

# How to Calculate Inventory Turnover

**Two Parts:** [Finding the Inventory Turnover Ratio](#) [Mastering the Equation](#)

Inventory turnover is a way of measuring how many times a business sells its stock of inventory in a given time period. Businesses use inventory turnover to assess competitiveness, project profits, and generally figure out how well they are doing in their industry. Unlike employee turnover, a high inventory turnover is generally seen as a good thing because this means that goods are sold relatively quickly before they have a chance to deteriorate. Generally, inventory turnover is calculated with the formula **Turnover = Cost of Goods Sold (COGS)/Average Inventory**.<sup>[1]</sup>

## Part 1 of 2: Finding the Inventory Turnover Ratio

**1 Choose a time period for your calculation.** Inventory turnover is always calculated over a specific period of time — this can be anything from a single day to a fiscal year — even the entire lifespan of the business. However, inventory turnover *can't* be an instantaneous snapshot of a business's performance. While it's possible to define the value of a business's inventory at any specific moment, cost of goods sold is meaningless as an instantaneous value, so a specific length of time must be chosen.

- Let's follow along with an example problem as we proceed through this section. Say that we own a coffee wholesaler company. For our example problem, let's choose a time span of **one year** of this coffee company's operation. In the next few steps, we'll find the inventory turnover for this one-year period.

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**2 Find your cost of goods sold for the time period.** After defining a time period, your first step is to find your cost of goods sold (or "COGS") during this period. COGS represents the direct cost of creating your goods. Usually, this means the manufacturing cost of your goods plus any labor costs directly related to manufacturing them.<sup>[2]</sup>

- COGS doesn't include costs like shipping and distribution that aren't directly related to the creation of the goods.
- In our example, let's say that we had a high-yield year for coffee, having spent \$3 million on seeds, pesticides, and other expenses related to growing coffee beans and \$2 million on labor costs from cultivating the seeds. In this case, we could say our COGS is \$3 million + \$2 million = **\$5 million**.

**3 Divide your COGS by your average inventory.** Next, divide COGS by your average inventory value during the time period you're analyzing. Your average inventory is the average monetary value of all of the goods you have sitting on warehouses and on store shelves that haven't been sold during a given time period. The simplest way to find this is to add your starting inventory value for the time period you chose to your ending inventory value and divide by two. However, using additional data points in between can give you a more accurate value for your average. If you use more than two data points, add all of the values together, then divide by the number of data points to find your average.

- Let's say that, in our example, at the beginning of the year we had \$0.5 million worth of coffee beans stored as inventory in our warehouses. At the end of the year, we had \$0.3 million worth of beans.  $(0.5 \text{ million} + 0.3 \text{ million})/2 =$  an average of **\$0.4 million** in inventory.
- Next, divide COGS by average inventory to find our inventory turnover. In our example, COGS is \$5 million and average inventory is \$0.4 million, so our inventory turnover for the year is  $\$5 \text{ million}/\$0.4 \text{ million} = \mathbf{12.5}$ . This quantity is a ratio and has no units.

**4 Use the formula  $\text{Turnover} = \text{Sales}/\text{Inventory}$  only for quick estimates.** If you don't have the time to run through the standard equation described above, this shortcut can give you an approximate value for your turnover inventory. However, most businesses prefer to avoid using this equation as its results can be inaccurate. Since sales are recorded at the cost offered to consumers but inventory is recorded at lower wholesale costs, this equation can make your inventory turnover look higher than it actually is. As a general rule, this equation should only be used for quick estimates — use the one above for serious tasks.

- In our example, let's say we totaled \$6 million in sales over the last year. To find inventory turnover with the alternative equation above, we would divide this by the ending inventory listed above \$0.3.  $\$6 \text{ million}/\$0.3 \text{ million} = \mathbf{20}$ . This is significantly higher than the value of 12.5 we obtained with the standard equation.

## Part 2 of 2: Mastering the Equation

**1 Use multiple inventory data points for a more accurate answer.** As noted above, finding your average inventory from your beginning and end inventory values can get you an approximate average for your inventory, but this value will not take into account inventory fluctuations throughout your time period. Using additional data points will make your value more accurate.

- When choosing data points, make sure your points are evenly-spaced throughout the time period at regular intervals. For instance, if you're finding average inventory for a year, don't use twelve points from January. Instead, use one point from the first of each month.
- Let's say that our starting inventory for a year of operating our business is \$20,000 and that our ending inventory is \$30,000. Using the basic method above, we would get an average value of \$25,000. However, just one additional data point can give us a different picture. For instance, let's say we also use a

point from the exact middle of the year with a value of \$40,000. In this case, our average inventory is  $(\$20,000 + \$30,000 + \$40,000)/3 = \$30,000$  — a little higher (and more representative of the actual average) than before.

**2 Use the formula  $\text{Time} = 365 \text{ days}/\text{turnover}$  to find the average time to sell your inventory.** With one extra operation, you can find how long it takes you on average to sell your entire stock of inventory. First, find your yearly inventory turnover as normal. Then, divide 365 days by the ratio you got for inventory turnover. Your answer will be the number of days that it takes you to sell your entire inventory on average.

- For instance, let's say that we have an inventory turnover ratio of 8.5 for a given year. By dividing  $365 \text{ days}/8.5$ , we get **42.9 days**. In other words, on average, we sell an entire stock of inventory about every 43 days.
- If you found your inventory turnover for a period of time other than a year, substitute the number of days in your time period for 365 days in the formula. For instance, if you had an inventory turnover of 2.5 for the month of September, you would find your average time to sell your inventory by dividing  $30 \text{ days}/2.5 = 12 \text{ days}$ .

**3 Use your inventory turnover as an approximate measure of efficiency.** Usually (though not always) businesses want to sell their inventory quickly, rather than slowly. Because of this, a business's inventory turnover can be used to gain clues about how efficiently a business is operating, especially compared to competitors. However, it's very important to remember that context is important in these sorts of comparisons. A low inventory turnover isn't always bad and a high inventory turnover isn't always good.

- For example, luxury sports cars don't usually sell very quickly because there's a fairly small market for them. Thus, you might expect an import sports car dealership to have a fairly low inventory turnover rate — they may not even sell their entire stock in a single year. On the other hand, if the same dealership suddenly has a major spike in inventory turnover, this might be a very good thing, but it might be a bad thing, depending on the context — for instance, this may signify a shortage, which can lead to loss of sales.<sup>[3]</sup>

**4 Compare your inventory turnover to industry averages.** One useful way to judge a business's operating efficiency is to compare its inventory turnover ratio to the average value for businesses in the same industry. Some financial publications (both in print and online) publish average inventory turnover rankings by industry sector, which can give you a rough benchmark to measure a company's performance against. One such ranking can be found [here](#). However, again, it's important to remember that these values represent industry averages and that, in certain contexts, it may be a good thing to have an inventory turnover significantly lower or higher than the published value.

- Another handy tool for comparing a business's inventory turnover to industry averages is the [BDC inventory turnover calculator](#). This tool allows you to pick an industry, then find a hypothetical inventory turnover ratio by inputting a business's COGS and average inventory and compare it to the average value for the industry you picked.

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## Tips

- Look at industry specific statistics to see how your inventory turnaround ranks to that of competitors and similar businesses. Company accounting pros recommend getting the most similar situations possible in order to really assess how your inventory turnover numbers reveal your company's level of success within its field.
- Make sure your cost of goods sold and average inventory values are based on the same valuation. For example, if you are a multinational business, make sure the currency that you use is the same. Since both of these numbers will be in the form of total value, they will correlate and produce an accurate result.

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