Measuring A nation’s income

MEASURING A NATION'S INCOME

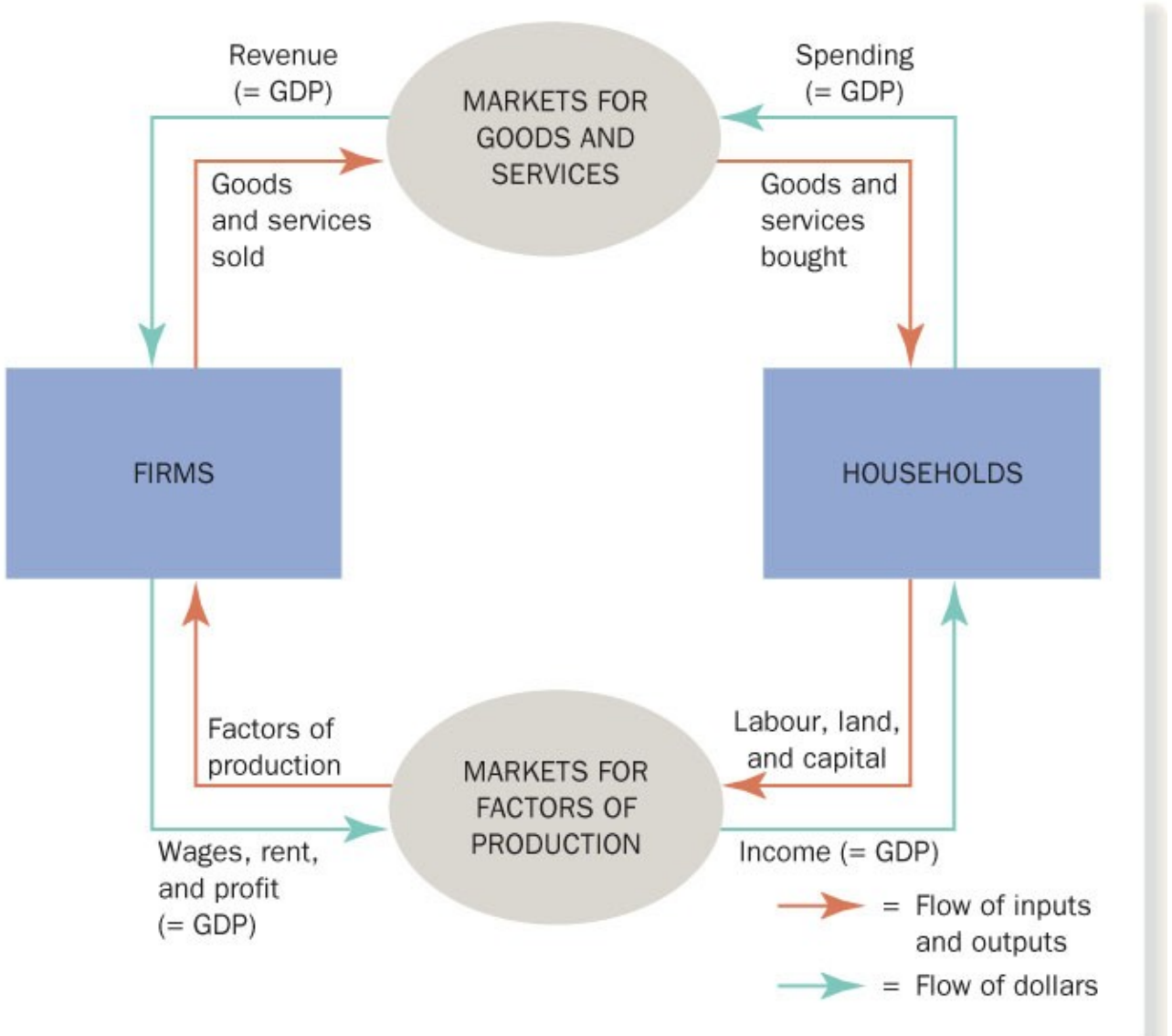
Microeconomics: the study of how individuals and how firms make decisions and how they interact in markets

Macroeconomics: the study of economy-wide phenomena, including inflation, unemployment, and economic growth

THE ECONOMY'S INCOME AND EXPENDITURE

For an economy as a whole, income must equal expenditure.

The Circular-Flow Diagram



THE MEASUREMENT OF GROSS DOMESTIC PRODUCT

GDP: the market value of all final goods and services produced within a country in a given period of time

“GDP Is the Market Value . . .”

GDP adds together many different kinds of products into a single measure of the value of economic activity.

“. . . Of All . . .”

It includes all items produced in the economy and sold legally in markets.

GDP also includes the market value of the housing services provided by the economy’s stock of housing.

There are some products, however, that GDP excludes because measuring them is so difficult.

“. . . Final . . .”

GDP includes only the value of final goods.

The reason is that the value of intermediate goods is already included in the prices of the final goods.

An important exception to this principle arises when an intermediate good is produced and is added to a firm’s inventory of goods to be used or sold at a later date.

“. . . Goods and Services . . .”

GDP includes both tangible goods (food, clothing, cars) and intangible services
(haircuts, housecleaning, dentist visits).

“. . . Produced . . .”

GDP includes goods and services currently produced.

“. . . Within a Country . . .”

GDP measures the value of production within the geographic confines of a country.

“. . . In a Given Period of Time”

GDP measures the value of production that takes place within a specific interval of time.

- Usually that interval is a year or a quarter.

GDP measures the economy’s flow of income and expenditure during that interval.

FYI:
Other Measures of Income

- Gross national product
- Net national product
- National income
- Personal income
- Disposable personal income

THE COMPONENTS OF GDP

$$Y = C + I + G + NX$$

Y : GDP

C : Consumption

I : Investment

G : Government purchases

NX : Net exports

Consumption

Consumption: spending by households in goods and services, with the exception of purchases of new housing

Investment

Investment: spending in capital-equipment, inventories, and structures, including household spending on new housing

Government Purchases

Government purchases: spending in goods and services by local, territorial, provincial, and federal governments

Net Exports

Net exports: the value of a nation's exports minus the value of its imports; also called the trade balance

Net Export=Export-Import

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A Numerical Example

Table 1 shows some data for an economy that produces only two goods:

- Hot dogs
- Hamburgers

The table shows the quantities of the two goods produced and their prices in the years 2005, 2006, and 2007.

GDP/Total Expenditure and Its Components

Assume this economy only produces two products

Table 1

Year	Price of Hot Dogs	Quantity of Hot Dogs	Price of Hamburgers	Quantity of Hamburgers
2005	$1	100	$2	50
2006	$2	150	$3	100
2007	$3	200	$4	150

REAL VERSUS NOMINAL GDP

If total spending rises from one year to the next, one of two things must be true:

1. The economy is producing a larger output of goods and services.
2. Goods and services are being sold at higher prices.

When studying changes in the economy over time, economists want to separate these two effects. Therefore, the "real' GDP is measured to eliminate the impact of inflation.

Nominal and Real GDP

In this example, we use 2005 as “base yea”, which means we use the price of 2005 to count the “real” GDP. By doing so, we are allowed to compare the productivity across different years since the effect of inflation is excluded.

Definition of **nominal GDP**: **the production of goods and services valued at current prices.**

Nominal GDP for 2005 = ($1 × 100) + ($2 × 50) = $200.
Nominal GDP for 2006 = ($2 × 150) + ($3 × 100) = $600.
Nominal GDP for 2007 = ($3 × 200) + ($4 × 150) = $1,200.

Definition of **real GDP**: **the production of goods and services valued at constant prices.**

Let’s assume that the base year is 2005.

Real GDP for 2005 = ($1 × 100) + ($2 × 50) = $200.
Real GDP for 2006 = ($1 × 150) + ($2 × 100) = $350.
Real GDP for 2007 = ($1 × 200) + ($2 × 150) = $500.

The GDP Deflator

1. GDP deflator: a measure of the price level calculated as the ratio of nominal GDP to real GDP times 100

2. GDP Deflator for 2005 = ($200 / $200) × 100 = 100.

   GDP Deflator for 2006 = ($600 / $350) × 100 = 171.

   GDP Deflator for 2007 = ($1200 / $500) × 100 = 240.

The GDP Deflator

$$\text{GDP deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

$$\text{Inflation rate in yr 2} = \frac{\text{GDP deflator in yr 2 - GDP deflator in yr 1}}{\text{GDP deflator in yr 1}} \times 100$$

GDP AND ECONOMIC WELL-BEING

"GDP does not allow for the health of our children, the quality of their education, or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages; the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage; neither our wisdom nor our learning; neither our compassion nor our devotion to our country; it measures everything, in short, except that which makes life worthwhile. And it tells us everything about America except why we are proud that we are Americans."

Robert Kennedy (1968)