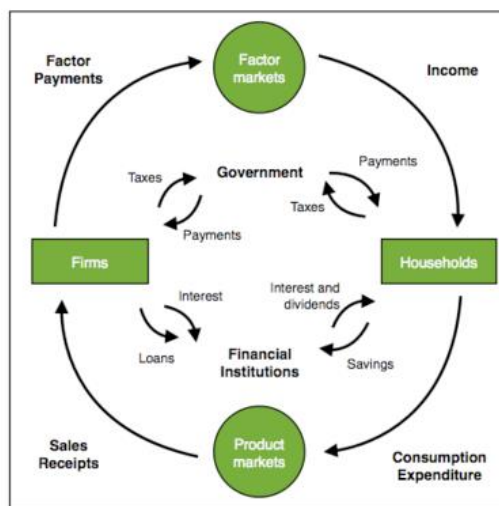


Measuring Domestic Output, National Income, and the Price Level



Assessing the Economy's Performance

- National income accounting measures the economy's performance by measuring the flows of income and expenditures over a period of time.
- National income accounts serve a similar purpose for the economy, as do income statements for business firms.
- Consistent definition of terms and measurement techniques allows us to use the national accounts in comparing conditions over time and across countries.
- The national income accounts provide a basis for appropriate public policies to improve economic performance.

Gross Domestic Product

- GDP is the monetary measure of the total *market value* of all *final* goods and services *produced within a country* in one year.
 - Money valuation allows the summing of apples and oranges; money acts as the common denominator.
 - GDP includes only final products and services; it avoids double or multiple counting, by eliminating any intermediate goods used in production of these final goods or services.
 - GDP is the value of what has been produced in the economy over the year, not what was actually sold.
- GDP Excludes Nonproduction Transactions

- GDP is designed to measure what is produced or created over the current time period. Existing assets or property that sold or transferred, including used items, are not counted.
- Purely financial transactions are excluded.
 - Public transfer payments, like social security or cash welfare benefits.
 - Private transfer payments, like student allowances or alimony payments.
 - The sale of stocks and bonds represent a transfer of existing assets. (However, the brokers' fees are included for services rendered.)
- Secondhand sales are excluded, they do not represent current output.
- Two Ways to Look at GDP: Spending and Income.
 - What is spent on a product is income to those who helped to produce and sell it.
 - This is an important identity and the foundation of the national accounting process.
- Expenditures Approach (See Figure 7.1 and Table 7.3)
 - GDP is divided into the categories of buyers in the market; household consumers, businesses, government, and foreign buyers.
 - Personal Consumption Expenditures-(C)-includes durable goods, nondurable goods and services.
 - Gross Private Domestic Investment-(I_g)
 - All final purchases of machinery, equipment, and tools by businesses.
 - All construction (including residential).
 - *Changes* in business inventory.
 - If total output exceeds current sales, inventories build up.
 - If businesses are able to sell more than they currently produce, this entry will be a negative number.
 - Net Private Domestic Investment-(I_n).
 - Each year as current output is being produced, existing capital equipment is wearing out and buildings are deteriorating; this is called depreciation or capital consumption allowance.
 - Gross Investment minus depreciation (*capital consumption allowance*) is called net investment.
 - If more new structures and capital equipment are produced in a given year than are used up, the productive capacity of the economy will expand.
 - When gross investment and depreciation are equal, a nation's productive capacity is static.
 - When gross investment is less than depreciation, an economy's production capacity declines.
 - Government Purchases (of consumption goods and capital goods) - (G)
 - Includes spending by all levels of government (federal, state and local).
 - Includes all direct purchases of resources (labor in particular).
 - This entry excludes transfer payments since these outlays do not reflect current production.
 - Net Exports-(X_n)

- All spending on goods produced in the U.S. must be included in GDP, whether the purchase is made here or abroad.
 - Often goods purchased and measured in the U.S. are produced elsewhere (Imports).
 - Therefore, net exports, (X_n) is the difference: (exports minus imports) and can be either a positive or negative number depending on which is the larger amount.
- Summary: $GDP = C + I_g + G + X_n$
- Income Approach to GDP(See Table 7.3):Demonstrates how the expenditures on final products are allocated to resource suppliers.
 - Compensation of employees includes wages, salaries, fringe benefits, salary and supplements, and payments made on behalf of workers like social security and other health and pension plans.
 - Rents:payments for supplying property resources (adjusted for depreciation it is *net rent*).
 - Interest:payments from private business to suppliers of money capital.
 - Proprietors' income:income of incorporated businesses, sole proprietorships, partnerships, and cooperatives.
 - Corporate profits:After corporate income taxes are paid to government, dividends are distributed to the shareholders, and the remainder is left as *undistributed corporate profits*.
 - The sum of the above entries equals *national income*:all income earned by American supplied resources, whether here or abroad.
 - Adjustments required to balance both sides of the account.
 - Indirect business taxes: general sales taxes, excise taxes, business property taxes, license fees and customs duties (the seller treats these taxes as a cost of production).
 - Depreciation Consumption of Fixed Capital: The firm also regards the decline of its capital stock as a cost of production. The capital consumption allowance is set aside to replace the machinery and equipment used up. In addition to the depreciation of private capital, public capital (government buildings, port facilities, etc.), must be included in this entry.
 - Net foreign factor income: National income measures the income of Americans both here and abroad. GDP measures the output of the geographical U.S. regardless of the nationality of the contributors. To make this final adjustment, the income of foreign nationals must be added and American income earned abroad must be subtracted. Sometimes this entry is a negative number.

Other National Accounts (see Table 7.4)

- Net domestic product (NDP) is equal to GDP minus depreciation allowance (consumption of fixed capital).

- National income (NI) is income earned by American-owned resources here or abroad. Adjust NDP by subtracting indirect business taxes and adding net American income earned abroad. (Note: This may be a negative number if foreigners earned more in U.S. than American resources earned abroad.)
- Personal income (PI) is income received by households. To calculate, take NI minus payroll taxes (social security contributions), minus corporate profits taxes, minus undistributed corporate profits, and add transfer payments.
- Disposable income (DI) is personal income less personal taxes.

Circular Flow Revisited (see Figure 7.3)

- Compare to the simpler model presented in earlier chapters. Now both government and foreign trade sectors are added.
- Note that the inside covers of the text contain a useful historical summary of national income accounts and related statistics.

Nominal Versus Real GDP

- Nominal GDP is the market value of all final goods and services produced in a year.
 - GDP is a ($P \times Q$) figure including every item produced in the economy. Money is the common denominator that allows us to sum the total output.
 - To measure changes in the quantity of output, we need a yardstick that stays the same size. To make comparisons of length, a yard must remain 36 inches. To make comparisons of real output, a dollar must keep the same purchasing power.
 - Nominal GDP is calculated using the current prices prevailing when the output was produced but real GDP is a figure that has been adjusted for price level changes.
- The adjustment process in a one-good economy (Table 7.5). Valid comparisons can not be made with nominal GDP alone, since both prices and quantities are subject to change. Some method to separate the two effects must be devised.
 - One method is to first determine a price index, (see equation 1) and then adjust the nominal GDP figures by dividing by the price index (in hundredths) (see equation 1).
 - An alternative method is to gather separate data on the quantity of physical output and determine what it would sell for in the base year. The result is Real GDP. The price index is implied in the ratio: Nominal GDP/Real GDP. Multiply by 100 to put it in standard index form (see equation 3).
- Real World Considerations and Data
 - The actual GDP price index in the U.S. is called the *chain-type annual weights price index*, and is more complex than can be illustrated here.
 - Once nominal GDP and the GDP price index are established, the relationship between them and real GDP is clear (see Table 7.7).
 - The base year price index is always 100, since Nominal GDP and Real GDP use the same prices. Because the long-term trend has been for prices to rise, adjusting Nominal GDP to Real GDP involves inflating the lower prices before the base year and deflating the higher prices after the base year.

- Real GDP values allow more direct comparison of physical output from one year to the next, because a "constant dollar" measuring device has been used. (The purchase power of the dollar has been standardized at the base year level.)

The Consumer Price Index (CPI)

- Characteristics of the CPI
 - The CPI is designed to measure the changes in the cost of a constant standard of living for a typical urban consumer. This *fixed weight* approach means that the items in the market basket remain the same.
 - The market basket of goods is changed about every 10 years. The present composition was determined from a survey of urban consumers in the 1993-1995 period and contains about 300 goods and services purchased by the *typical* urban consumer.
- The CPI differs from the GDP price index, which is broader and changes its market basket each year to reflect the current composition of output.

Shortcomings of GDP

- GDP doesn't measure some very useful output because it is unpaid (homemakers' services, parental child care, volunteer efforts, home improvement projects).
- GDP does not measure improvements in product quality or make allowances for increased leisure time.
- GDP doesn't measure improved living conditions as a result of more leisure.
- GDP makes no value adjustments for changes in the composition of output or the distribution of income.
 - Nominal GDP simply adds the dollar value of what is produced; it makes no difference if the product is a semi-automatic rifle or a jar of baby food.
 - Per capita GDP may give some hint as to the relative standard of living in the economy; but GDP figures do not provide information about how the income is distributed.
- The Underground Economy
 - Illegal activities are not counted in GDP.
 - Legal economic activity may also be part of the "underground," usually in an effort to avoid taxation.
- GDP and the environment.
 - The harmful effects of pollution are not deducted from GDP (oil spills, increased incidence of cancer, destruction of habitat for wildlife, the loss of a clear unobstructed view).
 - GDP does include payments made for cleaning up the oil spills, and the cost of health care for the cancer victim.
- Per Capita GDP (GDP per person) is a better measure of standard of living than total GDP.
- Noneconomic Sources of Well-Being like courtesy, crime reduction, etc., are not covered in GDP.

LAST WORD: Feeding the GDP Accounts

- U.S. Customs Service data on exports and imports.
- BEA surveys on service exports and imports.