Macroeconomics & well-being I

Introduction to Macroeconomics // Spring 2025

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Readings

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Required readings:

- *Macroeconomics in Context, 4th ed.*
  - → Chapter 4, sections 1—3.

Recommended readings:

- *Economics: The user's guide*
  - → Chapter 6.
  - → Iwasaki Library access here

Words of the day

- Final;
- GDP.

The big picture

The big picture

- *Where would you rather live?*

The big picture

Macroeconomics gravitates around **three** main elements:

- A measure of *production/income*;
- A measure for *labor markets*;
- A measure for the *price level*.

The big picture

As social scientists, economists make sense of $fuzzy$ information by using **aggregate**[1] **statistics**[2].

[1] *Aggregate: sum.*

[2] *Statistic: a measure describing a population of interest. Generally derived from samples.*

We will study different economic statistics describing the same element, with the **most popular** ones being:

- The **Gross Domestic Product** (GDP) for production/income;
- The **unemployment rate** for labor markets;
- The **Consumer Price Index** (CPI) for the price level.

The big picture

Let us start with the **Gross Domestic Product** (GDP), the *leading* measure of a country's overall economic *performance* and *size.*

The size of an economy

The size of an economy

Consider the following activities for a "toy" economy in 2024:

A "Toy" economy

ACTIVITY	QUANTITY	PRICE
New cars	5	30
Amazon stocks	10	10
Neighbor babysitting	7	3
Imported beer/wine	8	2
Used cars	6	25
Machine maintenance	4	8
Car engines (for new cars)	2	9
Drug trafficking	10	10
Snow plowing	15	5

Q: How would you measure the *size* of this economy?

The size of an 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 an economy

Q: What is the **size** of the U.S. economy?

A: As of the third quarter of 2024 (2024Q3), its size, measured by its **Gross Domestic Product** (GDP), is of US$ *29.37 trillion*.

- What does that mean?

The size of an economy

According to the U.S. Bureau of Economic Analysis:

- A country's **Gross Domestic Product** (GDP) is a measure of the *total market value of final goods and services newly produced within a country's borders over a period of time (usually one year)*.

Lots of things to make sense of:

- *Market value*?
- *Final goods and services*?
- *Within a country's borders*?

The size of an economy

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."*

Pop quiz

Pop quiz

True or False?

1. If a *Japanese* firm provides a consulting service in the U.S., expenditures on that service will count towards the Japanese *Gross Domestic Product* (GDP).

2. If one purchases flour for baking at home, the value of this sale will be counted towards GDP.

3. If a bakery buys flour to bake its goods, this flour purchase will be counted towards GDP.

4. If you buy an used car this year, this purchase will be part of this year's GDP.

5. Your grandfather just won US$5 million in the lottery! Thus, 5 million more to this year's GDP.

Pop quiz

Which of the following will be part of U.S. GDP?

1. A dealer sells US$500 worth of illegal heroin.
2. Subaru builds a new plant in Detroit.
3. You buy an used copy of *Lord of the Rings*.
4. You buy a new issue of Joy Division's *Unknown Pleasures* LP.
5. A US company located in Prague sells US$80 thousand worth of its product in the local market.
6. You spend the weekend mowing your lawn.
7. You buy a ticket to a concert in NYC, but you are not able to make it.

Measuring GDP

Measuring GDP

The federal agency responsible for compiling data and computing GDP in the United States is the *Bureau of Economic Analysis*.

In order to make GDP accounting as standardized and comparable as possible across different countries, agencies adopt similar **national income accounting** conventions.

In the U.S., this is done by the **National Income and Product Accounts (NIPA)**.

The first important convention concerns ***who*** matters for macroeconomic analysis.

These are:

- Households;
- Businesses (firms);
- Governments;
- The foreign sector.

Measuring GDP

Households and **businesses** form the **private** sector.

- Businesses include for-profit firms and certain business-serving nonprofit organizations (e.g., chambers of commerce).
- Other nonprofit organizations (universities, hospitals, museums, unions, charities) are not considered as businesses by the BEA.

Measuring GDP

Governments are part of the **public** sector.

It includes all *three* instances of government (federal, state, local).

Measuring GDP

The rest of the world comprehends the *foreign sector*.

It includes all *entities*—household, nonprofit, business, or government—located outside the borders of the country one is analyzing.

Measuring GDP

After being introduced to the main **macroeconomic agents**, we can look more closely to how GDP is calculated.

There are a few different **approaches**:

- The **spending** approach;
- The **income** approach;
- The **value-added** approach.

Let us talk about these.

Measuring GDP

Measuring GDP

The spending approach:

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

From the perspective of what each agent **spends on goods and services** in a given period, GDP calculated by the *spending approach* is composed of:

- Aggregate **consumption** (*C*);
- Aggregate private **investment** (*I*);
- Aggregate **government expenditures** (*G*);
- The **trade balance** (*X* - *M*).

Measuring GDP

Aggregate 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.

Measuring GDP

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

- It also includes changes in *inventories*:

  → *unsold* output produced in the reference year.

Measuring GDP

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

- Building highways, new schools, military spending, health & education,...

Note: Unemployment and veteran benefits, as well as social security payments are **not** included.

→ These are transfers that will likely be spent on *consumption.*

Measuring GDP

Lastly, a country's **trade balance** is the difference between its **Exports** (*X*) and its **Imports** (*M*).

Then, a country's **net exports** (*X* - *M*) is the difference between *domestically* produced goods that a country sells abroad and goods and services produced *in other countries* that residents of another country purchase.

- What happens if a country *exports* more than it imports?
- What about countries that *import* more than they export?

Measuring GDP

From the **spending approach** GDP measurement:

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

- What spending is made by the *private* sector?
- By the *government* sector?
- By the *foreign* sector?

Next time: More on GDP