and with your analysis of what price lines will sell best. When you are buying items to take advantage of lower costs, so that you can sell at the desired prices, the initial markup is automatically set by the amount you pay. Increasing your initial markup to account for the possibility of a future price reduction will increase the likelihood of remaining profitable at a lower price point.

Summary

Whether you are producing a product for sale, such as a craft, providing a service or retailing a variety of merchandise, the first step to setting prices that will yield a profit is to know your costs. From the basic pricing strategies presented, select the appropriate one for your type of business enterprise that earns a satisfactory profit and is easy for you to use. Given various regulations, competition, and the present economy, it is important to have a pricing strategy that keeps your business competitive and profitable. The more precise you calculate your costs and set prices, the greater your chances for a competitive, and profitable business.

Reviewed by Louis V. Bassano, Extension Professor, University of Maine Cooperative Extension

References

- Aycock, Georgia P. *Cash: Pricing Crafts*. Alabama Cooperative Extension Service, Auburn University.
- Beierlein, James G. *Pricing for Profits*. Department of Agricultural Economics and Rural Sociology, The Pennsylvania State University.
- J.K. Lasser Tax Institute. *How to Run a Small Business*. Sixth Edition. McGraw-Hill Publishing Company.
- McConnon, James C. *Pricing Products and Services*. University of Maine Cooperative Extension Workshop Handout, University of Maine, 2005.
- McConnon, James C. *Recipe to Market: Is It for Me?- Business Tips for Financial Success*. University of Maine Cooperative Extension Handout, University of Maine, 2015.
- Montville, Francis E. *Operating and Managing the Campground Store*. University of Maine Cooperative Extension Bulletin No. 10, University of Maine, 1990.
- Salvate, James. *Profit Costing and Pricing for Services*. U.S. Small Business Administration, Management Aids Number 1.002. Washington, D.C.
- Stone, Kenneth E. *Pricing Your Goods and Services*. Department of Economics, Iowa State University.
- Thayer, Carol. *Pricing for Profit*. University of Nebraska, Bulletin EC92-887-B, 1992.



Information in this publication is provided purely for educational purposes. No responsibility is assumed for any problems associated with the use of products or services mentioned. No endorsement of products or companies is intended, nor is criticism of unnamed products or companies implied.

© 1991, updated 2018

Call 800.287.0274 (in Maine), or 207.581.3188, for information on publications and program offerings from University of Maine Cooperative Extension, or visit extension.umaine.edu.

The University of Maine does not discriminate on the grounds of race, color, religion, sex, sexual orientation, including transgender status and gender expression, national origin, citizenship status, age, disability, genetic information or veteran status in employment, education, and all other programs and activities. The following person has been designated to handle inquiries regarding non-discrimination policies: Director, Office of Equal Opportunity, 101 North Stevens Hall, Orono, ME 04469, 207.581.1226, eoinfo@umit.maine.edu.