Topic 1: Introduction to Macroeconomics and GDP definition

PRINCIPLES OF MACROECONOMICS

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Macroeconomics

Let's start by defining what is Macroeconomics.

**Macroeconomics is the study of the aggregate economic activity.**

If you have taken *Microeconomics* you probably remember that in Microeconomics you usually deal with individual firms, consumers and governments.

In the case of Macroeconomics we talk about all the firms or all consumers in a country or region. In Macroeconomics we do not care too much about one specific individual, firm or market. We care about all of them together.
Macroeconomics

But exactly is the subject of Macroeconomics. There are many topics that concern Macroeconomists but the main topics can be summarized in the following:

1) Production and Income: we want to know what is the production and income of a country or region because higher production is usually related to higher standard of living and more happiness.

2) Growth: we care about how can countries make their production increase and have higher economic growth. What kind of policies (if any) can the government implement to help increase production and income?

3) Unemployment: in general when there is a lot of unemployed people society suffers. Therefore, we want to study unemployment and find ways to keep it under control.
Measuring production

Let's start then with the first concern of Macroeconomics

1) Production and Income:

As we mentioned before we want to know what is the level of production in a country because it determines the living standard of the people in that region.

But what do we mean by “production”?

Production is the total amount of goods and services produced in a country. Remember that each country produces thousands if not millions of different things. The problem is that if we want to know the production in a country we cannot add cars plus apples plus haircuts and so on because they are different things.

So, how do we measure the level of production in a country or region?

We use what is called Gross Domestic Production (GDP).

GDP is the main measure of production or income for a country or region and it is by far the single most important concept in Macroeconomics.
Measuring production

What is the definition of GDP?

**GDP is the market value of all final good and services produced in a region (or country) during a given period of time.**

This definition of GDP has several key words that need to be analyzed in more detail.

**Market Value:** this refers that GDP accounts for transactions that take place in legal markets and that GDP is expressed in money terms.

**Legal transactions** implies that the underground economy is not included in the GDP. Example of activities not included in GDP because are illegal are:

- Prostitution (in most places is illegal)
- Illegal drugs
- Pirate DVDs and CDs

Notice that the government could increase GDP just by legalizing activities that were previously forbidden.
**Measuring production**

**Market:** also market means that GDP accounts for actual transactions, that is an exchange of money for a good or services. In other words if a service of activity is not paid for with money then it cannot be part of GDP. There are many valuable activities that are not paid and therefore not in GDP. For example:

- Unpaid housework (when you significant other cleans your house and does not get paid in cash)
- Volunteer work
- Unpaid favors for friends or family.

Imagine that you get a raise at your work and now you can afford to pay someone to clean your house instead of having your grandma doing it. In this case GDP increases even though the same service (cleaning house) is being provided. The fact that the service is paid for is what makes it count as part of GDP.
Measuring production

**Final Goods**: this means that we do not consider intermediate goods. Final goods are goods that purchased by the final consumer and are not transformed further. Intermediate goods are goods that are transformed to be part of another product.

For example, imagine a blueberry muffin. The intermediate goods are the blueberries, sugar, flour, labor and other goods necessary to produce the muffin. That is goods that are part another good are intermediate goods.

Why don’t we include intermediate goods in GDP?

Because if we account for the blueberry muffin and for the blueberries, and the sugar and the flour we will be double counting the muffin. It is therefore much easier just to look at the sales of final goods and compute GDP than to track intermediate goods.
**Measuring production**

**Period of time:** this means that when we compute GDP we have to be aware of the time frame.

In general GDP is reported in two different ways: quarterly and annually.

The following are actual US GDP data as presented by the Bureau of Economic Analysis:

<table>
<thead>
<tr>
<th></th>
<th>2009q3</th>
<th>2009q4</th>
<th>2010q1</th>
<th>2010q2</th>
<th>2010q3</th>
<th>2010q4</th>
<th>2011q1</th>
<th>2011q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>13,921</td>
<td>14,087</td>
<td>14,278</td>
<td>14,468</td>
<td>14,606</td>
<td>14,755</td>
<td>14,868</td>
<td>14,997</td>
</tr>
</tbody>
</table>

The data are presented is in Billion US Dollars and it is Seasonally Adjusted Annualized Quarterly Data.

**What exactly does Seasonally Adjusted Annualized Quarterly Data mean?**

Annualized Quarterly data means that the data goes from the quarter in the cell to one year before. For example, the GDP in the second quarter of 2010 (denoted as 2011q2) is 14,997 billion dollars. Because is annualized quarterly data this means that in the twelve months from the beginning of 2010q3 to the end of 2010q2 GDP in the US was 14,997. IT DOES NOT MEAN THAN IN THE SECOND QUARTER OF 2010 THE US GDP WAS 14,997 BILLION DOLLARS.
Measuring production

Also, remember that if in the news it is reported that GDP in the third quarter of 2005 increased by 2%, what that means is that GDP from the third quarter of 2004 to the third quarter of 2005 increased by 2%.

What does seasonally adjusted mean?

We usually compare the same quarter of different years.

Why?

Because spending patterns differed across quarters. For example in the last quarter of every year people tend to buy more because it is Christmas and Thanksgiving. So if we compare the fourth quarter to the third quarter we may see an increase in GDP just because it is a different season of the year.

Comparing same quarters of different years is part of a process called Seasonally Adjustment.

In addition to comparing same quarters of different years, seasonally adjustments also include adjusting for working days in same quarter. For example, imagine that the fourth of July falls on a Friday in year 1 but in year 2 it falls on a Saturday. If we compare the third quarter of year 1 to the third quarter of year 2 we will see the third quarter of year 1 will be bigger because it includes one additional working day. Hence, when we seasonally adjust the data we compare quarter with the same working days. How we do this is a complicated topic and it is out of the scope of the class but just remember that this is done.