

Variable Expense Ratio: What Is It And How To Calculate It



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Successful business owners know how important it is to manage costs effectively.

Knowing and budgeting for your variable expenses can help you better predict profit, manage your costs, set more accurate pricing, avoid a decrease in cash flow from an increase in operations, and devise a level of production that works for your business.

What Is a Variable Expense?

Business expenses are classified as either fixed or variable. A variable expense is an expense that is directly tied to production levels.

Variable expenses increase when production levels increase, but when production drops, the cost of production or variable expenses drops as well.

While a fixed expense is one that doesn't change from month to month.

What Are 4 Common Variable Expenses?

Any expense that increases or decreases with production levels is considered a variable expense.

Changes in variable expenses can include increased utility expenses for running equipment longer than usual to decreased packaging costs when orders drop.

The following are some of the more common variable expenses you may incur in your business:

1. Raw Materials

Raw materials are the materials used to manufacture goods.

For example, if you manufacture wood desks, your raw materials would likely include wood to build the desk, as well as knobs for drawers and

glue for assembling the desk.

If you received an influx of orders for your wood desks, your variable pricing for wood will increase since you'll be purchasing more of it to fulfill those orders.

2. **Direct Labor**

Direct labor is hourly employees whose wages will increase or decrease based on production levels.

If an employee is salaried, their wages will remain the same regardless of production levels.

But like raw materials, your direct labor costs (and employee wages), will fluctuate with production levels. These costs will rise when production is increased and lower when production slows down.

3. **Shipping or Freight**

Shipping costs will vary with production levels. Even if you have a set price for shipping a product, the total cost will vary each month depending on the number of units shipped.

4. **Commissions**

If you pay your salespeople commissions on completed sales, those expenses will vary each month based on the number of items sold.

4 Most Common Variable Expenses



Raw Materials



Direct Labor



Shipping or Freight



Commissions

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An Example of Variable Costs

Using the example above, let's take a look at the variable costs involved in manufacturing wood desks.

	1 Desk	2 Desks	5 Desks	10 Desks
Materials such as wood, glue, nails, and varnish	\$325	\$650	\$1,625	\$3,250
Direct Labor (1 hour of labor = \$20)	\$60	\$120	\$300	\$600
Commission - (Salespeople earn 10% commission on each desk, with a desk priced at \$1,000)	\$100	\$200	\$500	\$1,000
Total Variable Cost	\$485	\$970	\$2,425	\$4,850

As you can see, variable costs are directly tied to production levels, with costs rising along with production. Should production drop off, your variable costs would be reduced as well.

What Is the Difference Between a Fixed Expense and a Variable Expense?

All businesses incur a variety of expenses during regular business operations.

Some of those are considered fixed expenses because they don't change from month to month, while variable expenses change when production changes.

Typical fixed costs for a business include:

- Rent or mortgage
- Telephone and Internet
- Insurance
- Employee Salaries
- Subscriptions
- Loan Payments

■ Examples of Fixed Costs



Rent or Mortgage



Telephone and Internet



Insurance



Employee Salaries



Subscriptions



Loan Payments

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Because these expenses are static, it's easy to budget for them, since they don't change regardless of production levels.

On the other hand, variable expenses change when production levels change. Many of these would be considered direct costs, but the classification of direct vs indirect costs is less obvious for companies outside of manufacturing.

As mentioned earlier, these expenses include:

- Materials and Supplies
- Direct Labor
- Shipping and Freight
- Utilities
- Taxes

Examples of Variable Costs



Materials and Supplies



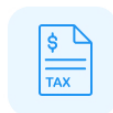
Direct Labor



Shipping and Freight



Utilities



Taxes



Commissions

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Though variable costs are much more common in a manufacturing environment, you'll also find variable costs of some kind in just about every type of business.

How Do You Calculate Variable Expenses?

Before calculating your variable expense ratio, you'll first have to calculate your variable expenses. The easiest way to do this is by using this formula:

<https://planergy.com/blog/variable-expense-ratio/>

$$\text{Total Costs} - \text{Fixed Costs} = \text{Variable Costs}$$

Variable Expenses Formula



Automation can provide these totals for you on your financial statements, but if you're calculating variable expenses manually using spreadsheet software like Microsoft Excel, you'll need to include the following expenses.

1. Direct Labor Cost

Your direct labor total is the amount of labor directly related to production. For example, in a manufacturing environment, only the wages of employees that are directly involved with production will need to be calculated.

2. Direct Materials Cost

You'll also need to calculate the cost of direct materials; materials that are needed to produce the finished product.

This can be raw materials such as wood, flour, steel, paint, etc. that are

necessary to complete the product.

Other materials unrelated to the finished product should not be included in the direct materials total.

3. **Utilities and Other Direct Overhead Costs**

If you're using additional machinery to complete an order, you'll want to account for that machine time in your calculation.

You may also want to track utility costs such as electricity and heat needed during processing times.

This expense will be tracked separately from that of the administrative building, where utility costs tend to be a fixed cost since they don't increase or decrease based on production, but instead stay relatively stable throughout the year.

If you can't separate the two, you can instead include utility costs when calculating indirect costs for your business.

4. **Commissions and Bonuses**

If your employees receive a commission or a bonus based on the number of units sold, you'll need to figure these totals in when calculating variable expenses, since these expenses are directly tied to production levels.

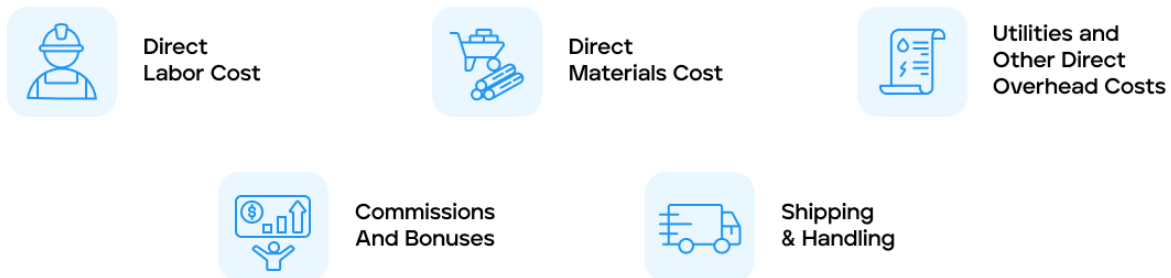
5. **Shipping and Handling**

The more products you complete, the more you sell (hopefully). That's why you'll need to include shipping and freight costs when calculating variable expenses.

Packaging may be another expense that you may need to add to your variable expense calculation.

Depending on your business model, there may be other variable expenses you'll need to include in your calculation.

What To Include in a Manual Variable Expenses Calculation



What Is the Formula for the Variable Expense Ratio?

The variable expense ratio, also known as the variable cost ratio uses a simple formula:

$$\text{Variable Expenses} / \text{Net Sales} = \text{Variable Expense Ratio}$$

Variable Expense Ratio Formula

$$\begin{array}{ccc}
 \begin{array}{c} \text{Variable Expenses} \\ \text{Icon: Up arrow, down arrow, dollar sign, balance scale} \end{array} & \div & \begin{array}{c} \text{Net Sales} \\ \text{Icon: Document with dollar sign and pie chart} \end{array} \\
 \hline
 & = & \begin{array}{c} \text{Variable Expense Ratio} \\ \text{Icon: Document with dollar sign and up/down arrows} \end{array}
 \end{array}$$

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This is a very useful accounting formula. Once calculated, you can multiply the result x 100 to get a percentage.

For example, James recently calculated the variable expenses that his manufacturing plant incurred during the first quarter of 2023, which totaled \$750,000. James then obtained his total sales revenue from his income statement, which was \$2,600,000.

$$\text{\$750,000} / \text{\$2,600,000} = 0.288$$

To express the result as a percentage, multiply it by 100:

$$0.288 \times 100 = 28.8\%$$

The result means that your variable expenses are nearly 29% of your sales revenue for the quarter. Next, let's take a look at what the results of this metric

mean.

What Is a Good Variable Expense Ratio?

A good variable ratio is one that covers all variable expenses while leaving enough revenue to cover fixed expenses as well as earn a profit.

A low variable expense ratio is better for businesses that have higher fixed expenses.

For example, an advertising agency that pays higher wages and premium rent needs to keep its variable expenses low so it's able to cover its total expenses.

On the other hand, a manufacturing company is more likely to have a high ratio since the majority of its expenses are incurred during production.

Generally speaking, high variable costs typically mean you'll need fewer sales to break even, since you'll have fewer fixed costs.

In contrast, a lower variable expense level means that the level of sales must be higher to pay for fixed expenses.

How Do You Use the Variable Expense Ratio?

The variable expense ratio is a valuable tool for determining accurate pricing since it tells you exactly how much it cost to manufacture your products and how much your variable expenses will rise or fall if production rises or falls.

The variable expense ratio is best used when coupled with other financial ratios such as the contribution margin ratio and the breakeven point analysis.

The contribution margin is the amount of revenue a business has left over after variable expenses have been deducted.

For example, using the numbers from the above example, we'll calculate James's contribution margin:

$$(\$260,000 - \$75,000) \div \$260,000 = 0.71 \text{ or } 71\%$$

This result indicates that after subtracting variable costs from revenue, James has 71% of his total revenue to cover fixed costs and other non-operating expenses.

Another ratio that is valuable to use with the variable expense ratio is the breakeven point ratio, which looks at when your products or services will become profitable after considering both fixed costs and variable costs.

The break-even analysis can be calculated on a cost-per-unit basis or by using the sales price per unit.

For example, if you wanted to calculate your break-even point you would need your total fixed costs along with the sales price per unit and the variable cost per unit.

James has monthly fixed expenses of \$35,000. The selling price for a single product is \$250, with a per-unit variable cost of \$100 to manufacture it.

Using this information, you can calculate the break-even point for James:

$$\$35,000 \div (\$250 - \$100) = 166.66$$

Rounded up, this result means that James will need 167 unit sales to break even.

When calculating all three of these ratios together, you'll have a much clearer picture of your business operations, including both fixed and variable costs.

Why Is Knowing Your Variable Expense Ratio Important?

The biggest benefit to knowing your variable expense ratio is that it helps you set more accurate pricing levels for your products and services.

It also helps management make informed decisions on increases or decreases in production levels, and more accurately predict future profits based on current sales volume and expenses.

The variable cost ratio also helps determine how profitable your company is based on current production levels and where it may need to increase or decrease production or fixed costs.

Having this knowledge readily available is also necessary to determine your break-even point and ultimately your profit margin for better planning and revenue projections.

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