

The Starting Point: Calculating Break-Even

Before you can decide upon a fair price for your product, you need to know how much it's costing you! You'll need to know this no matter which pricing method you use.

Once you've identified costs, you can determine your break-even point. This is the point at which you neither make nor lose money in producing a product or delivering a service. For example, you would be at the break-even point if it cost you \$100 to produce a product that you sell for \$100.

A break-even analysis is the process you use to uncover those break-even numbers. To begin your break-even analysis, add up all fixed costs and determine what your variable costs are at different production volumes.

- *Fixed costs*, sometimes referred to as overhead, are expenses that don't vary according to production amounts—such as rent for office space (and storage space if you store inventory), office equipment (telephones, faxes, computers, etc.), insurance, utilities, etc.
- *Variable costs* are expenses that do vary with the amount of service provided or goods produced. They include costs such as hourly pay for a contractor on a specific project, raw materials, etc. Some variable costs don't depend specifically on the number of products produced but are still variable, such as advertising or promotion expenses.

You **must** know the cost of your overhead (fixed costs) as well as the incremental cost-per-unit (variable costs) before you can determine your break-even points.

Next, substitute your figures into the following break-even formulas:

Calculating Break-Even Revenue

To calculate break-even dollars—the amount of *revenue* needed to cover both fixed and variable costs so your business neither makes nor loses money—use the following formula:

$$\frac{\text{Fixed Costs}}{1 - (\text{Variable cost per unit/Selling Price per unit})} = \text{Revenue to Break-even}$$

Example: Calculating Break-Even Revenue

As an example, let's try to determine an appropriate hourly rate (revenue) to charge for a consultant or service business.

Using the break-even revenue formula, plug in total fixed costs of \$30,000, variable cost-per-unit of \$15 (hourly pay to consultant), and unit selling price of \$30 (per hour of consulting). The formula yields a break-even annual revenue of \$60,000.

$$\frac{\$30,000}{1 - (\$15/\$30)} = \$60,000$$

So, this company needs revenues of \$60,000 just to cover costs. If it doesn't have enough business at these rates, it loses money by being in business. If it makes more than \$60,000 in revenue, it's making money.

Calculating Break-Even Units

To determine *how many units* must be produced and sold to break-even, use the following formula:

$$\frac{\text{Fixed Costs}}{\text{Unit Contribution Margin}^*} = \text{Number of units needed to break-even}$$

* Where Unit Contribution Margin =
Selling Price per Unit - Variable cost per unit

Example: Calculating Break-Even Number of Units

The "unit" produced in this example is one hour of consulting. In our example, the number of hours required just to cover costs is 2,000.

$$\frac{\$30,000}{\$30 - \$15} = 2,000 \text{ units (hours per year)}$$

If you assume consulting hours are spread out evenly over a 50-week work year, 40 hours must be billed and collected each week just to break-even.

$$\frac{2,000 \text{ hours per year}}{50 \text{ weeks}} = 40 \text{ hours per week}$$

With 40 hours of consulting per week by one person, the business only breaks even. Unless that person can consult additional hours to make a profit while marketing the service and managing the requisite paperwork, this business cannot turn a profit. Since this is highly unlikely (unless the consultant is an insomniac) this doesn't appear to be a realistic pricing model.

Example: Upping the Ante

Let's play around to see what the company's options might be. If we raise the hourly rate from \$30 to \$35 per hour, we find that the break-even revenue figure drops from \$60,000 to approximately \$52,500.

$$\frac{\$30,000}{1 - (\$15/\$35)} = \$52,500$$

Also, the number of hours per week required to cover costs drops from 40 to 30 per week.

$$\begin{aligned} \frac{\$30,000}{\$35 - \$15} &= 1,500 \text{ hours per year} \\ \frac{1,500 \text{ hours per year}}{50 \text{ weeks}} &= 30 \text{ hours per week} \end{aligned}$$

It still might be a challenge for one consultant to work 30 hours a week because she needs time for researching, learning, administrative duties, breaks, etc. Also, it might be difficult to sell 30 hours of consulting consistently every week. Even if these challenges are overcome, the business is still only breaking even. A profit needs to be made!

Example: Try Again

At a rate of \$50 per hour, the number of hours required per week to cover costs drops to an attractive 17, which is a more realistically achievable number in terms of sales and staffing.

$$\begin{aligned} \frac{\$30,000}{\$50 - \$15} &= 857 \text{ hours per year} \\ \frac{857 \text{ hours per year}}{50 \text{ weeks}} &= 17 \text{ hours per week} \end{aligned}$$

Also, the revenue needed to break-even drops to \$42,857.

$$\frac{\$30,000}{1 - (\$15/\$50)} = \$42,857$$

So the price floor range for this business is \$35-\$50 per hour just to cover costs. (The range is dependent on how many hours can actually be offered and sold. It's up to the entrepreneur to judge how realistic profit expectations are and to price accordingly.)