

How do you calculate the Gini Coefficient in Excel, with an example?

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The Gini Coefficient is a measure of income inequality and is often used to evaluate the distribution of wealth within a population. In Excel, the Gini Coefficient can be calculated using the following formula: $=1-(2*\text{SUM}(A2:A6)/(N*\text{SUM}(B2:B6)))$, where A2:A6 represents the cumulative income shares and B2:B6 represents the cumulative population shares. To better understand this calculation, let's consider an example. If we have a population of 100 people, with the top 20% holding 40% of the total income and the bottom 20% holding 10% of the total income, the Gini Coefficient would be calculated as follows: $=1-(2*(0.4+0.5+0.6+0.7+0.8)/(100*0.2+100*0.4+100*0.6+100*0.8+100*1)) = 0.36$. This value indicates a moderate level of income inequality within the population. By using this formula in Excel, we can easily calculate the Gini Coefficient and gain insights into the distribution of wealth within a population.

Calculate Gini Coefficient in Excel (With Example)

Named after Italian statistician , the Gini coefficient is a way to measure the income distribution of a population.

The value for the Gini coefficient ranges from 0 to 1 where higher values represent greater income inequality and where:

0 represents perfect income equality (everyone has the same income)1 represents perfect income inequality (one individual has all the income)

You can find a list of Gini coefficients by country .

The following step-by-step example shows how to calculate a Gini coefficient in Excel.

Step 1: Enter the Data

First, we must enter values for two columns: the cumulative population % and cumulative income % of individuals in a certain country:

	A	B	C	D
1	Cumulative Population %	Cumulative Income %		
2	0%	0%		
3	20%	10%		
4	50%	31%		
5	60%	40%		
6	100%	100%		
7				
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Here's how to interpret the values:

The bottom 20% of individuals in this country account for 10% of the total income. The bottom 50% of individuals in this country account for 31% of the total

income. The bottom 60% of individuals in this country account for 40% of the total income. 100% of individuals in this country account for 100% of the total income.

Step 2: Calculate Areas Under Lorenz Curve

Next, we need to calculate the individual areas under the , which is a curve we use to visualize the distribution of income in a country.

In our example, we'll type the following formula in cell C3:

$$=(A3-A2)*(B3+B2)*0.5$$

We'll then copy and paste this formula down to every remaining cell in column C:

	A	B	C	D
1	Cumulative Population %	Cumulative Income %	Area Under Lorenz Curve	
2	0%	0%		
3	20%	10%	0.01	
4	50%	31%	0.0615	
5	60%	40%	0.0355	
6	100%	100%	0.28	
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Step 3: Calculate Gini Coefficient

=1-2*SUM(C3:C6)

The following screenshot shows how to use this formula in practice:

D2				

The Gini coefficient for this population turns out to be 0.226.

This is an extremely simple example of how to calculate a Gini coefficient but you can use these exact same formulas to calculate a Gini coefficient for a much larger dataset.