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# Measuring Domestic Output and National Income

# Assessing the Economy's Performance

- National Income Accounting measures economy's overall performance
- Bureau of Economic Analysis compiles National Income and Product Accounts
  - Assess health of economy
  - Track long run course
  - Formulate policy

# Gross Domestic Product

- Measure of aggregate output
- Monetary measure
- Avoid multiple counting
  - Market value final goods
  - Ignore intermediate goods
  - Count value added

# Gross Domestic Product

- Exclude financial transactions
  - Public transfer payments
  - Private transfer payments
  - Stock (and bond) market transactions
- Exclude second hand sales
  - Sell used car to a friend

# Two Approaches to GDP

- Income approach
  - Count income derived from production
  - Wages, rental income, interest income, profit
- Expenditure approach
  - Count sum of money spent buying the final goods

# Two Approaches to GDP

**Expenditures or  
Output Approach**

**Consumption by  
Households**

**+**

**Investment by  
Businesses**

**+**

**Government  
Purchases**

**+**

**Expenditures  
By Foreigners**

**G  
= D =  
P**

**Income or  
Allocations Approach**

**Wages**

**+**

**Rents**

**+**

**Interest**

**+**

**Profits**

**+**

**Statistical  
Adjustments**

# Expenditures Approach

- Personal consumption expenditures (C)
  - Durable consumer goods
  - Nondurable consumer goods
  - Consumer expenditures for services
  - Domestic plus foreign goods produced

# Expenditures Approach

- Gross private domestic investment ( $I_g$ )
  - Machinery, equipment, and tools
  - All construction
  - Changes in inventories
- Creation of new capital assets
- Noninvestment transactions excluded



# Expenditures Approach

- Government purchases ( $G$ )
  - Expenditures for goods and services
  - Expenditures for publicly owned capital
  - Excludes transfer payments
- Net exports ( $X_n$ )
  - Add exported goods
  - Subtract imported goods
  - $X_n = \text{exports} - \text{imports}$

# U.S. Economy 2009

*In Billions*

Receipts Expenditures Approach		Allocations Income Approach	
Personal Consumption (C)	\$10,089	Compensation	\$ 7792
Gross Private Domestic		Rents	268
Investment ( $I_g$ )	1628	Interest	788
Government Purchases (G)	2931	Proprietor's Income	1041
Net Exports ( $X_n$ )	-392	Corporate Profits	1309
		Taxes on Production and	
		Imports	<u>1090</u>
		<i>National Income</i>	<i>\$12,288</i>
		Net Foreign Factor Income (-)	105
		Statistical Discrepancy (+)	209
		Consumption of Fixed	
		Capital (+)	<u>1864</u>
<i>Gross Domestic Product</i>	<u><i>\$ 14,256</i></u>	<i>Gross Domestic Product</i>	<u><i>\$ 14,256</i></u>

# Comparative GDP



# The Income Approach

- Compensation of employees
- Rents
- Interest
- Proprietor's income
- Corporate profits
  - Corporate income taxes
  - Dividends
  - Undistributed corporate profits

# The Income Approach

- From national income to GDP
  - Subtract net foreign factor income
  - Statistical discrepancy
  - Consumption of fixed capital
- Other national accounts
  - Net domestic product (NDP)
  - National income (NI)
  - Personal income (PI)

# U.S. Income Relationships 2009

Gross Domestic Product ( <b>GDP</b> )	\$ 14,256
<b>Less:</b> Consumption of Fixed Capital	1864
<b>Equals:</b> Net Domestic Product ( <b>NDP</b> )	\$ 12,392
<b>Less:</b> Statistical Discrepancy	209
<b>Plus:</b> Net Foreign Factor Income	105
<b>Equals:</b> National Income ( <b>NI</b> )	\$ 12,288
<b>Less:</b> Taxes on Production and Imports	1090
<b>Less:</b> Social Security Contributions	967
<b>Less:</b> Corporate Income Taxes	315
<b>Less:</b> Undistributed Corporate Profits	418
<b>Plus:</b> Transfer Payments	2528
<b>Equals:</b> Personal Income ( <b>PI</b> )	\$ 12,026
<b>Less:</b> Personal Taxes	1102
<b>Equals:</b> Disposable Income ( <b>DI</b> )	\$ 10,924

# Nominal vs. Real GDP

- GDP is a dollar measure of production
- Using dollar values creates problems
- Nominal GDP
  - Use prevailing price
- Real GDP
  - Reflect changes in price
  - Use base year price

# GDP Price Index

- Use price index to determine real GDP

$$\text{Price Index in Given Year} = \frac{\text{Price of Market Basket in Specific Year}}{\text{Price of Same Basket in Base Year}} \times 100$$

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{Price Index (in hundredths)}}$$



# Shortcomings of GDP

- Nonmarket activities
- Leisure
- Improved product quality
- The underground economy
- GDP and the environment
- Composition and distribution of the output
- Noneconomic sources of well-being

# Underground Economy

