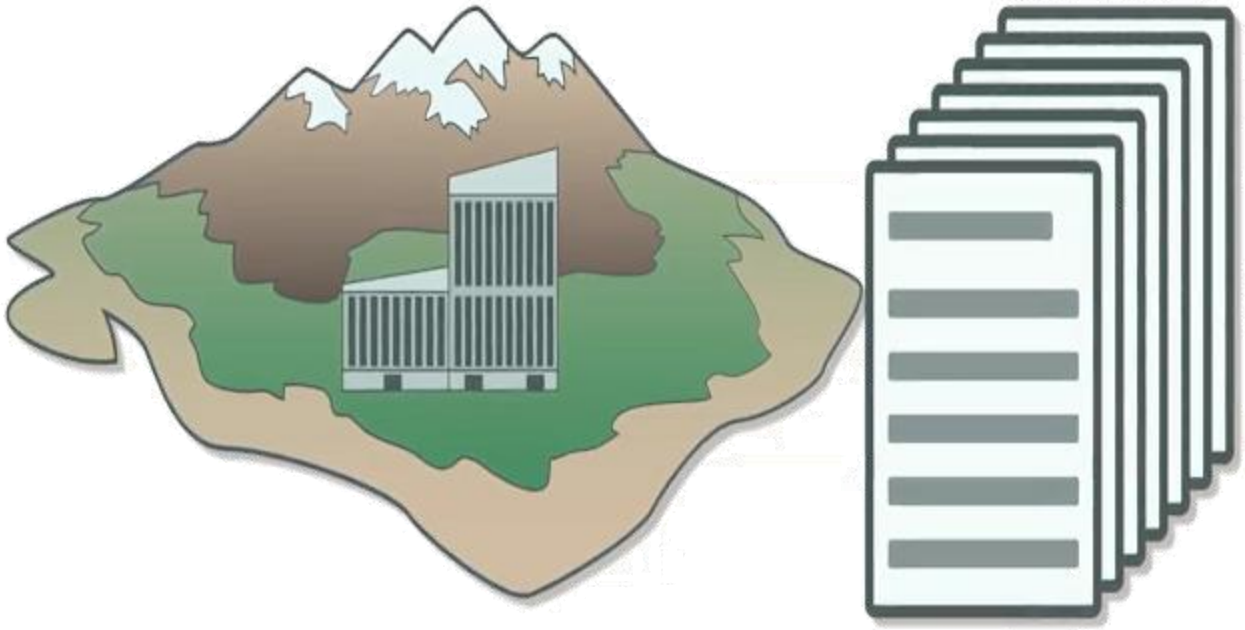
Test Yourself: National-Income Accounting

Nothing is more destructive than the gap between people's perceptions of their own day-to-day economic well-being and what politicians and statisticians are telling them about the economy.

Nicolas Sarkozy

What is national-income accounting?

National-income accounting refers to the measurement of aggregate economic activity, particularly national income and its components.



What is gross domestic product?

Gross domestic product (GDP) is the total dollar value of final output produced *within a nation's borders* in a given time period.

Each good and service produced and brought to market has a price. That price serves as a measure of value for calculating total output.

GDP is geographically focused, including all output produced within a nation's borders regardless of whose factors of production are used to produce it.

What is gross national product?

Gross National Product (GNP) refers to output *produced by American-owned factors* regardless of location.

What is GDP per capita?

GDP per capita is total GDP divided by total population – the average GDP.

GDP per capita is commonly used as a measure of a country's standard of living.

Keep in mind, though, that measures of per capita GDP tell us nothing about the way GDP is actually distributed or used – they are only a statistical average.

What problems do we find in the methods of calculating GDP?

The methods of calculating GDP create some problems.

- GDP measures exclude most goods and services produced that are not sold in the market, causing problems when comparing living standards over time or between countries.
- GDP statistics fail to capture market activities that are not reported to tax or census authorities, such as an underground economy.
- The production of most goods and services involves a series of stages. To accurately measure GDP we must distinguish intermediate goods from final goods.

What are intermediate goods?

Intermediate goods are goods or services purchased for use as input in the production of final goods or services.

What is value added?

Value added is the increase in the market value of a product that takes place at each stage of the production process.

What are the two ways used to calculate GDP?

There are two ways to calculate GDP.

- Compute the value of the *final* output.
- Count only the *value added* at each stage of production.

What is nominal GDP?

Nominal GDP is the value of final output produced in a given period, measured in the prices of that period.

Distinguishing increases in quantity from increases in prices is done by distinguishing between real GDP and nominal GDP.

What is real GDP?

Real GDP is the value of final output produced in a given period, adjusted for changing prices.

The distinction between nominal and real GDP is important whenever the price level changes.

How do we compute real GDP?

The general formula for computing real GDP is:

$$\textit{Real GDP in year } t = \frac{\textit{nominal GDP in year } t}{\textit{price index}}$$

The base period is the time period used for comparative analysis. It is the basis for the indexing of price changes.

Inflation tends to obscure actual declines in real output.

What is depreciation?

Depreciation is the consumption of capital in the production process — the wearing out of plants and equipment.

What is net domestic product?

Net domestic product is the amount of output we could consume without reducing our stock of capital.

NDP = GDP – depreciation

What is investment?

Investment is spending on (the production of) new plants, equipment and structures (capital) in a given time period, plus changes in business inventories.

Gross investment is total investment expenditure in a given time period.

Net investment is gross investment less depreciation.

The distinction between GDP and NDP is mirrored in the difference between gross investment and net investment.

What do we mean by the stock of capital?

The stock of capital is the total collection of plants and equipment. It will not grow unless gross investment exceeds depreciation.

What are the major uses of total output?

The major uses of total output conform to the four sets of market participants:

- consumers - consumption
- business firms - investment
- government - government spending (Resources purchased by the government sector are unavailable for consumption or investment purposes.)
- foreigners - net exports

What are consumption goods?

Goods and services used by households are called consumption goods.

Consumer spending claims nearly two-thirds of our annual output.

What are investment goods?

Investment goods are the plants, machinery and equipment that we produce, as well as net inventory changes and new residential construction.

What are net exports?

Net Exports are the value of exports minus the value of imports.

Exports are goods and services sold to foreign buyers.

Imports are goods and services purchased from foreign sources.

How do we compute GDP?

The value of GDP can be computed by adding up the expenditures of market participants.

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

Where:

C = consumption expenditures ***X*** = exports

I = investment expenditures ***M*** = imports

G = government expenditures

GDP accounts have two sides. What are they?

GDP accounts have two sides.

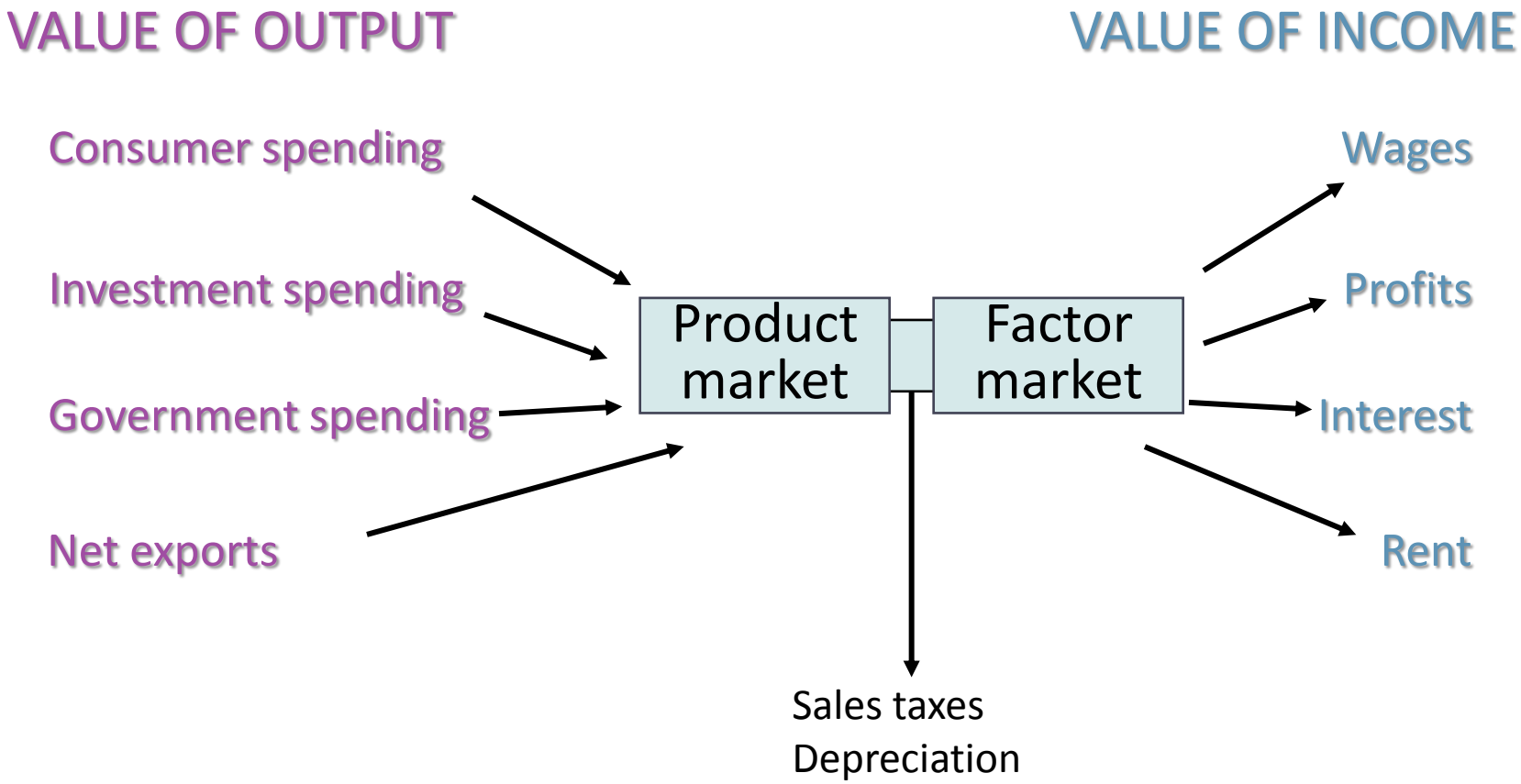
- One side focuses on **expenditure** – the demand side.
- The other side focuses on **income** – the supply side. The total value of market incomes must equal the total value of final output, or GDP.

What two things reduce GDP before any income is available to current factors of production?

Depreciation charges reduce GDP to the level of NDP (Net Domestic Product) before any income is available to current factors of production.

When goods are sold in the marketplace, their purchase price is typically encumbered with some sort of sales tax.

Diagram: Output = Income



What is net foreign factor income?

The wages, interest and profits paid to foreigners is not part of US income and must be *subtracted* from the income flow.

On the other hand, incomes earned by US citizens in other nations represent an inflow of income to US households and are *added*.

Net foreign factor income is incomes earned by Americans abroad minus moneys paid to foreigners.

What is national income?

National income (NI) is total income earned by current factors of production.

NI = NDP + net foreign factor income

What is personal income?

Personal income (PI) is the income received by households before the payment of personal taxes.

Personal income = National income – (corporate taxes + retained earnings + Social Security taxes) + (transfer payments + net interest)

- Corporate taxes and retained earnings represent the part of corporate profits not received by households and are *subtracted* from national income.
- *Social security taxes* are also *subtracted*.
- Transfer payments and net interest are *added*.

What is disposable income?

Disposable income (DI) is the after-tax income of households.

It is personal income less personal taxes.

Disposable income = personal income – personal taxes

What is saving?

Saving is that part of disposable income not spent on current consumption – disposable income less consumption.

All disposable income is either consumed or saved.

Disposable income = Consumption + Saving

Does the dollar value of output always equal the dollar value of income?

Yes, the dollar value of output will *always* equal the dollar value of income.

How is total income distributed?

Total income (GDP) ends up distributed the following way:

- To **households**, in the form of disposable income.
- To **businesses**, in the form of retained earnings and depreciation allowances.
- To **government**, in the form of taxes.

The flow of income that starts with GDP ultimately returns to the market in the form of new consumption (C), investment (I) and government purchases (G).

How did you do?! If you didn't do as well as you'd like, review the margin notes and presentations and test yourself again.

The End