

Economic Growth (GDP)

by Sophia Tutorial



WHAT'S COVERED

This tutorial will cover the topic of economic growth, or GDP.

Our discussion breaks down as follows:

1. What Is GDP?
2. Calculating GDP
 - a. Resource Cost/Income Approach
 - b. Expenditure Approach
3. Measures of Growth/Shortcomings of GDP
4. Final vs. Intermediate Goods

1. What Is GDP?

After the Great Depression, economists realized that in order to avoid a similar economic downturn from happening again, they needed a better way to keep track of the U.S. economy.

It is usual for our economy to go through fluctuations of growth and contraction in the short run, but economists started asking themselves the following questions:

- How can we better predict when a major depression is coming?
- How can we measure economic growth over time?

The answer was to calculate the gross domestic product or **GDP**. The definition of gross domestic product is the sum of all final goods and services sold or produced within a nation's domestic borders. It is a measurement of a country's economic activity in a certain amount of time, either quarter to quarter, or year to year.

So, if the figure goes up from one year to the next, then we can feel confident that the economy is more productive than the year before. However, if GDP falls from one year to the next, it is an indication that the economy is slowing.



BIG IDEA

GDP attempts to measure all economic activity in a country in a year.



TERM TO KNOW

GDP

Gross Domestic Product; the sum of all final goods and services sold within a nation's domestic borders; a measurement of economic activity

2. Calculating GDP

There are two approaches to calculating GDP: the income approach, which is also known as the resource cost approach, and the expenditure approach.

Now, both approaches are essentially two sides of the same coin, meaning they are both going to arrive at the same outcome, but by using different methods.

2a. Resource Cost/Income Approach

The first approach to discuss is the **resource cost or income approach**, which consists of adding up the number of resources used to produce goods and services, or the sum of the income received from the purchases of these resources.

This approach calculates economic activity by adding up the costs that go into *producing* goods and services.



HINT

This is an activity in the input market from the Circular Flow Diagram.

You may recall that our resources or inputs are land, labor, and capital. Therefore, we want to look at the cost of these *or* the income received from them.

Think of this income using the acronym WRIP:

- W is for wages, salaries, or benefits, meaning income earned by workers.
- R stands for rental income earned by landlords.
- I is interest income earned by lending money to businesses.
- P is profits earned by businesses.

Now, this process may sound rather complicated, but we do have data on the income that people make from tax returns, which is readily available to our government.

Keep in mind, though, that not all income that people make equates to income for businesses.



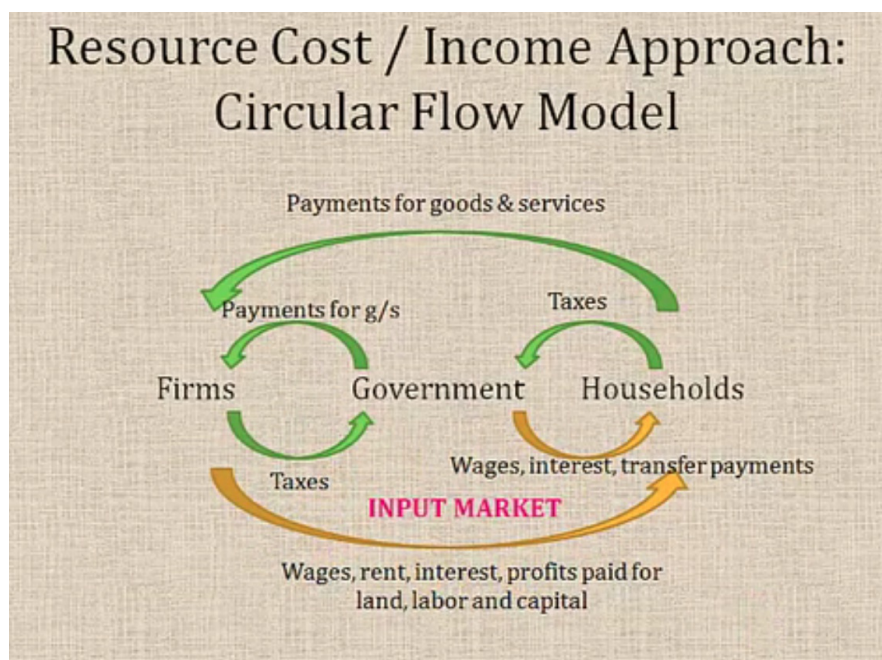
EXAMPLE For example, equipment depreciates or loses value from year to year, so we need to make adjustments for that type of thing.

We would include income that foreigners make here in our country because if they are working here, they are generating economic activity here.

On the other hand, income that Americans make abroad would be excluded because that income is

contributing to somebody else's gross domestic product, not ours.

Here is a reminder of the circular flow model. Remember, the input market is where factors of production--land, labor, and capital--are exchanged. The bottom part highlighted in yellow represents the income or resource cost approach in the circular flow model.



2b. Expenditure Approach

On the contrary, we have the **expenditure approach**, which indicates what we spend money on. This is the sum of all final goods and services purchased in an economy, typically referenced as the following formula:

$$Y = C + I + G + (X - M)$$

where:

$Y = \text{GDP}$

$C = \text{Consumer Purchases}$

$I = \text{Investment Outlays}$

$G = \text{Net Government spending}$

$X = \text{Exports}$

$M = \text{Imports}$

Again, this approach calculates economic activity by adding up what people *spend* money to purchase.



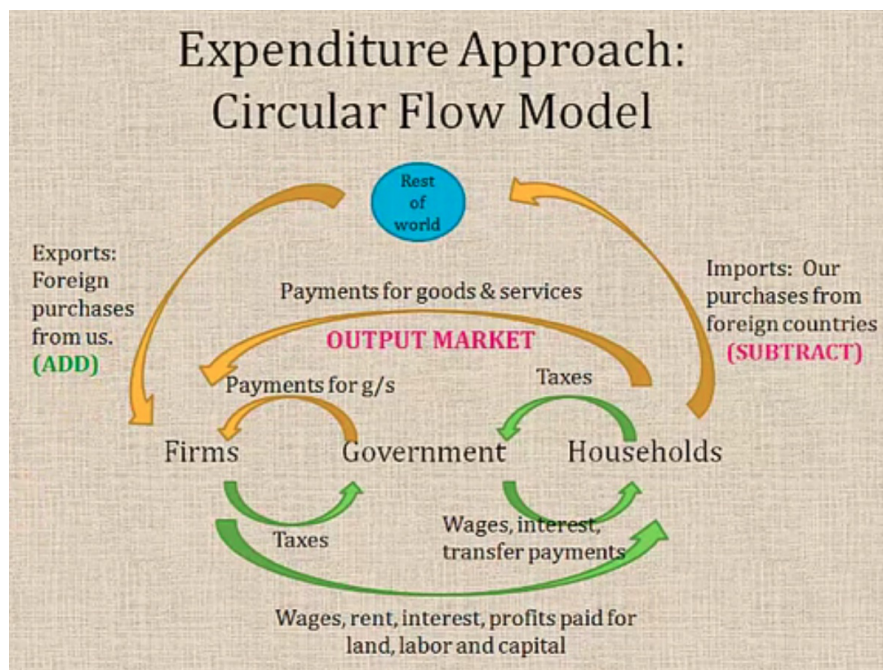
This is an activity in the output market from the Circular Flow Diagram.

Referencing our expenditure approach formula again ($C + I + G + (X - M)$), let's explore each component in a bit more detail:

- C = Consumer purchases; this refers to any time we purchase final goods and services.
- I = Investment in capital, generally by businesses.
- G = Government purchases; these are purchases of final goods and services as opposed to transfer payments, like the government sending welfare checks. These would not be counted here, because they do not represent something new being produced.

- $(X - M)$ = Exports minus imports; for the United States, this is often negative because we tend to import more than we export.

This approach reflects the top of the circular flow model here. As mentioned, we are subtracting what we are importing, or paying the rest of the world for, and adding our exports, because exports are items that we are producing here.



THINK ABOUT IT

Here is an interesting application to consider. Suppose we reorder our equation to consider only domestic, by taking out the rest of the world, writing the equation thus:

$$Y (GDP) = C + I + G$$

Now, solving for I, we get:

$$I = Y - C - G$$

The reason we are doing this is that we want to look at savings for a minute, and investment is the same as savings in an economy.

Next, we add and subtract T, which represents taxes collected.

$$I = [Y - (C + T) + (T - G)]$$

This means that savings equal these two terms added together:

$$Y - (C + T) = \text{Public Savings}$$

$$(T - G) = \text{Government Savings}$$

It is simply another way to look at savings within the expenditure approach.

So, why is it that the expenditure and income approaches arrive at the same GDP? Well, it is because one person's spending becomes another person's income, which you can see on the Circular Flow Model. This is why the model is circular in nature: the money that people are spending in the top, they get by working in the bottom, or in the input market.



TERMS TO KNOW

Resource Cost - Income Approach

Sum of the amount of resources used to produce goods and services, or sum of the income received from purchases of these resources

Expenditure Approach

Sum of all final goods and services purchased in an economy; typically referenced as $Y = C + I + G + (X - M)$; Y (GDP), C (consumer purchases), I (investment outlays), G (net government spending), X (exports), M (imports)

3. Measures of Growth/Shortcomings of GDP

The whole point of calculating GDP is to show **GDP growth**, or how we measure the change in GDP over time. GDP is the most common way of measuring growth. If we are growing by GDP, that is an indication that our macro, or overall, economy is healthy.



BIG IDEA

GDP growth is a measure or indication of a "healthy" macroeconomy.

In the past, we have used a measure called gross national product (GNP), the only difference being that it calculates the value of goods and services produced *by* Americans instead of *in* America. Today, however, we mostly use GDP, being more concerned with what is being produced within our nation's borders.

So, could anything ever really be a perfect measure of all economic activity or how people live in a country? Not really, no. GDP cannot capture any non-market activities, like cleaning our own homes, caring for our children, or changing the oil on our car.

It is also not going to measure the value that we place on things, like leisure or safety. Crime and pollution cannot be accounted for, either.

Also, GDP is an average. Certainly, if GDP per capita (person) rises from one year to the next, we can say overall that our standard of living has improved. However, that certainly does not mean that everyone is better off.



TERM TO KNOW

GDP Growth

The measure of change in GDP over time

4. Final vs. Intermediate Goods

Now, it is important to note, especially in the expenditure approach, that we only measure final goods and services, not intermediate ones. An intermediate good is something that is purchased in the production process to help us make a final good or service.

IN CONTEXT

Before you buy a new car, the manufacturer has purchased many components to put on the car, correct? For instance, the manufacturer has purchased tires to put on the car.

Do we count those tires in our GDP?

The answer is no because those tires count in the final purchase price of the vehicle. If we counted them when the manufacturer purchased them to put on the car *and* when you bought the car, that would be double counting. The tires are already counted in the final selling price of the vehicle, and we want only to count things that are being produced new.

However, if you need new tires for your car this winter, then the tires you purchase to replace your old ones *will* count in this year's GDP. Those new tires are being produced this year, and are being purchased as a new good or service.

Hopefully, this helps you to understand the difference between an intermediate good--something used in the production process to make a final good--and a final good.



BIG IDEA

GDP measures final good and services, not intermediate goods.



SUMMARY

Today we learned about **what GDP is** and what it measures. We learned about the two approaches used in **calculating GDP**, the **resource cost/income approach** and **expenditure approach**, including the differences between the two. We discussed some of the **shortcomings of GDP** as a **measure of growth** and ended today's lesson by discussing how we need to be careful to only count **final, vs. intermediate, goods** and services.

Source: Adapted from Sophia instructor Kate Eskra.



TERMS TO KNOW

Expenditure Approach

Sum of all final goods and services purchased in an economy;

$$Y = C + I + G + (X - M)$$

where Y (GDP), C (consumer purchases), I (investment outlays), G (net government spending), X (exports), M (imports).

GDP

Gross Domestic Product; the sum of all final goods and services sold within a nation's domestic borders; a measurement of economic activity.

GDP Growth

The measure of change in GDP over time.

Resource Cost - Income Approach

Sum of the amount of resources used to produce goods and services, or sum of the income received from purchases of these resources.