



# National-Income Accounting

## Part II

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



# Net Domestic Product

- Next year we won't be able to produce as much output unless we replace factors of production we use this year.
- **Depreciation** is the consumption of capital in the production process — the wearing out of plants and equipment.



# Net Domestic Product

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

$$***NDP = GDP - depreciation***$$



# Net Domestic Product

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



# Net Domestic Product

- The distinction between GDP and NDP is mirrored in the difference between gross investment and net investment.
  - **Gross investment** is total investment expenditure in a given time period.
  - **Net investment** is gross investment less depreciation.



# Net Domestic Product

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



# The Uses of Output

- The major uses of total output conform to the four sets of market participants:
  - consumers - consumption
  - business firms - investment
  - government - government spending
  - foreigners - net exports



# Consumption

- Goods and services used by households are called **consumption goods**.
- Consumer spending claims nearly two-thirds of our annual output.



# Investment

- **Investment goods** are the plants, machinery and equipment that we produce.
- Also includes net inventory changes and new residential construction.



# Government Spending

Resources purchased by the government sector are unavailable for consumption or investment purposes.



# 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.



# Computing 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

**I** = investment expenditures

**G** = government expenditures

**X** = exports

**M** = imports



# Measures of Income

- GDP accounts have two sides.
  - One side focuses on expenditure – the demand side.
  - The other side focuses on income – the supply side.



# Measures of Income

The total value of market incomes must equal the total value of final output, or GDP.



# Diagram: Output = Income

## VALUE OF OUTPUT

## VALUE OF INCOME

Consumer spending

Investment spending

Government spending

Net exports

Product market

Factor market

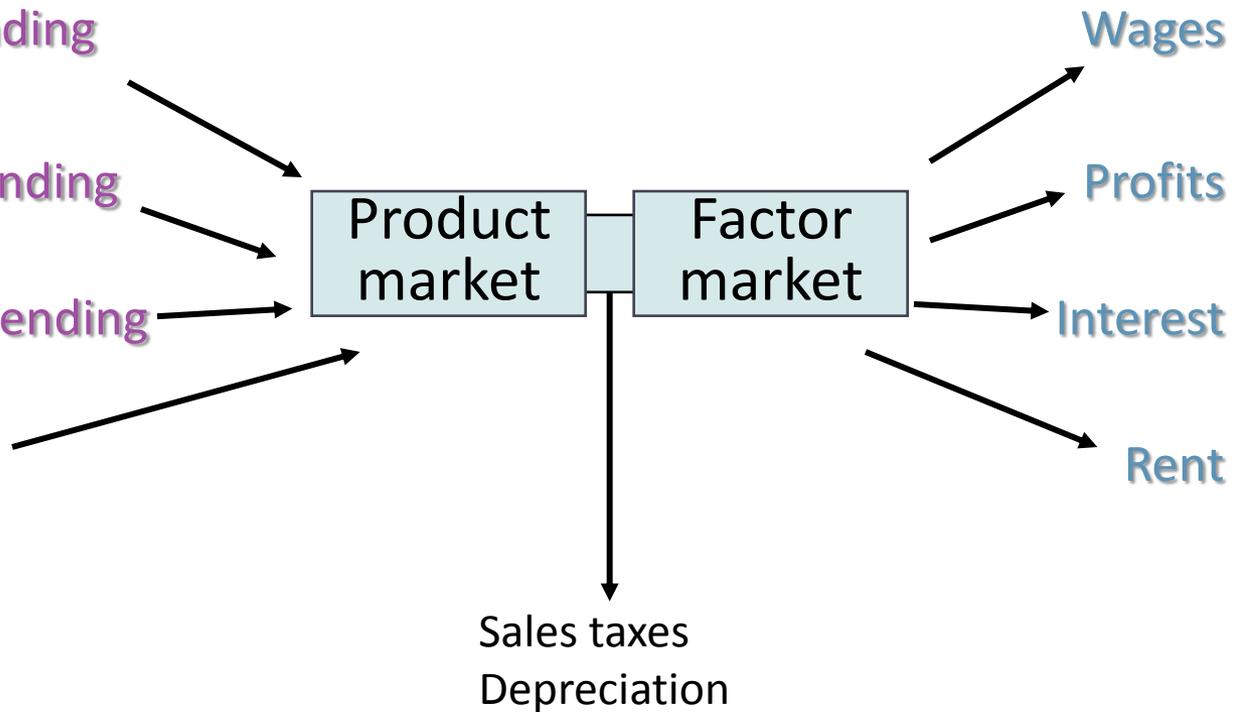
Wages

Profits

Interest

Rent

Sales taxes  
Depreciation





# Table: The Equivalence of Expenditure and Income (in billions of dollars)

Expenditure		Income	
Consumer goods and services	\$7,757	Wages and salaries	\$6,203
Investment in plant, equipment and inventory	1,671	Corporate profits	1,070
Government goods and services	2,055	Proprietors' income	827
Exports	1,049	Farm income	20
Imports	(1,544)	Rents	164
Total value of output	\$10,988	Interest	583
		Sales taxes	740
		Depreciation	1,311
		Statistical discrepancy	70
		Total value of income	\$10,988



# National Income

By charting the flow of income through the economy,  
we see FOR WHOM the output is produced.



# Depreciation

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

$$***NDP = GDP - depreciation***$$



# Indirect Business Taxes

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



# Net Foreign Factor Income

- Wages, interest, and profits paid to foreigners are not part of US income.
  - They need to be *subtracted* from the income flow.
  - Incomes earned by US citizens in other nations represents an inflow of income to US households and are *added*.



# National Income

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

$$\text{NI} = \text{NDP} + \text{net foreign factor income}$$



# Personal Income

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

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



# Personal Income

- **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*.



# 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***



# Disposable income

- **Saving** is that part of disposable income not spent on current consumption – disposable income less consumption.
- All disposable income is either consumed or saved.

$$\textit{Disposable income} = \textit{Consumption} + \textit{Saving}$$



# Table: The Flow of Income

Income flow	Amount (in billions)	Income flow	Amount (in billions)
Gross domestic product (GDP)	\$11,004	National income (NI)	9,680
Less depreciation	(1,354)	Less corporate taxes	(235)
Net domestic product (NDP)	9,650	Less retained earnings	(391)
Less indirect business taxes	(751)	Less Social Security taxes	(1,150)
Plus net foreign factor income	54	Plus transfer payments	1,335
Less statistical discrepancy	(24)	Plus net interest	674
		Personal income (PI)	9,162
		Less personal taxes	(1,002)
		Disposable income	8,160



# The Flow of Income

The dollar value of output will always equal the dollar value of income.



# The Flow of Income

- 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.

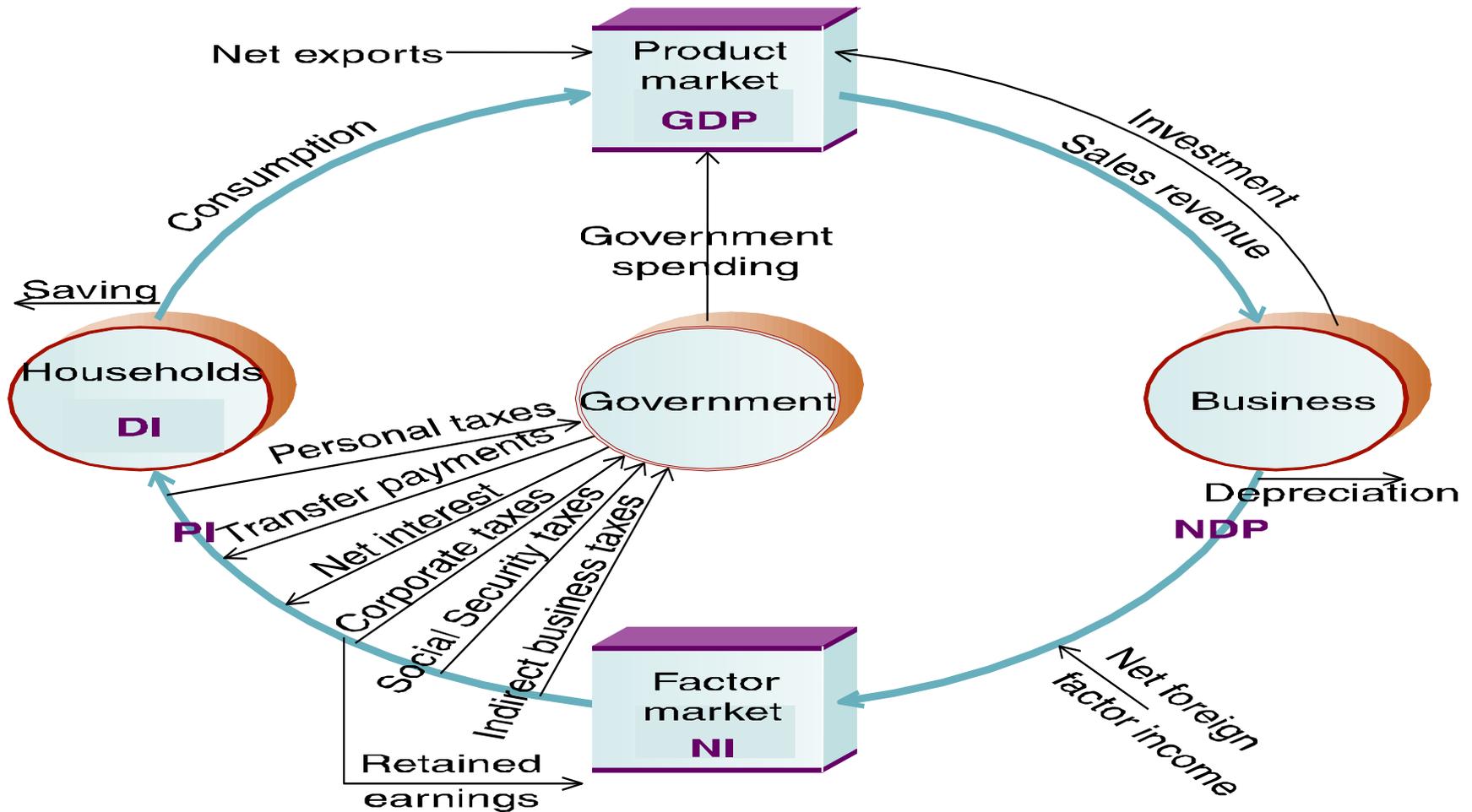


# Income and Expenditure

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).



# Diagram: Circular Flow of Spending and Income





THE END

