



# What Is Gross Domestic Product?

Tim Callen

**M**ANY professions commonly use acronyms. To doctors, accountants, and baseball players, the letters MRI (magnetic resonance imaging), GAAP (generally accepted accounting principles), and ERA (earned run average), respectively, need no explanation. To someone unfamiliar with these fields, however, without an explanation these acronyms are a stumbling block to a better understanding of the subject at hand.

Economics is no different. Economists use many acronyms. One of the most common is GDP, which stands for gross domestic product. It is often cited in newspapers, on the television news, and in reports by governments, central banks, and the business community. It has become widely used as a reference point for the health of national and global economies. When GDP is growing, especially if inflation is not a problem, workers and businesses are generally better off than when it is not.

## Measuring GDP

GDP measures the monetary value of final goods and services—that is, those that are bought by the final user—produced in a country in a given period of time (say a quarter or a year). It counts all the output generated within the borders of a country. GDP is composed of goods and services produced for sale in the market and also includes some nonmarket production, such as defense or education services provided by the government. An alternative concept, gross national product, or GNP, counts all the output of the residents of a country. So if a German-owned company has a factory in the United States, the output of this factory would be included in U.S. GDP, but in German GNP.

Not all productive activity is included in GDP. For example, unpaid work (such as that performed in the home or by volunteers) and black-market activities are not included because they are difficult to measure and value accurately. That means, for example, that a baker who produces a loaf of bread for a customer would contribute to GDP, but would not contribute to GDP if he baked the same loaf for his family.

Moreover, “gross” domestic product takes no account of the wear and tear on the machinery, buildings, and so on (the so-called capital stock) that are used in producing the output. If this depletion of the capital stock, called depreciation, is subtracted from GDP, we get net domestic product.

Theoretically, GDP can be viewed in three different ways.

- The *production approach* sums the “value added” at each stage of production, where value added is defined as total sales minus the value of intermediate inputs into the production process. For example, flour would be an intermediate input and bread the final product, or an architect’s services would be an intermediate input and the building the final product.

- The *expenditure approach* adds up the value of purchases made by final users—for example, the consumption of food, televisions, and medical services by households; the investments in machinery by companies; and the purchases of goods and services by the government and foreigners.

- The *income approach* sums the incomes generated by production—for example, the compensation employees receive and the operating surplus of companies (roughly sales minus costs).

GDP in a country is usually calculated by the national statistical agency, which compiles the information from a large number of sources. In making the calculations, however, most countries follow established international standards. The international standard for measuring GDP is contained in the *System of National Accounts, 1993*, compiled by the International Monetary Fund, the European Commission, the Organization for Economic Cooperation and Development, the United Nations, and the World Bank.

## Real GDP

One thing people want to know about an economy is whether its total output of goods and services is growing or shrinking. But because GDP is collected at current, or nominal, prices, one cannot compare two periods without making adjustments for inflation. To determine “real” GDP, its nominal

value must be adjusted to take into account price changes to allow us to see whether the value of output has gone up because more is being produced or simply because prices have increased. A statistical tool called the price deflator is used to adjust GDP from nominal to constant prices.

GDP is important because it gives information about the size of the economy and how an economy is performing. The growth rate of real GDP is often used as an indicator of the general health of the economy. In broad terms, an increase in real GDP is interpreted as a sign that the economy is doing well. When real GDP is growing strongly, employment is likely to be increasing as companies hire more workers for their factories and people have more money in their pockets. At present, concerns are in the opposite direction. After several years of exceptionally strong real GDP growth, many countries are experiencing a slowdown, with real GDP estimated to have declined in a number of industrial countries in recent quarters. But real GDP growth does move in cycles over time. Economies are sometimes in periods of boom, and sometimes periods of slow growth or even recession (with the latter sometimes defined as two consecutive quarters in which output declines). In the United States, for example, there were six recessions of varying length and severity between 1950 and 2007 (see chart). The National Bureau of Economic Research makes the call on the dates of U.S. business cycles.

### Comparing GDPs of two countries

GDP is measured in the currency of the country in question. That requires adjustment when trying to compare the value of output in two countries using different currencies. The usual method is to convert the value of GDP of each country into U.S. dollars and then compare them. Conversion to dollars can be done either using market exchange rates—those that prevail in the foreign exchange market—

or purchasing-power-parity (PPP) exchange rates. The PPP exchange rate is the rate at which the currency of one country would have to be converted into that of another to purchase the same amount of goods and services in each country (see “Back to Basics” in the March 2007 issue of *Finance & Development*). There is a large gap between market and PPP-based exchange rates in emerging market and developing countries. For most emerging market and developing countries, the ratio of the market and PPP U.S. dollar exchange rates is between 2 and 4. This is because nontraded goods and services tend to be cheaper in low-income than in high-income countries—for example, a haircut in New York is more expensive than in Bishkek—even when the cost of making tradable goods, such as machinery, across two countries is the same. For advanced countries, market and PPP exchange rates tend to be much closer. These differences mean that emerging market and developing countries have a higher estimated dollar GDP when the PPP exchange rate is used.

The IMF publishes an array of GDP data on its website ([www.imf.org](http://www.imf.org)). International institutions such as the IMF also calculate global and regional measures of real GDP growth. These give an idea of how quickly or slowly the world economy or the economies in a particular region of the world are growing. The aggregates are constructed as weighted averages of the GDP in individual countries, with weights reflecting each country’s share of GDP in the group (with PPP exchange rates used to determine the appropriate weights). So, for example, the updated edition of the IMF’s *World Economic Outlook* projects that global real GDP will grow by 2.2 percent in 2009, down from 3.7 percent this year (and 5 percent in 2007). Advanced economies are expected to contract for the first time on an annual basis since World War II.

### What GDP does not reveal

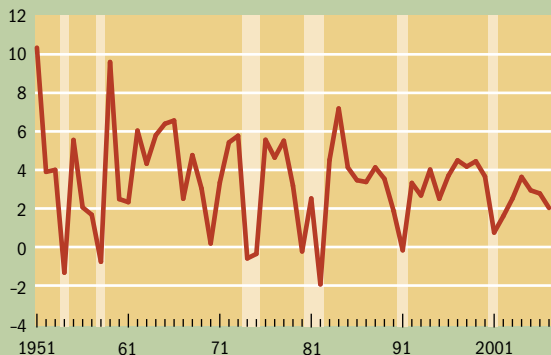
It is also important to understand what GDP cannot tell us. GDP is not a measure of the overall standard of living or well-being of a country. Although changes in the output of goods and services per person (GDP per capita) are often used as a measure of whether the average citizen in a country is better or worse off, it does not capture things that may be deemed important to general well-being. So, for example, increased output may come at the cost of environmental damage or other external costs, such as noise. Or it might involve the reduction of leisure time or the depletion of nonrenewable natural resources. The quality of life may also depend on the distribution of GDP among the residents of a country, not just the overall level. To try to account for such factors, the United Nations computes a Human Development Index, which ranks countries not only based on GDP per capita, but on other factors, such as life expectancy, literacy, and school enrollment. Other attempts have been made to account for some of the shortcomings of GDP, such as the Genuine Progress Indicator and the Gross National Happiness Index, but these too have their critics. ■

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#### Growth and gaps

Since 1950, U.S. economic output, as measured by gross domestic product adjusted for inflation, has mainly been growing, except for six recessions of varying length and severity.

(real GDP annual change, percent)



Source: IMF, World Economic Outlook database.

Note: Light-shaded areas represent recessions—periods when output declines. Recessions are dated by the National Bureau of Economic Research, a private organization.