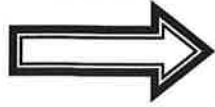


There are 3 major macroeconomic goals:

1. full employment
2. price stability
3. economic growth



\*There needs to be a way to measure these goals in order to determine a nation's economic well-being.

## Chapter 5 – Gross Domestic Product

### What are GDP and GNP?

- **Gross National Product (GNP)** - old
  - market value of all FINAL goods and services produced by a nation's residents, no matter where they are located (*\*reflects the US integration into the global economy*) **\*GNP includes GM's earnings on its foreign operations**

*November, 1991 – US Department of Commerce switched emphasis to Gross Domestic Product*

- **Gross Domestic Product (GDP)** - new
  - market value of all FINAL goods and services produced in a nation during a period of time (usually 1 year) **\*excludes production abroad by US businesses**

### GDP vs. GNP

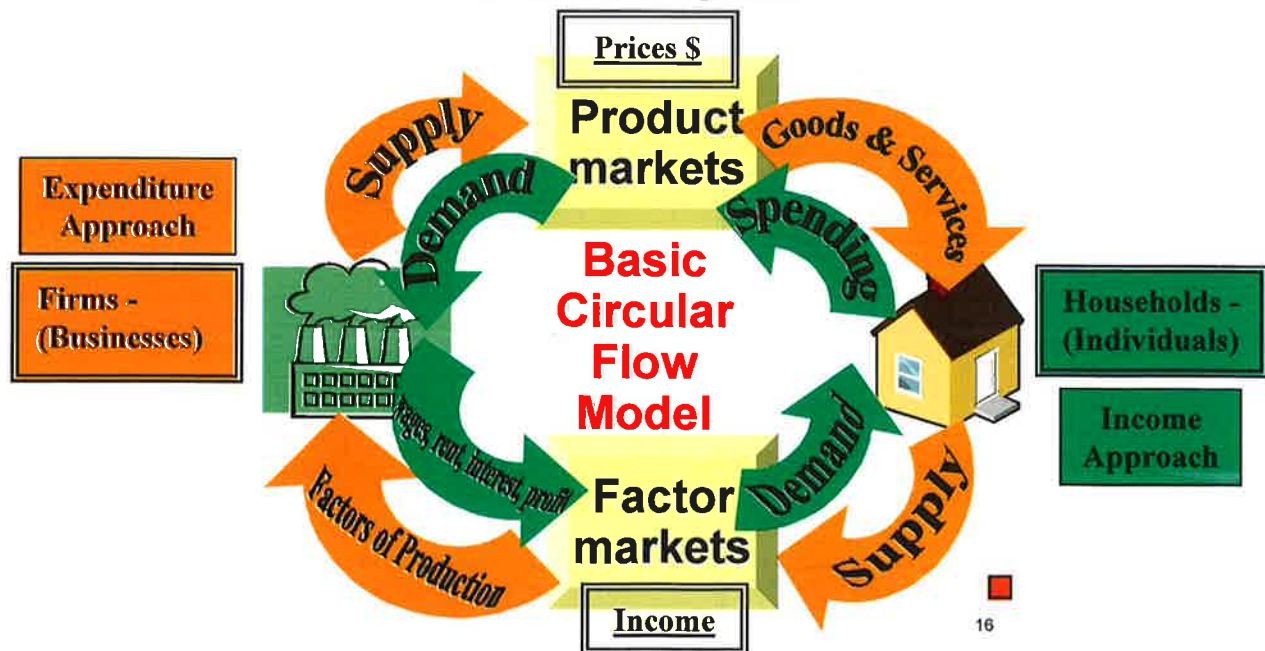
- **GNP excludes Toyota's profits from its Camry car plant in Kentucky and GDP does not**

### Why is GDP important?

- it avoids measurement problems => values according to dollars, not the number of cars, etc., therefore it relies on markets to establish the relative value of goods and services
1. GDP counts only NEW domestic production
  2. it counts only FINAL goods

### Measuring GDP

- circular flow model – illustrates the flow of products from businesses to households and the flow of resources from households to businesses (*ceteris paribus*)



## How is GDP actually calculated?

- I. **The Expenditure Approach** – measure total spending flowing through product markets in the circular flow diagram (the role of businesses or firms)
- adds all the spending for final goods and services during a period of time

### **The Expenditure Approach**

1. **Personal Consumption Expenditures (C)**
  - durable goods – cars, appliances, furniture (Lasts longer than 3 years)
  - nondurable goods – food, clothing, soap, gas (Lasts less than a year)
  - services – recreation, legal advice, medical treatment, education
2. **Gross Private Domestic Investment (I)**
  - a. fixed investment – newly produced capital goods such as commercial and residential structures, machinery, equipment and tools
  - b. business inventories – net change in spending for unfinished goods
3. **Government Consumption Expenditure and Gross Investment (G)**
  - value of goods and services government, at all levels (Federal, state and local); purchases measured by costs (police, teachers, etc.)
4. **Net Exports (X-M)**
  - a. exports – expenditures by foreigners for US domestically produced goods (X)
  - b. imports - dollar amount of our purchases of Japanese cars, French wine and other goods made abroad (M)

$$\text{Formula for GDP: } C + I + G + (X - M)$$

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- II. **The Income Approach** – method that measures GDP by adding all incomes, including compensation of employees, rents, net interest and profits.

### **The Income Approach (\*\*more accuracy)**

1. Compensation of employees (largest share of GDP)
2. Rental incomes of persons (smallest share of GDP)
3. Profits = **proprietors' income + corporate profits**
4. Net interest = **interest income earned – interest payments**
5. Indirect business taxes –
6. Depreciation –

Name - \_\_\_\_\_

Date - \_\_\_\_\_

SUNY Broome - Macroeconomics

Practice with GDP

Directions: Which of the following are **included** and which are **excluded** in calculating GDP? **Explain your decisions.**

1. A monthly check received by an economics student who has been granted a government scholarship.

\_\_\_\_\_

2. A farmer's purchase of a new tractor.

\_\_\_\_\_

3. A plumber's purchase of a two-year old used truck.

\_\_\_\_\_

4. Cashing a US government bond.

\_\_\_\_\_

5. The services of a mechanic in fixing the radiator on his own car.

\_\_\_\_\_

6. A Social Security check from the government to a retired store clerk.

\_\_\_\_\_

7. An increase in business inventories.

\_\_\_\_\_

8. The government's purchase of a new submarine for the Navy.

\_\_\_\_\_

9. A barber's income from cutting hair.

\_\_\_\_\_

10. Income received from the sale of Nike stock.

\_\_\_\_\_

Directions: For each of the following items, write one of the following in the space provided.

**C** – if the item is counted as consumption spending.

**I** – if the item is counted as investment spending.

**G** – if the item is counted as government spending.

**NX** – if the item is counted as net exports

**NC** – if the item is not counted in GDP

\_\_\_\_1. You spend \$7.00 to attend a movie.

\_\_\_\_2. A family pays a contractor \$100,000 for a house he for them this year.

\_\_\_\_3. A family pays \$75,000 for a house built three years ago.

\_\_\_\_4. An accountant pays a tailor \$175 to sew a suit for her.

\_\_\_\_5. The government increases its defense expenditures by \$1,000,000,000.

\_\_\_\_6. The government makes a \$300 Social Security payment to a retired person.

\_\_\_\_7. You buy General Motors stock for \$1,000 in the stock market.

\_\_\_\_8. At the end of the year, a flour-milling firm finds that its inventories of grain and flour are \$10,000 above the amounts of its new inventories at the beginning of the year.

\_\_\_\_9. A homemaker works hard caring for her spouse and two children.

\_\_\_\_10. Ford Motor Co. buys new auto-making robots.

\_\_\_\_11. You pay \$300 a month to rent an apartment.

\_\_\_\_12. Apple Computer Co. builds a new factory in the United States.

\_\_\_\_13. R.J. Reynolds Co. buys control of Nabisco.

\_\_\_\_14. You buy a new Toyota that was made in Japan.

\_\_\_\_15. You pay tuition to attend college.

## Shortcomings of GDP

### 1.) GDP may be giving the economy a false impression of the nation's material well-being

#### A. non-market transactions –

- excludes certain unpaid activities, such as homemakers, child rearing and do-it-yourself home repairs and services

**\* it is difficult to collect data and difficult to decide which non-market activities to include or not**

**\*\*many underdeveloped, less industrialized nations lose GDP because they provide their own food and do work themselves rather than hiring out**

#### B. distribution, kind and quality of products –

- GDP is quantitative rather than qualitative in measurement of the output of goods and services

#### C. neglect of leisure time –

- argued that GDP understates national well-being because no allowance is made for people working fewer hours than it once did

#### D. underground economy –

- illegal activities (sale of drugs, black market, etc.) that could be considered final goods but are not counted

#### E. economic bads –

- negative externalities cause costs on societies not reflected in private market prices and quantities

\*GDP does not take into account depreciation – the loss of the value of capital equipment which results from normal wear and tear\*

### 2.) In addition to GDP, the media often report other national accounts for studying macroeconomics:

1. *National Income (NI)* = GDP – depreciation
2. *Personal Income (PI)* = measures the total income received by households that is available for consumption, saving, and payment of taxes
3. *Disposable Personal Income (DI)* = amount of income households actually have to spend or save after payment of personal taxes

## Nominal GDP vs. Real GDP

Nominal GDP (AKA. current-dollar GDP or money GDP) – value of all FINAL goods based on the prices existing during the time period of production (current prices)

\*\*Grows in 3 ways: 1. output rises & prices remain unchanged; 2. prices rise & output is constant; 3. output and prices rise

Real GDP – value of all FINAL goods produced during a given time period based on the prices existing in a selected base year (prices constant, unchanging)

# PAGE ONE Economics

the back story on front page economics

NEWSLETTER

May ■ 2013

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## GDP: Does It Measure Up?

Scott A. Wolla, *Senior Economic Education Specialist*

*“Not everything that counts can be counted, and not everything that can be counted counts.”*

—Albert Einstein

We can measure our national progress in many ways. But even if we restrict our measurement to the economy—and set aside social, cultural, and political progress for a moment—the total value of the **goods** and **services** produced in the economy can be mind-boggling. Think of all the goods (shoes, oranges, computers...) and services (haircuts, doctor visits, car repairs...) produced in the United States. Even more intimidating is trying to capture that production in a single number. One common and fairly comprehensive measure is **gross domestic product (or GDP)**, which is a statistic calculated by the U.S. Department of Commerce; it measures the total market value of all final goods and services produced in an economy in a given year. Simply put, GDP measures the size of the economy. It is among the most important and widely reported pieces of economic data. A variety of people, from business owners to policymakers, use GDP in their decisions. And, while the National Bureau of Economic Research<sup>1</sup> uses a comprehensive method of determining the phases of the business cycle, the general rule of thumb says two consecutive quarters of negative real GDP constitutes a **recession**. In short, GDP is central to our understanding of the state of the economy.

What happens to the goods and services produced? U.S. consumers, businesses, and the government—and those same groups in foreign countries—buy them. The largest portion of GDP is consumer spending, the money you and I spend on goods and services. This portion has grown from 59 percent of GDP in 1951 to its current level of just over 70 percent. Because spending on output by one group of people becomes income for others, GDP can be described in terms of either expenditures or income. The bookkeeping system used to calculate GDP is referred to as national income accounting.

### Let's Get Real

Even though GDP is a valuable measurement tool, prices are used in calculating the value of output. This causes difficulty with calculating changes in GDP over time because an increase in GDP could mean any of the following: (i) The country has produced more goods and services. (ii) The country has produced the same amount of goods and services, but the prices of those goods and services are higher. Or (iii), some combination of higher production levels and higher prices has caused GDP to increase. If we want to use GDP to measure the “real” increase or decrease over time in the level of final goods and services produced, we must remove the effect of price changes from the data. Therefore, **real GDP** controls for inflation and more accurately reflects actual economic growth. When economists discuss GDP, they are usually referring to

children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials.” What Kennedy said is accurate, but GDP is not designed or intended to measure well-being; it is meant to measure output/production in terms of dollars. Simon Kuznets, the economist who pioneered the national income accounting process, warned “The welfare of a nation can scarcely be inferred from a measure of national income.”

In addition, GDP does not measure economic activity that occurs outside markets. So, if you mow your own lawn, the value of that activity does not show up in GDP, but if you hire a lawn service it does. Another category not captured by GDP includes the nonmarket by-products of market production, such as pollution. Finally, GDP does not capture illegal activities in the underground economy or the “black market” because such transactions are not recorded.

### Conclusion

GDP data are among the most important economic data available, but measuring the output of a large, dynamic economy is a complex task. GDP measures production levels during a period of time, which can be adjusted for inflation and compared with earlier periods as an indication of economic growth. And, in general, growth is good. Finally, while GDP measures market activity, it doesn’t capture well-being; it’s not meant to. ■

### NOTES

<sup>1</sup> See National Bureau of Economic Research. “The NBER’s Business Cycle Dating Committee.” September 20, 2010; <http://www.nber.org/cycles/recessions.html>.

<sup>2</sup> The central tendency excludes the three highest and three lowest projections.

<sup>3</sup> See “Economic Projections of Federal Reserve Board Members and Federal Reserve Bank Presidents.” March 2013; <http://www.federalreserve.gov/monetarypolicy/files/fomcprojtab120130320.pdf>.

### GLOSSARY

**Economic growth:** A sustained rise in a nation’s production of goods and services over time.

**Goods:** Objects that satisfy people’s wants.

**Gross domestic product (GDP):** The total market value, expressed in dollars, of all final goods and services produced in an economy in a given year.

**Nominal gross domestic product (GDP):** The total market value of all final goods and services produced in an economy in a given year, expressed by using the current year’s price for goods and services. Also known as current-dollar GDP. The nominal gross domestic product for the fourth quarter of 2012 was \$15.864 trillion.

**Real gross domestic product (GDP):** The total market value of all final goods and services produced in an economy in a given year, calculated by using a base year’s price for goods and services; nominal GDP adjusted for inflation. Also known as constant-dollar GDP. The real gross domestic product for the fourth quarter of 2012 was \$13.665 trillion (2005 dollars).

**Recession:** A period of declining real income and rising unemployment; significant decline in general economic activity extending over a period of time.

**Services:** Actions that can satisfy people’s wants.

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Name \_\_\_\_\_ Period \_\_\_\_\_

Federal Reserve Bank of St. Louis *Page One Economics Newsletter*:  
"GDP: Does It Measure Up?"

After reading the article, answer the following questions.

1. An economy's GDP is broken down into several components. Which is the largest?
2. Why is real GDP a better measure of economic growth than nominal GDP?
3. Why is growth important?
4. Explain why GDP is better suited to measure economic output and growth than well-being.
5. What are some economic activities that are not included in GDP because they occur outside formal markets?