

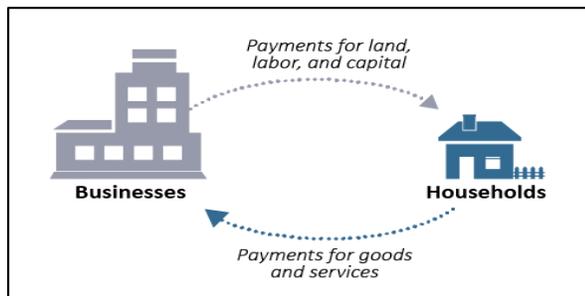
## Introduction to U.S. Economy: GDP and Economic Growth

As a result of the Coronavirus Disease 2019 (COVID-19) pandemic, economic activity declined rapidly in the United States in early 2020 and remains below pre-pandemic levels, despite gross domestic product growth being positive in the third quarter of 2020. The speed of the economic recovery and projections of longer-term growth are of concern to policymakers due to the connection between the economy's performance and the overall well-being of Americans. This In Focus provides an introduction to the U.S. economy, including how economists measure its performance and the factors that influence its long-run trajectory.

### What Is Economic Activity?

Economic activity includes any actions involved in the production, distribution, and consumption of goods and services.

**Figure 1. Circular Flow of Resources**



**Source:** Figure created by CRS.

**Notes:** This is a simplified representation of the economy. Other sectors, including the government, financial sector, and imports and exports, can also be represented as flows within the economy.

Economists generally view economic activity as a circular flow of resources. As shown in **Figure 1**, businesses purchase their factors of production—land, labor, and capital—from households to produce goods and services. Households then use the income earned from businesses to purchase goods and services. Income that households choose to save remains in the circular flow of resources; it is distributed to businesses through the financial sector in the form of loans rather than through consumption spending.

### Measures of Economic Activity

The standard measure of economic activity is gross domestic product (GDP), which is calculated in the United States by the Bureau of Economic Analysis (BEA). GDP is defined as the total value of all final goods, services, and structures produced by a nation's economy during a specified period—in other words, the total value of the economy's output.

GDP can be measured in two different ways. The *expenditures approach* calculates GDP by summing all expenditures on goods and services by final users. Expenditures are divided into five categories: (1) consumption (expenditures by households), (2) investments (largely expenditures by businesses), (3) government spending, (4) imports, and (5) exports. Because GDP is a measure of domestic production, this approach subtracts imports from exports to arrive at net exports.

Alternatively, GDP can be calculated through the *income approach* in which GDP is calculated by summing all income earned within the economy, including wages, rental income, interest income, and profits. Measurements of GDP produced through the expenditure approach and income approach are equivalent because the final market price of a good or service should reflect all of the incomes earned and costs incurred throughout the production process.

### Potential GDP and Economic Performance

GDP is often used as a measure of economic health. One of the ways in which economic performance is often measured is by the output gap—the difference between real GDP and potential GDP. Potential GDP is an estimate of the highest sustainable level of output the economy can produce. When actual output is above its potential, it can signal that the economy is overheating (expanding at an unsustainable rate). When actual output is below its potential, it can signal less than full employment and potential recessionary conditions.

### Economic Growth

Growth in economic activity brings about benefits to economic actors, and it is the predominant measure of changes in material living standards. In general, as GDP grows, individuals' incomes increase, as does the production of goods and services; individuals not only have access to more goods and services but also have income to purchase those goods and services. However, GDP growth does not give any indication of how income growth is distributed within the economy.

In the near term, growth in economic activity is largely governed by the business cycle, which shifts from expansionary phases to contractionary phases (recessions) and to recoveries. Policymakers can use monetary and fiscal policies to affect aggregate demand (i.e., total spending) in an effort to diminish the volatility of changes in economic growth due to the business cycle. However, these policies are unlikely to have large impacts on the long-term growth rate of the economy. For further information on the business cycle, refer to CRS In Focus IF10411, *Introduction to U.S. Economy: The Business Cycle and Growth*.

To affect the economy's long-term growth rate, it is important to focus on the supply side of the economy instead of factors that impact demand within the economy. In the long run, the rate of economic growth is largely dependent on the economy's ability to increase its productive capacity over time.

## Determinants of Long-Term Growth

The long-term growth rate is largely determined by the amount of physical capital and human capital and the rate of technological change in the economy.

### Physical Capital

Physical capital includes all the man-made resources workers use to produce goods and services, including tools, machinery, and other infrastructures. The current amount of physical capital available in the economy, or the stock of physical capital, impacts the economy's productive capacity. For example, giving each member of a construction crew a set of tools allows them to produce far more than if they had to share only one set.

The stock of physical capital in an economy is largely dependent on the rate of investment in the economy. Physical capital depreciates over time as machines break down or become obsolete. Therefore, to maintain a certain level of capital stock, there must be sufficient investment in new capital over time to replace any depreciated capital. The higher a country's investment rate, all else equal, the faster its capital stock will grow.

Physical capital investment comes at a cost. Resources that are diverted to investment in physical capital can no longer be used to purchase present goods or services. Investment in physical capital leads to greater economic activity in the future but less consumption of goods in the present. For more investment information, see CRS In Focus IF11020, *Introduction to U.S. Economy: Business Investment*.

### Human Capital

Just as increasing the amount of physical capital available to workers can help the economy to grow, so can increasing the amount of human capital. Human capital refers to the skills, knowledge, and abilities of the workers within the economy. As workers receive higher levels of education or training, they will tend to be more productive. This higher level of productivity among workers increases the productive capacity of the economy and may spur economic growth. Improvements in the productivity of the labor supply are generally referred to as investments in human capital.

Similar to investments in physical capital, investments in human capital also face a tradeoff between current and future consumption. Consider an individual who is deciding whether to attend a four-year college or to enter the workforce immediately after high school. If he or she chooses to attend college, he or she will likely be more productive when entering the labor market after college but would forgo all of the consumption he or she could have financed by working for those four years instead. In addition to investments in human capital, increases in the

size of the labor supply can increase the productive capacity of the economy, potentially leading to economic growth.

### Technology

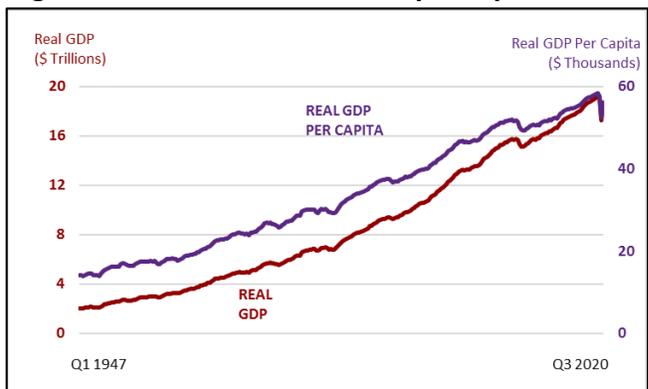
Technological improvements and efficiency gains allow individuals to use the different factors of production in a more efficient manner, producing more or improved goods with the same amount of resources. For example, the discovery of chemical fertilizer increased the productive capacity of agriculture. Economists tend to use *technology* as a catch-all term for any changes that impact the productivity of the economy. Changes in regulatory structure, trade policies, or patent laws, which may impact the productivity of the economy, are often discussed alongside technological changes.

## United States Economic Growth

Policy makers generally use growth in real GDP—the total value of economic output adjusted for inflation—to understand changes in economic output over time. Failing to adjust for inflation would typically result in an overstatement of the economy's output as prices rise. Therefore, real GDP is used to make more accurate comparisons of economic growth over time.

An alternative measure of economic activity is *real GDP per capita*, a country's real GDP divided by its population. For comparisons over time or across countries, real GDP per capita is often an improved measure of economic growth because it accounts for differences in population.

**Figure 2. Real GDP and Real GDP per Capita**



**Source:** U.S. Bureau of Economic Analysis (BEA).

**Note:** Data are presented in 2012 dollars.

As shown in **Figure 2**, real GDP at the end of 2019 was roughly 9.5 times as large as it was at the beginning of 1947. Real GDP per capita increased by roughly four times over the same period. In 2020, due to COVID-19, both real GDP and real GDP per capita fell in the first half of the year and recovered partially in the third quarter of 2020. GDP levels, however, are still below those pre-pandemic. The second quarter drop in real GDP and third quarter increase in real GDP were both the largest single quarter loss and gain since BEA began collecting these data in 1947. (Note: Jeffrey Stupak, former CRS Analyst in Macroeconomic Policy, contributed to this In Focus.)

**Mark P. Keightley**, Specialist in Economics  
**Lida R. Weinstock**, Analyst in Macroeconomic Policy

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