Learning Objectives

Upon completion of this unit, students should be able to:

1. Explain the gross domestic product.
2. Discuss the circular flow of income and expenditure.
3. Assess the limitations of national income accounting.
4. Explain how to account for price changes.

Written Lecture

The Product of a Nation

The federal government collects large quantities of data in order to measure the performance of the economy. The U.S. national income accounts, which have been devised by some of the top economists in the last fifty years, organize the data into a coherent framework. The government uses gross domestic product (GDP), which is the market value of all final goods and services produced by resources located in the United States, as its measure of product. GDP excludes income of Americans living in foreign countries and includes the income of foreigners living in the United States.

It is important to know what is and what is not included in gross domestic product. GDP includes final goods and services but does not include intermediate goods and services. Final goods and services are those that are sold to the ultimate user. Intermediate goods and services are those purchased for additional processing and resale. The classification of a good as a final good or an intermediate good depends on the identity of the buyer and the purpose of the purchase. A carburetor produced by General Motors and installed in one of its cars is an intermediate good; a carburetor sold to an individual who goes home and installs it herself is a final good.

Gross domestic product is a flow variable, so the calculation of GDP is for a particular period of time—generally a year. However, the government also makes quarterly calculations of GDP. GDP measures domestic production, so goods and services produced in the United States but exported to other countries are included; goods and services that are produced elsewhere and imported into the United States are deducted.

There are two ways to measure GDP. The expenditure approach measures GDP by adding up the aggregate expenditure on all final goods and services. There are four components of aggregate expenditure: consumption, investment, government purchases, and net exports. Consumption is the purchase of final goods and services by households; final goods include both durable goods and nondurable goods. Investment includes all spending on output that is not used for present consumption. Included in investment are the purchase of new plants and equipment by firms, changes in firms' inventories, and new residential construction. Government purchases include spending for goods and services by all levels of government but do not include transfer
payments. This is because transfer payments do not involve the government purchase of goods and services. Net exports are exports minus imports and include expenditures on goods and services.

The second method of measuring GDP is the income approach. Income categories include wages, rent, interest, and profit. Production involves the use of inputs to produce the goods and services. Each input is owned by someone, and that person receives a payment for the use of the input. The total value of a good that is produced equals the total of payments made to input owners. Hence, if we measure the value of a good by its sale price, we will get the same figure as if we measure its value as the total of all payments to the owners of inputs used to produce the good.

Double counting is avoided by including only the market value of final goods and services or by calculating the value added at each stage of production. Value added is found by taking the selling price of the firm and subtracting the amount paid to other firms for materials. Hence, the value added reflects the amount paid to resource owners at that stage of production. By adding up the value added at each stage of production, we include the contribution of all resource owners to production.

The Circular Flow of Income and Expenditure

The circular flow model pictures the relationships among households, firms, the government, and the foreign sector, as well as the flow of aggregate expenditure and the flow of aggregate income that make up GDP. Make sure you understand the circular flow, illustrated in Exhibit 2 in the textbook. Aggregate income flows from firms to households, with a leakage of taxes and an injection of transfer payments. Households spend disposable income on consumption and saving. Savings flow into financial markets, where governments and firms come to borrow funds for government spending and investment spending. Consumption spending is combined with investment spending, government purchases, and net exports and flows back to firms. Net exports are either a net injection or a net leakage, depending on whether exports or imports are larger. Total leakages from the circular flow must equal total injections into the circular flow.

Limitations of National Income Accounting

As we mentioned earlier, it is important to know what is and what is not included in national income accounting. We have already seen that intermediate goods and services are not included, but other important categories are also not included. With some exceptions, GDP includes only products sold in formal markets, so it does not include household production. Childcare, food preparation, lawn care, home maintenance, and the like, when produced by the members of a household are not included in GDP. GDP measurements also exclude transactions in the underground economy, although this is not intentional. The government would like to include these transactions and tax the unreported income.

GDP also fails to reflect depreciation of capital goods. GDP ignores changes in the availability of leisure, changes in the quality of products, and changes in the availability of new products. It also fails to distinguish among types of goods, treating $100 spent on education the same as $100 spent on theft prevention. Further, it fails to include some important costs, especially costs to the environment from producing and consuming goods and services.
Accounting for Price Changes

Because national income accounts are based on nominal values (current dollars), it is difficult to make meaningful comparisons of the accounts over time. The government attempts to adjust for changes in GDP due to inflation so that it can measure changes in real GDP. To compare figures over time, an index number must be calculated as a reference point. Many types of price indexes can be calculated, but the government tends to use two: the consumer price index and the GDP price index.

The consumer price index identifies a "market basket" of goods and services consumed by a typical family in the base period. The cost of buying this basket of goods each year is determined, and changes in the cost reflect changes in the cost of living.

There are several problems with the CPI. First, it fails to account for changes in quality over time. Second, the prices of all goods do not go up by the same amount every year. Hence, even in inflationary times, relative prices are changing too. Consequently, buyers respond to relative price changes by altering the amount of the goods they purchase. The CPI presumes that the same quantities of each good are purchased each year and fails to consider buyer responses to changes in relative prices. Third, it neglects changes in consumer behavior such as the shift toward discount outlets.

Appendix A: A Closer Look at the National Income Accounts

The GDP price index keeps track of price changes for all production in the economy. The GDP price index is nominal GDP divided by real GDP. The real GDP is measured as a weighted sum of different goods and services produced in the economy. The important question is: What weights should be used? Recently, the BEA moved from a fixed-weighted system to a chain-weighted system. The weights change from year to year. The index of real GDP for 1995 is based on a geometric average of the prices for 1994 and 1995. The appendix takes a closer look at some of the national income accounts. Exhibit 1 shows how disposable income is derived from GDP.
Learning Activities (Non-Graded)

Video

Click on the following link to watch a video on The Real Price of Gasoline:
http://www.swlearning.com/economics/abcvideos/NMG05012801C.html

Non-graded learning activities are provided to aid students in their course of study. This is a non-graded activity, so you do not have to submit it.