

Hi, welcome to Macroeconomics. This is Kate. This tutorial is on Real GDP. As always, my key terms are in red and examples are in green.

So after this tutorial, you'll understand the difference between Nominal and Real GDP. And you'll recognize that if we're comparing two different years, it's really important to use Real GDP and not Nominal. And finally we'll talk about what GDP does and does not measure as an economic indicator.

So after the Great Depression, economists realized, whoa, we need a better way to keep track of United States economy so this doesn't happen again. We know that it's quite normal for our economy to go through fluctuations of growth and contraction. But economists wanted to see, how can we better predict when a major depression is coming? How can we measure economic growth over time?

So the answer was to calculate GDP, or Gross Domestic Product. And the big idea about GDP is that it attempts to measure all economic activity in a country in a year. So if the figure then rises from one year to the next, we can feel pretty confident that the economy is at least more productive than the year before, or it's growing. If GDP falls, it's an indication that the economy is slowing.

So when we measure GDP, what we do is we measure final goods and services, not intermediate goods. Intermediate is something that's purchased in the production process to make a final good or service. If we counted intermediate and final goods, we would be double counting.

And here's an example to illustrate that. So before I buy a new car, a manufacturer has purchased tires and a lot of other components to put on that car. Do we count those tires that they purchase to put on the car? No. That would be double counting because they're already counted in the final selling price of the vehicle, as are all of the other components that they purchased to make the car.

Now, it's a lot different, actually, if I need new tires for my car this year. Then the tires I purchase to replace my old ones will count this year because they're a new good. So that's a very important thing to understand about final goods and not counting intermediate goods.

All right, now let's talk about when we are comparing GDP from one year to the next. So again, let's use an example. How much has the economy has grown from one year to the next? Let's say from 2012 to 2013 we want to know, did the economy grow? Well, we add up the final value of all goods and services sold in 2012. And then we compare that to the final value of all goods and services sold in 2013.

One thing you need to keep in mind is how we calculate final value. We take the quantity of all these goods and

services. And we have to multiply times the price of them.

So what's the point of measuring GDP? Keep this in the back your head. The point of measuring GDP is to see how productive the economy is from quarter to quarter, year to year, et cetera. We're concerned with the quantity, not necessarily the prices.

So it is possible for our GDP to appear like it's rising from one year to the next due to inflation and not more production. So let's use another example to illustrate this. I'm going to really simplify things here with just using one good as an example. So in 2012, let's say that we found out that there was \$400 million spent on Cheerios. In 2013, there was \$427.5 million dollar spent on Cheerios. I have no idea what the figures really are. I just made this up.

So at first glance it appears that more Cheerios were produced and sold in 2013 than in 2012. Is that an indication of economic growth? Well, it looks like it from just these figures right here. But when we have more information-- look at this. When we look at it this way we can see-- why did we get a bigger figure in 2013 than in 2012? We got a bigger figure because the price went up. Cheerios went up for a box, apparently, from \$4 to \$4.50. So then the reason for the increase was only due to the price, not the quantity. In fact, notice how the quantity actually dropped off a little bit.

So when we calculate these values this way, simply taking current prices-- so the price in 2012 times the quantity in 2012, the price in 2013 times the quantity in 2013-- these give us nominal values. So again, we're just talking about Cheerios here. If we did this and if most prices rose like this from 2012 to 2013, our Nominal GDP then is what increased, or NGDP.

However if you look at just the quantity, really, our standard of living fell by about 5% because we have purchased 5% fewer Cheerios. And if all things kind of fell along the same line here, that's what it would be. So that's what Real GDP shows us.

So Real GDP is gross domestic product adjusted for inflation. It shows real growth between periods holding price level constant. So what we do here is we would have to pick a base year. So let's use 2012 as our base here. We would hold prices constant and adjust.

So for 2013's Real GDP-- so we would use this as the base year. So we would be comparing to \$400 million. We would take the price in 2012, hold that constant, and multiply times our new quantity. And you can see that our Real GDP adjusted for inflation is 380 million. So you can see that that was a drop off from 400. And again that would be, if you did the math, a 5% decrease.

So obviously we don't just use Cheerios, like I said, from year to year to calculate GDP. What we do is we

calculate this for all final goods and services. We use a price index or a weighted average of all prices.

So using Real GDP is really the only way we'll know how productive our economy is from one year to the next since it takes prices out of the equation. And when it's done this way, it is a strong indicator used to assess overall economic strength, focusing on production and growth.

But is it perfect? I used the phrase before "standard of living". Is it really a perfect measure of all economic activity or how people really are living in a country? First of all, it does not measure any nonmarket activities like cleaning our own homes, caring for our children, doing things yourself, changing the oil on your own car.

It also really does not measure our quality of life or the well-being of a population. Think about it this way. The economy might be growing, producing a whole lot more from one year to the next. But maybe that's because everyone's working much longer hours and we're sacrificing our leisure. That's really not quality of life. It doesn't measure things like pollution that we might be emitting or crime, or any of those things.

So keep in mind it's also an average. So if GDP per person-- what's known as GDP per capita-- rises, it's very often that economists will say, well, the standard of living in that country has improved. And for many people, maybe it has. But does that really mean that everyone is better off? What if almost all of the gains have gone to the people at the top and the middle class and lower classes really haven't seen any of that increase? That's something to keep in mind when we're looking at GDP from year to year.

So GDP is known as a lagging indicator. And that's because it's calculated after the year is up. For example, we use tax returns to figure out our final goods and services. For this reason, by the time it's measured and published, it's actually not describing what's going on right now or what's going to happen. But it's describing what has already happened in the past.

So the economy is constantly changing. And we might be at a different point in the business cycle by the time it's published. But it does show us pretty well where we have been.

So in this tutorial we talked about the difference between Nominal and Real GDP. And hopefully you see that if we're comparing two different years it's really important to use Real GDP and not just Nominal. And we finally discussed the values and shortcomings of using GDP as an economic indicator.

Thank you so much for listening. Have a great day.