

Using the Contribution Margin and Gross Profit to Calculate Break Even

9 min read



"Contribution margin is a common financial analysis tool that's not very well understood by managers... a term that can be interpreted and used in many ways," said Joe Knight, co-founder of businessliteracy.com in an interview with Harvard Business Review.

Key Takeaways

- **Gross Profit Margin VS Contribution Margin:** Contribution margins and gross profit margins allow you to make data-driven decisions to increase profitability by optimizing pricing, analyzing products, services, customers, and...
- **Avoid These Mistakes When Calculating Contribution Percentage or Margin:** Remember that your contribution margin income statement will reflect the same figure for net income as your regular income statement...
- **Perfecting Your Calculations:** When calculating an accurate contribution margin, defining your variable costs vs. your fixed costs is essential. However, it should be calculated as...

In spite of Knight's warnings, if you learn to grasp the concept of contribution margins, gross profit margins, contribution margin ratios and what these numbers mean for your business, you will have the keys to unlock profitability and exceed your business's potential.

If you want to increase profits, the single biggest way is to study your gross profit margin and contribution margin. Why? Because this is how you get to "unit economics" – the relationship between revenue and the cost to generate that revenue.

This is important because once you understand unit economics you can study the past to improve the future.

If you can see which clients are the most profitable, then you can tag each client in your accounting system to see which industries generate the most profits, which sales people bring in the highest margin jobs and even which staff or marketing campaigns generate the most profits. That allows you to make data-driven decisions around where to focus your sales people, the behaviors you recruit for, and where to invest your marketing efforts.

If you have visibility into what causes profits, you can add fields based on the decisions you need to make to drive more profits.

Gross Profit Margin VS Contribution Margin

Let's start with some definitions. Gross Profit (GP) is the amount of money leftover from the revenue you earn, less the Cost of Goods Sold (COGS). COGS is the "direct" cost of the labor

and material you had to incur to generate that revenue. It's best shown in both dollars and percent (Gross Profit/Revenue).

Your Contribution Margin (CM) is the revenue left over after paying all the variable costs – both direct and indirect. Variable indirect costs are the costs that are related to that customer or job, but were not “directly” related to earning that income. The best example is sales commission. You would not have the commission if you didn't sell the job, so it's a true variable expense, but it's not a cost of earning the income.

Contribution margins represent the revenue that contributes to your profits after your company reaches its [break-even point](#) (the point at which sales become profitable after meeting fixed costs). It's called “contribution” margin, because this is the amount that “contributes” to paying for overhead or making a profit.

It is also represented as amounts, ratios or percentages reveal key information regarding the structure of sales, pricing and commission calculating processes. Contribution margins and gross profit margins allow you to make data-driven decisions to increase profitability by optimizing pricing, analyzing products, services, customers and individual jobs and adjusting your payment or employee incentive structure.

How to Find the Contribution Margin

To determine your contribution margin, subtract your variable costs (costs which depend on the volume of products or services sold) from your revenue earned in the sale of those products or services. In general, the equation to calculate your contribution margin is:

$$\text{Contribution Margin} = \text{Revenue} - \text{Variable Costs}$$

You can adjust the equation to reflect different individual components of your business, to provide an overall picture, or to be reflected as a percentage or ratio.

Read More: [Why You Should Be Closely Monitoring Your Contribution Margin](#)

3-Year Scenario Planer

A high-level vision of your financials to help you make decisions to hit profit goals.

[Speak to a Business Performance Specialist to learn how to see this with your business's own numbers.](#)

How To Find the Gross Profit Percentage

To determine your gross profit margin, divide gross profit by total sales. In general, the equation to calculate your gross profit margin is:

Gross profit margin = Gross profit / Total Sales

Alternatively, you can change the formula so that you don't lose the gross profit math and to see both contribution margin and gross profit margin – the formula could look more like this:

Total Revenue

– COGS

= Gross profit

– Sales, General & Administrative variable expense

= Contribution margin

Contribution margin is not [gross profit margin](#). Both ratios are useful management tools, but reveal different information. Gross profit is your income or sales less cost of goods sold (COGS), which are all fixed costs (above the line on your income statement). Contribution margin analyzes sales less variable costs, such as commissions, supplies, and other back office expenses (costs listed below the line on the income statement).

How to Calculate Contribution Margin Per Unit

Calculating **contribution margin per unit** determines contribution margins per unique product, service, customer or job. In this case:

Per Unit Contribution Margin = Sales of Specific Product/Service/Job/Customer - Variable Costs of Specific Product/Service/Job/Customer

For example, if you sell handmade earrings for \$50 a pair and your variable costs to craft those earrings are \$20, then you have a contribution margin of \$30.

Looking at individual products, customers, services or jobs can be especially useful to determine which of your products and services are the most profitable. You might be doing well overall, but calculating contribution margins on each product could reveal that some items are losing money, meaning you could increase profits by eliminating these products or services or adjusting prices.

Total Contribution Margin

Calculating an overall contribution margin determines the contribution margin for a company as a whole, considering revenue and variable costs generated by all products, services, customers and jobs. This equation is:

Overall Contribution Margin = Total Revenue - Total Variable Costs

Since an overall contribution margin looks at the company's performance as a whole, the numbers required to calculate this equation can be taken directly from the line items (revenue and variable costs) on your company's income statement. Using this equation, you can create a Contribution Margin Income Statement, which reverses the order of subtracting fixed and variable costs to clearly list the contribution margin.

How To Calculate Contribution Margin as a Percentage or Ratio

Like contribution margins, the **contribution margin ratio** can also either be expressed per unit or as a total for the whole company:

- Overall CM Ratio = Total CM / Total Sales
- Per Unit CM Ratio = Per Unit CM / Per Unit Sales

Use the **CM ratio or percentage** to determine how your contribution margins affect net income. For example, with the jeweler, each pair sold for \$50 brings in a CM of \$30. $\$30/\$50 = 0.60$, or a 60% contribution margin ratio. If they make \$1,000 in sales, this will increase their net income by \$600 ($\$1,000 \times 60\%$).

You can also use this to set sales goals. If you want to increase net income by \$2000, then you would need to make about \$3,333 ($\$2,000/60\%$) in sales.

Quick Tips: Avoid These Mistakes When Calculating Contribution Percentage or Margin

- **Define variable costs wisely.** When calculating your contribution margin, be careful to subtract only variable costs from your revenue or sales. These are items located below the line (i.e. below "gross profit") on your company's income statement. The expenses considered variable as opposed to fixed can be misleading.
- **Use the formula above to include gross profit math so you can see both.** Sales commission is the best example. It's a variable cost because you would not have that, but it's not direct. Direct means it's a cost to generate revenue. Sales is a cost to generate a customer who will then generate revenue from somebody else. Variable costs increase and decrease depending on the volume of goods or services produced. Fixed costs remain the same regardless of production numbers.
- **Contribution margin also differs from operating margin.** The operating margin represents the proportion of revenue which remains after variable costs are subtracted. Sometimes referred to as return on sales, operating margin equals the operating income divided by net sales.
- **Remember that your contribution margin income statement will reflect the same figure for net income as your regular income statement** (or profit and loss statement). A contribution margin income statement, however, does not meet the standards set forth by the Generally Accepted Accounting Principles. In other words, do not use a CM income statement for external reporting.

Example using Contribution Margin

A company specializes in building swimming pools and pays the same commission on large and small projects (20% of total revenue), even though large pools require more work, risk, specialization and management time. Compare the following two projects:

1. **Basic Pool**
 - Price = \$60,000
 - Gross Profit = 50% or \$30,000
 - Sales Commission = 20% or \$12,000
 - Contribution Margin = \$18,000
 - CM Ratio = 30%
2. **Fancy Pool**
 - Price = \$120,000
 - Gross Profit = 33% or \$40,000
 - Sales Commission = 20% or \$24,000
 - Contribution Margin = \$16,000
 - CM Ratio = 13%

This pool builder does not make high enough margins on fancy pools to be profitable. They can either make up for those margins by increasing the price or by adjusting payment structure. If this pool company begins paying sales commissions as a percentage of gross profit, rather than gross revenue, they will drastically improve margins and remain profitable.

Quick Recap: Benefits of Calculating Your Contribution Margins

- Actionable Management Reporting
- Precise Data-Based Pricing
- Profit and Goal-Oriented Pricing
- Optimized Costs
- Establish a Smart Sales Commission Structure
- Transparent Data Per Job, Product, Service, Customer or Overall Sales
- Use Management Accounting to Meet and Exceed Profitability Goals

Perfecting Your Calculations

When calculating an accurate contribution margin, **defining your variable costs vs. your fixed costs is essential**. However, it should be calculated as direct variable expenses to see gross profit and indirect variable expense to see contribution margin. You need both because if any expenses are in the wrong category on your income statement, then you will not be able to calculate an accurate CB or ratio. As a result, you will make poor decisions based on inaccurate data.

If you're an owner or CEO of a small or mid-sized business, in order to have your fingers on the pulse of your business's financials, and closely manage the bookkeeping and accounting, you need **actionable financial intelligence**. Outsourcing to a professional team that provided management accounting is essential to your business's success and growth. Our experts can help you determine your company's fixed and variable costs in order to calculate accurate **contribution margins, gross profit margins** and other dynamic [key performance indicators](#) that have the power to unlock your company's financial success.

Read More: [How Much Do Bookkeeping Services for Small Businesses Cost?](#)