

**Activity 2: Nominal vs. Real GDP - Key**

When comparing GDP over time it is important to adjust for inflation by examining changes in **Real GDP**. Why? **Nominal (unadjusted) GDP** measures growth in economic output in the prices at which they are sold. But over time prices rise, so an increase in GDP could mean that output has increased, prices have increased, or some combination of the two. To determine if the economy has grown, prices must be held constant.

To see the difference, imagine a small country that produces two goods – burritos and haircuts.

<p><u>In year 1, the economy produced:</u></p> <p><b>20 burritos</b> which were sold for <b>\$1</b> each = \$20  <b>20 haircuts</b> which were sold for <b>\$4</b> each = \$80</p> <p><b>The GDP in year 1 was \$100</b></p>	<p><u>In year 2, the economy produced:</u></p> <p><b>20 burritos</b> which were sold for <b>\$2</b> each = \$ 40  <b>30 haircuts</b> which were sold for <b>\$5</b> each = \$150</p> <p><b>The GDP in year 2 was \$190</b></p>
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GDP increased from \$100 to \$190 in one year, which is a 90 percent increase! This is an increase in **Nominal GDP**. But did the economy really grow by 90 percent in one year? Or was some of the increase in GDP due to the increase in price?

To find out, you must hold the price constant. You can do this by using the prices from year 1 for both calculations. In this case, year 2 looks like this:

<p><u>In year 1, the economy produced:</u></p> <p><b>20 burritos</b> which were sold for <b>\$1</b> each = \$20  <b>20 haircuts</b> which were sold for <b>\$4</b> each = \$80</p> <p><b>The GDP in year 1 was \$100</b></p>	<p><u>In year 2, the economy produced:</u></p> <p><b>20 burritos</b> which were sold for <b>\$1</b> each = \$ 20  <b>30 haircuts</b> which were sold for <b>\$4</b> each = \$120</p> <p><b>The GDP in year 2 was \$140</b></p>
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Once we hold prices constant, you can see that output increased from \$100 to \$140, a 40 percent increase. This is an increase in **Real GDP**.

As such, economists use **Real GDP** to examine output over time – it can be compared to different time periods to show if the economy is expanding (growing, which indicates growth) or contracting (shrinking, which usually indicates recession).

Use the data below to calculate the economy's Nominal and Real GDP.

<p><u>In year 1, the economy produced:</u></p> <p><b>50 burritos</b> which were sold for <b>\$1</b> each = \$ <b>50</b> <b>25 haircuts</b> which were sold for <b>\$2</b> each = \$ <b>50</b></p> <p><b>Nominal GDP in year 1 was \$ 100</b></p>	<p><u>In year 2, the economy produced:</u></p> <p><b>40 burritos</b> which were sold for <b>\$2</b> each = \$ <b>80</b> <b>40 haircuts</b> which were sold for <b>\$3</b> each = \$ <b>120</b></p> <p><b>Nominal GDP in year 2 was \$ 200</b></p> <p><b>40 burritos</b> which were sold for \$ <b>1</b> each = \$ <b>40</b> <b>40 haircuts</b> which were sold for \$ <b>2</b> each = \$ <b>80</b></p> <p><b>The Real GDP in year 2 was \$ 120</b></p>
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In “real” terms, did the economy grow from year 1 to year 2? If so, by how much?

**Yes, the economy did grow from year 1 to year 2. In nominal terms it looks like output doubled. However, once prices are held constant, the real increase in output is 20 percent.**