The macroeconomic perspective

EC 103–003

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Motivation

Housekeeping

Required readings:

- `CORE, ch. 13`
  - Sections `13.3` & `13.4`
- `OpenStax, ch. 6`.

Required listening:

- `Planet Money podcast: GDP and what counts`

Last time

After a brief introduction to some basic **economic** concepts, we focus on what this course is about.

In case one is interested in the economic functioning of the entire system, it requires studying **Macroeconomics**.

- Macroeconomics focuses on the **determinants** of total *national* output (i.e., its *goods* and *services*).

Thus we **do not** focus on a single *household's* income, but *national* income; not individual prices, but the *whole economy's* price level, and so on.

The size of the economy

The size of the economy

Economists use **aggregate statistics** to describe macroeconomic phenomena.

- Here, *aggregate* simply means **sum**.

Among these, the **Gross Domestic Product** (GDP) is the **leading** measure of a country's overall economic *performance* and *size*.

- It is defined as the sum (in money value) of all **final** goods and services produced in an economy in a given period. As described by the economist `Diane Coyle`:

> *"Everything from nails to toothbrushes, tractors, shoes, haircuts, management consultancy, street cleaning, yoga teaching, plates, bandages, books, and the millions of other services and products in the economy."*

The size of the economy

`What is the "size" of the US economy?`

The size of the economy

National Bureau
of Economic Research

BULLETIN 49

JUNE 7, 1934

1819 BROADWAY, NEW YORK

A NON-PROFIT MEMBERSHIP CORPORATION FOR IMPARTIAL STUDIES IN ECONOMIC AND SOCIAL SCIENCE

National Income, 1929-1932

SIMON KUZNETS

The present *Bulletin* contains revisions of the estimates published in *Bulletin 49*, released on January 26, 1934, and presents the final results of a study made by the Department of Commerce in cooperation with the National Bureau of Economic Research. The study was undertaken in response to a request for national income estimates for 1929-31 by the United States Senate and the findings are given in detail in Senate Document No. 124, 73rd Congress, 2nd Session, entitled *National Income, 1929-32*. The study was planned and supervised by Dr. Simon Kuznets, who was assisted by Miss Lillian Epstein and Miss Elizabeth Jenks of the National Bureau of Economic Research, and by Messrs. Robert F. Martin and Robert R. Nathan of the United States Department of Commerce.

The size of the economy

Notice that GDP only accounts for **final** **goods** and **services**.

- *What does this mean?*

Many goods are produced by one firm and further used in production as an **input** by another firm.

Also, the same idea can be applied to **used goods**.

This is done to avoid **double counting**.

This `short document by the BEA` may help you in getting a better idea on final/intermediate goods.

Limitations of GDP

Limitations of GDP

As we have seen so far, GDP attempts at measuring **economic activity** through a **single number**.

Recall, from our previous lecture, the definition of economic **institutions**:

> Entities that affect economic *decisions* and *outcomes*.

That said, do you think that:

1. Every economic outcome is necessarily *measurable*?
2. *Every* institution is accounted for in GDP?

Why bother?

Why bother?

Now that we are more informed about what GDP is and some of its limitations, why should we give it so much **value**?

A few reasons:

- **Compare** different periods, different countries, different regions;
- Important piece of data for **institutional** work;
- **Microeconomic** decisions.

The components of the macroeconomy

The components of the macroeconomy

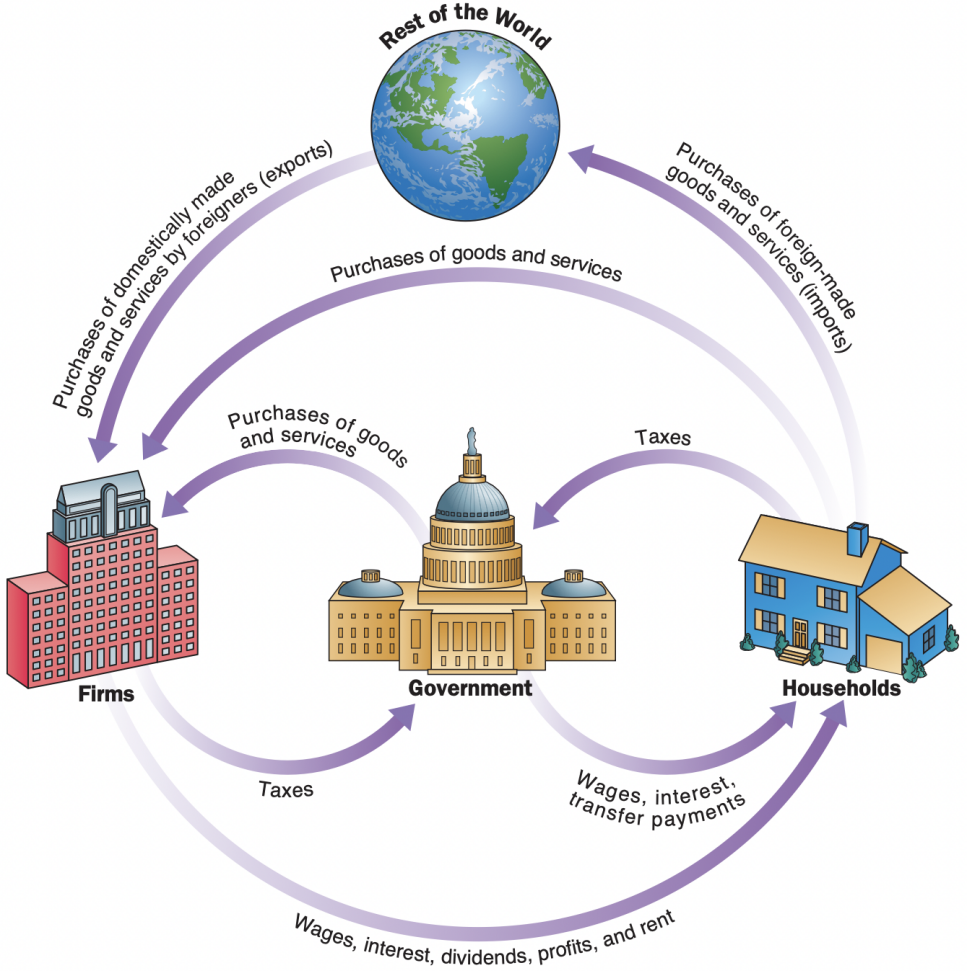
From an aggregate perspective, the **participants** of an economy can be grouped in 4:

1. *Households*;
2. *Firms*;
3. The *government*;
4. The *rest of the world*.

Households and firms form the **private sector**, while the government is the **public sector**, and the rest of the world is the **foreign sector**.

The components of the macroeconomy

The economic interactions involving these 4 groups can be summarized through the **circular flow diagram**:



Picture taken from Case, Fair, and Oster (2012).

The components of the macroeconomy

If we analyze GDP from the perspective of **spending**, it can be broken down into the following components:

- ***Consumption*** of goods and services;
- Private ***investment***;
- ***Government*** expenditures;
- ***Net exports*** (*Exports - Imports*).

The components of the macroeconomy

Consumption accounts for all household consumption expenditures on final goods and services.

- Household appliances, haircuts, concert tickets, groceries,...

It usually accounts for about 2/3 of total GDP.

`US aggregate consumption data`

The components of the macroeconomy

Aggregate **investment** accounts for businesses purchasing new machinery, new software, new plants, as well as household residential investment.

- It also includes changes in *inventories*, which is unsold output produced in the reference year.

`US aggregate private investment data`

The components of the macroeconomy

Government expenditures account for federal, state, and local instances consumption and investment decisions.

- Building highways, new schools, military spending, health & education,...
- Unemployment and veteran benefits, social security payments are **not** included. These are transfers that will likely be spent on *consumption*.

`US aggregate government expenditures data`

The components of the macroeconomy

Net exports is the difference between **exports**—domestically produced goods that a country sells abroad—and **imports**—goods and services produced in other countries that residents of another country purchase.

- We call the gap between exports and imports the **trade balance**. If a country's exports are larger than its imports, then a country has a **trade surplus**; if imports exceed exports, we have a **trade deficit**.

`US net exports data`

The components of the macroeconomy

We can now write down the GDP measurement as:

$$\text{GDP} = \text{Consumption} + \text{Investment} + \text{Government Spending} + \text{Net exports}$$

$$\text{GDP} = C + I + G + (X - M)$$

The components of the macroeconomy

Reality check...

> `NIPA tables by the Bureau of Economic Analysis (BEA)`

An application

Suppose you are given the following data (in US$ billions):

- *Sales of durable goods*: $ 1,035
- *Nonresidential investment expenditures*: $ 1,388.80
- *Federal Government expenditures*: $ 1,144.80
- *Changes in business inventories*: $ -120.90
- *Exports*: $ 1,564.20
- *Services*: $ 6,833.90
- *Sales of nondurable goods*: $ 2,220.20
- *State and local government spending*: $ 1,786.90
- *Imports*: $ 1,956.60
- *Residential investment*: $ 361.00

Compute *(a)* each GDP **component** and *(b)* its **total value**.

Next time: GDP shapes and forms