

# Introduction to Macroeconomics

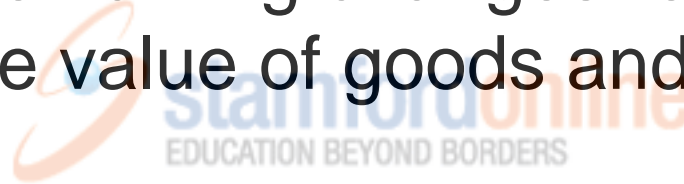


# Gross Domestic Product

- GDP = Gross Domestic Product
- Measures the market value of all final goods and services produced in the country during a given period
- Helps us keep track of the economy's incredible variety of goods and services

# Real GDP

- Real GDP means the effects of price level changes in the economy have been stripped away → the remaining changes reflect real changes in the value of goods and services produced



# Economic Fluctuations

- Economic fluctuations
  - The rise and fall of economic activity relative to the long-term growth trend of the economy
  - Business cycles
  - Vary in length and intensity but have some features in common
- Easiest way to understand economic fluctuations is to examine their components

# Components of Business Cycles

- Two phases
  - Periods of expansion
  - Periods of contraction
- Depression
  - Severe contraction
  - Lasting longer than one year and accompanied by high unemployment
- Recession
  - Milder contraction
  - Decline in total output lasting at least two consecutive quarters



# Increases in Production

- **Production tends to increase over the long run because of:**
  - **1. Increases in the amount and quality of resources, especially labour and capital**
  - **2. Better technology**
  - **3. Improvements in the rules of the game that facilitate production and exchange**

# Aggregate Output

- Aggregate output
  - Total amount of goods and services produced in the economy during a given period
  - Best measure of aggregate output is real gross domestic product, or real GDP
- Aggregate demand is the relationship between the average price of aggregate output and the quantity of aggregate output demanded

# Price Level

- Average price of aggregate output is called the price level
- The price level in any year is an index number, comparing average prices of that year to average prices in some base, or reference, year
  - When we say that the price level is higher, we mean compared to where it was
  - Average price of all goods and services produced in the economy relative to the price level in some base year

# Price Level

- The price level in the base year has a benchmark value of 100
- Price levels in other years are expressed relative to the base-year price level
- Price level or price index used to make
  - Comparisons in prices across time
  - Accurate comparisons of real aggregate output over time

# GDP Price Index

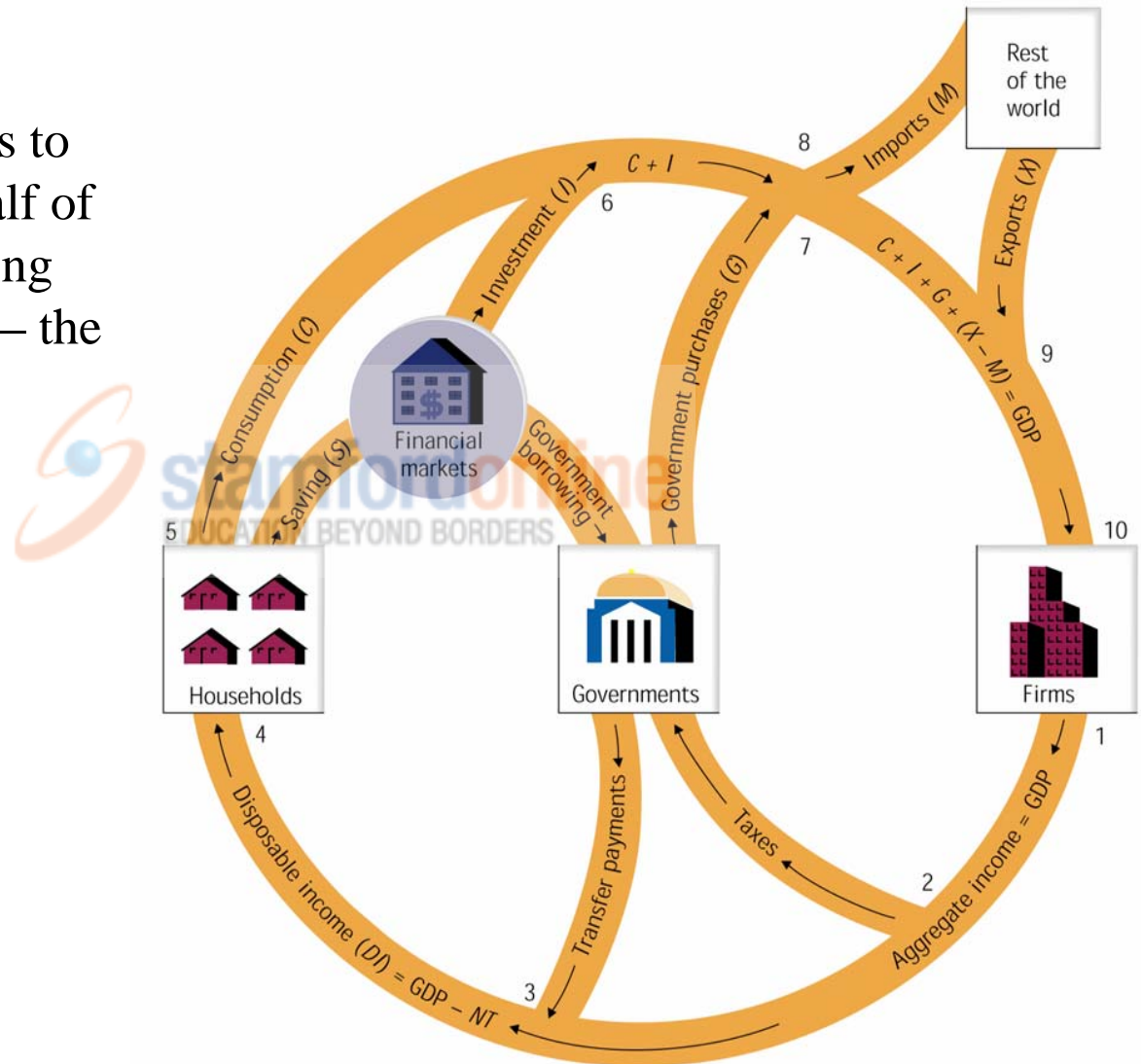
- After adjusting GDP for price changes, we end up with what is called the real gross domestic product, or real GDP
- The GDP price index
  - Shows how the economy's general price level changes over time



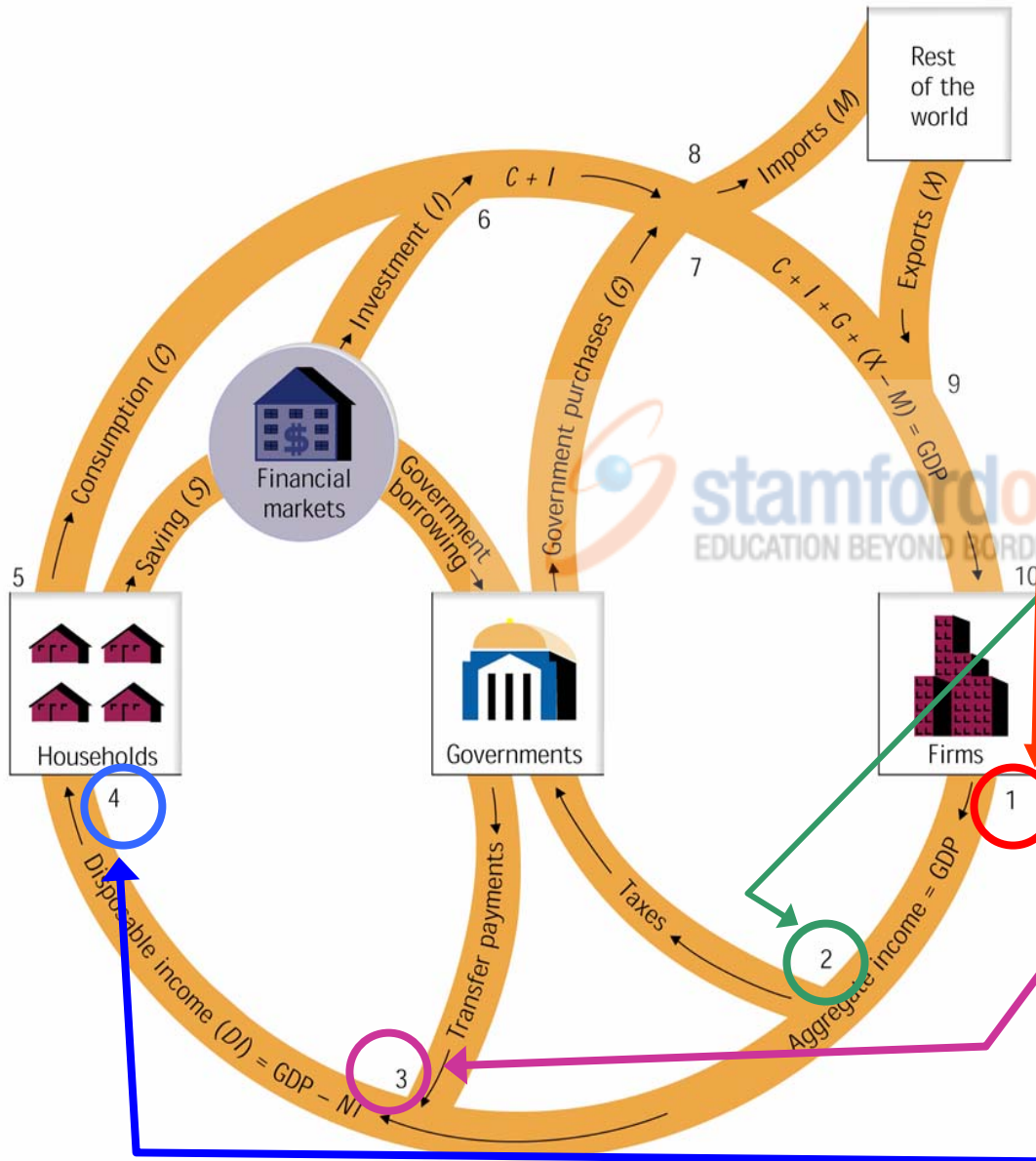
# Exhibit A: The Circular Flow

First as income from firms to households – the lower half of the circle – then as spending from households to firms – the upper half of the circle.

For each flow of money there is an equal and opposite flow of goods or resources.



# Exhibit B: The Circular Flow



At 1, firms make production decisions and income is earned. Production of aggregate output, or GDP, gives rise to an equal amount of aggregate income.

2. Not all income is available for households spending; governments collect taxes.

3. Some of these tax dollars will be given as transfer payments by the government.

4. By subtracting taxes and adding transfers, we obtain disposable income which flows to the households

# The Circular Flow

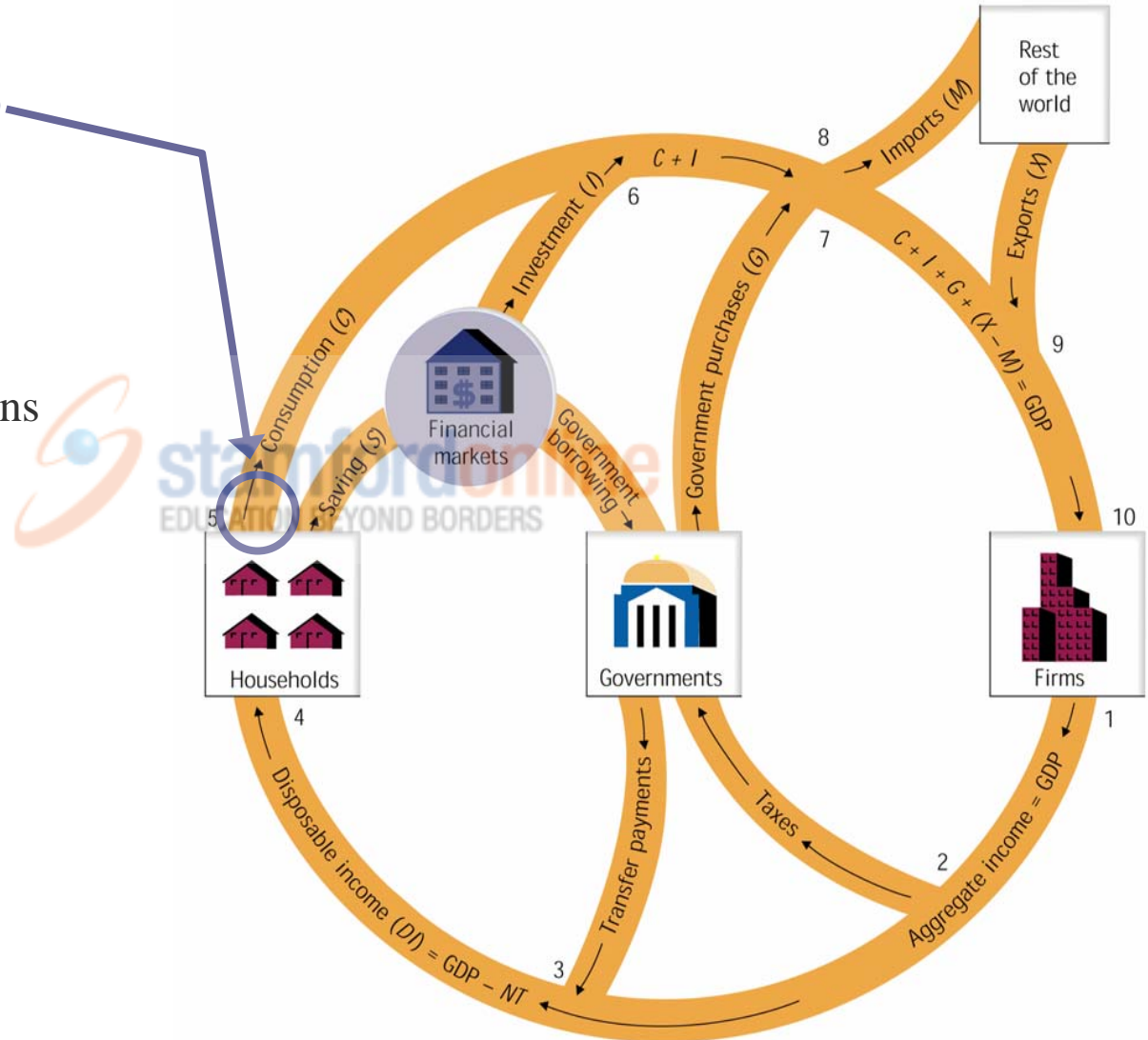
- Aggregate income is the total income from producing GDP
- Disposable income (DI) is the income remaining after (-) taxes & (+) transfers
- $DI = GDP - (\text{net taxes})$   
 $= GDP - (\text{Taxes} - \text{transfer payments})$
- $GDP = \text{Aggregate income} = DI + NT$

# Exhibit C: Expenditure Half of the Circular Flow

Disposable income splits at 5 where part of it is spent on consumption,  $C$ , and the remainder saved,  $S$ ,  $\rightarrow$   
 $DI = C + S$ .

Consumption spending remains in the circular flow.

Household saving flows to financial markets. For simplicity, we assume only households save.



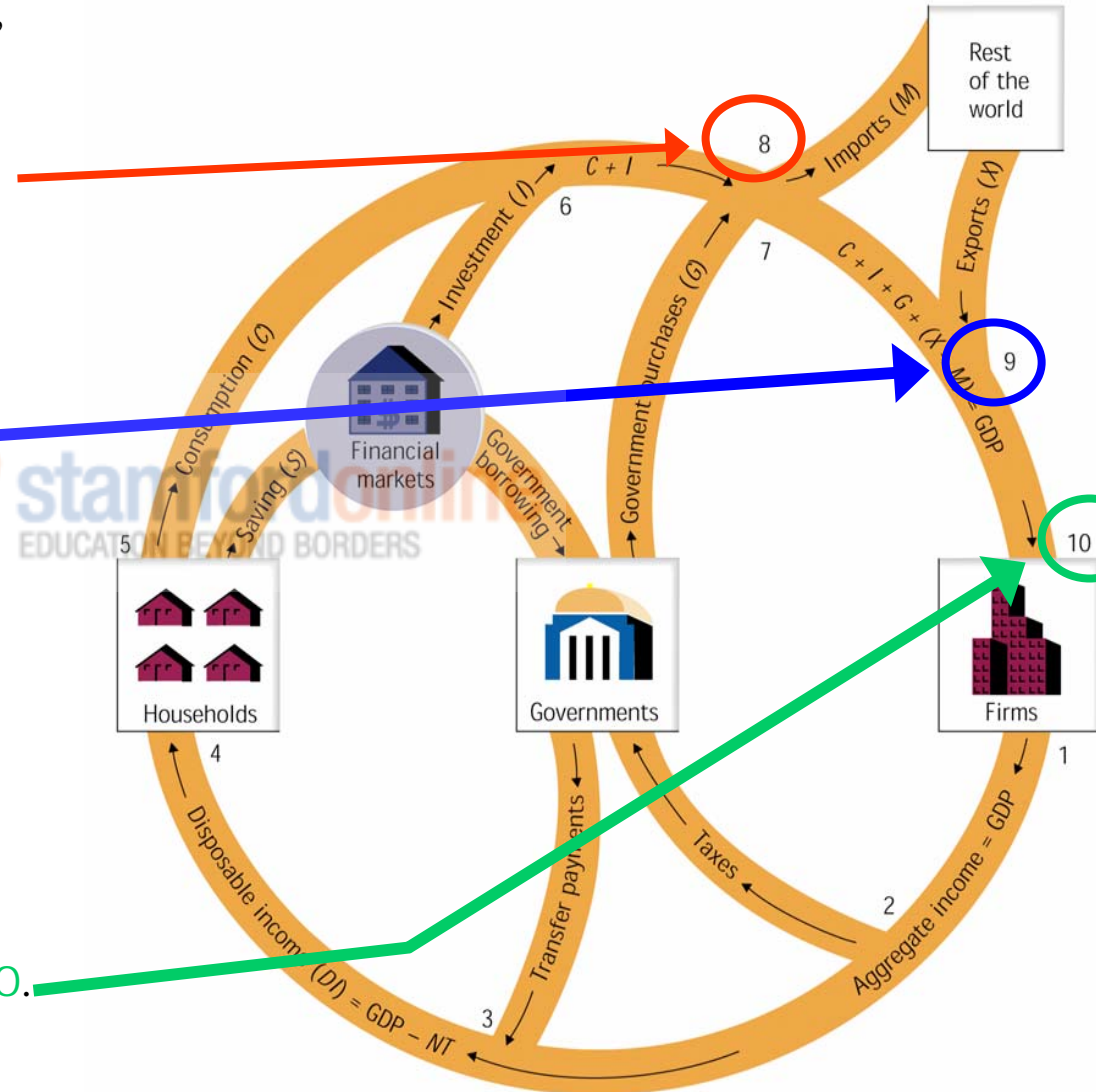
# Exhibit D: Circular Flow

Some spending by firms, households, and governments goes for imports,  $M$ . This flows to foreign producers → it is a leakage from the circular flow at **8**.

However, the rest of the world buys our products → exports enters the Circular flow at **point 9**.

The net impact of the rest of the world on aggregate expenditures = exports - imports, or net exports

Aggregate spending flows into firms at **10**.



# Leakages Equal Injections

- In the lower half of the circular flow, aggregate income equals disposable income plus net taxes
- In the upper half, aggregate expenditures equals the total spending on output
- The aggregate output arising from production equals the aggregate expenditure on that production

# Leakages Equal Injections

- This first accounting identity leads to

$$DI + NT = C + I + G + (X - M)$$

– Since disposable income = consumption plus saving

$$C + S + NT = C + I + G + (X - M)$$

– subtracting  $C$  from both sides and adding  $M$  to both sides, the equation reduces to

$$S + NT + M = I + G + X$$

leakages ( $S$ ,  $NT$ , and  $M$ ) = injections ( $I$ ,  $G$ , and  $X$ ) in the circular flow