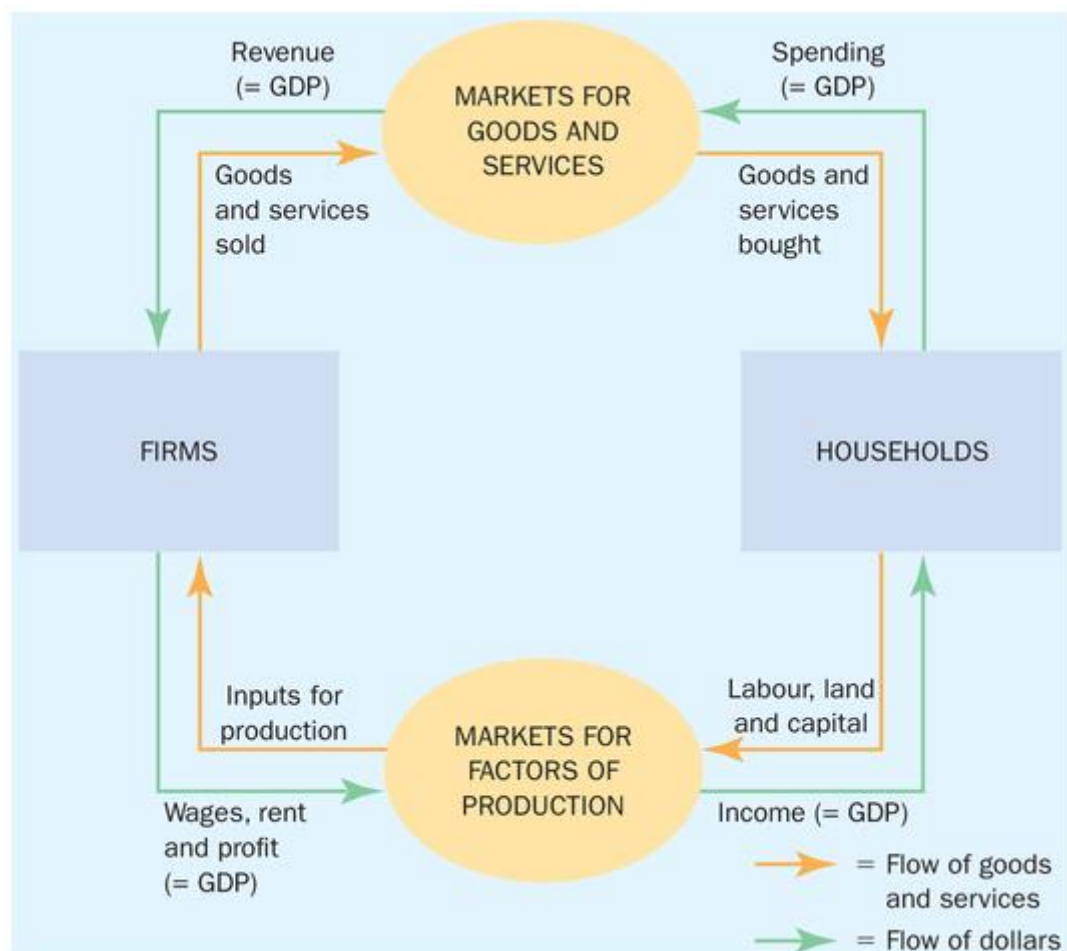


Chapter 5: MEASURING A NATION'S INCOME

THE ECONOMY'S INCOME AND EXPENDITURE

- GDP measure two things:
 - The total income of everyone in the economy
 - Total expenditure on the economy's output of goods and services
- For an economy as a whole, income must equal expenditure
- Circular Flow Diagram describes all the transactions between households and firms in simple economy.
 - In this economy, households buy goods and services from firms; these expenditures flow through the markets for goods and services
 - The firms in turn use the money they receive from sales to pay workers' wages, landowners' rent and firm owners' profit; this income flows through the markets for the factors of production.
 - In this economy, money continuously flows from households to firms and then back to households



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

- Market value: makes reference to the fact that GDP measures the value of activity in an economy at market prices

- Market prices provide information on people's willingness to pay for different goods and services and therefore will reflect the value of goods and services
- Absence of price and value, the mechanism of exchange struggles to function and will ultimately detract from the accuracy of an aggregate measure of a nation's income
- All final: highlights that GDP attempts, with a few exceptions, to account for all produced items within an economy that do not require any further processing
- Goods and services produced: indicates that GDP measures tangible goods and intangible services that are currently produced
- Within a country: reinforces the notion that GDP is a measure of a nation's income and limits the measurement to production within the geographic confines of a country
- Given period of time: indicates that GDP is measured within a specific interval of time (eg. Year or quarter)

Measuring GDP – The 3 Approaches

1. Expenditure approach

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

- $Y = \text{GDP}$
- $C = \text{Consumption}$ (spending by households on goods and services with the exception of purchases of new housing)
- $I = \text{Investment}$ (spending on capital equipment, inventory, structures and new houses)
- $G = \text{Government Purchases}$ (spending by government on goods and services with the exclusion of transfer payments)
- $NX = \text{Net Exports}$ (trade balance, difference between total imports and total exports)

2. Income approach

- $\text{Net income} = \text{Labour income} + \text{Rental income} + \text{Interest income} + \text{Profits}$

- Includes:
 - Factor Incomes
 - Compensation of employees
 - Proprietors' income
 - Corporate profits
 - Net interest
 - Less Factor Payments
 - Consumption of Fixed Capital
 - Depreciation
 - Net Indirect Taxes
 - Taxes on production and imports

3. Production approach

- $\text{GDP} = \text{Value Added to Economy}$ where

- $\text{Value Added to Economy} = \text{Value of Total Output Produced} - \text{Value of All Intermediate Goods used in Production}$

REAL VS NOMINAL GDP

Real GDP: the productions of goods and services valued at constant prices (at base year)

Nominal GDP: the production of goods and services valued at current prices

Year	Price and quantities			
	Price of pizza	Quantity of pizza	Price of instant noodles	Quantity of instant noodles
2014	\$8	100	\$3	75
2015	9	150	4	100
2016	10	200	5	150

Year	Calculating nominal GDP	Nominal GDP (\$)
2014	(\$8 per pizza × 100 pizza) + (\$3 per packet of instant noodles × 75 packets) = \$1025	1025
2015	(\$9 per pizza × 150 pizza) + (\$4 per packet of instant noodles × 100 packets) = \$1300	1750
2016	(\$10 per pizza × 200 pizza) + (\$5 per packet of instant noodles × 150 packets) = \$2150	2750

Year	Calculating real GDP (base year 2014)	Real GDP (\$)
2014	(\$8 per pizza × 100 pizza) + (\$3 per packet of instant noodles × 75 packets) = \$1025	1025
2015	(\$8 per pizza × 150 pizza) + (\$3 per packet of instant noodles × 100 packets) = \$1500	1500
2016	(\$8 per pizza × 200 pizza) + (\$3 per packet of instant noodles × 150 packets) = \$2050	2050

Year	Calculating the GDP deflator	GDP deflator
2014	(\$1025/\$1025) × 100 = 100	100
2015	(\$1750/\$1500) × 100 = 117	117
2016	(\$2750/\$2050) × 100 = 134	134

GDP Deflator: a measure of the price level calculated as the ratio of the GDP to real GDP time 100

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

- Measures the current level of prices relative to the level of prices in the base year
- Measures the price level
- Represented as an index number
- Index number in the base year is always equal to 100

Change in GDP Deflator

- Measures the inflation rate
- Inflation rate used to monitor the change in average level of prices in the economy
- Inflation rate -> %

$$\text{Inflation Rate}_{t-1 \text{ to } t} = \frac{\text{GDP deflator}_t - \text{GDP deflator}_{t-1}}{\text{GDP deflator}_{t-1}} \times 100$$

GDP AND ECONOMIC WELLBEING

- GDP does not directly measure those things that make life worthwhile, but it does measure our ability to satisfy material needs, and these are essential ingredients of comfortable, enjoyable and worthwhile lives
- GDP excludes:
 - Leisure
 - Quality of environment
 - Value of activity that takes place out of markets