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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

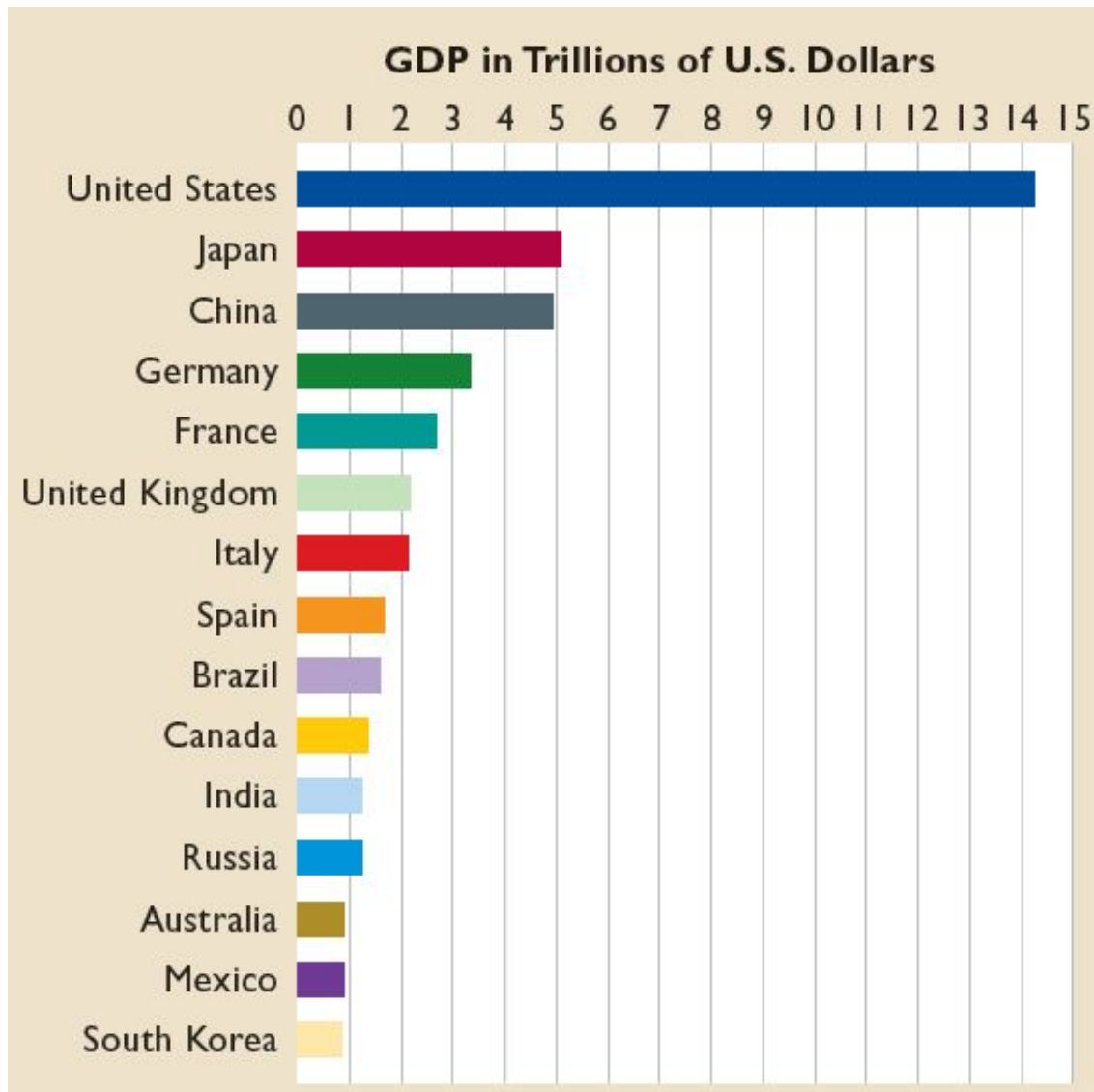
- Government purchases (G)
 - Expenditures for goods and services
 - Expenditures for publicly owned capital
 - Excludes transfer payments
- Net exports (X_n)
 - Add exported goods
 - Subtract imported goods
 - $X_n = \text{exports} - \text{imports}$

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>	<i>\$ 14,256</i>	<i>Gross Domestic Product</i>	<i>\$ 14,256</i>

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

