Measure Up?

Gross Domestic Product

Objectives:

A Describe gross domestic product.

B Explain the economic role of gross domestic product.

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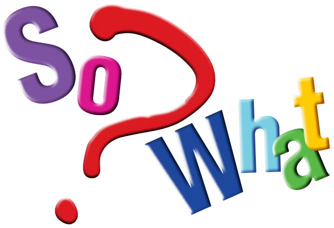


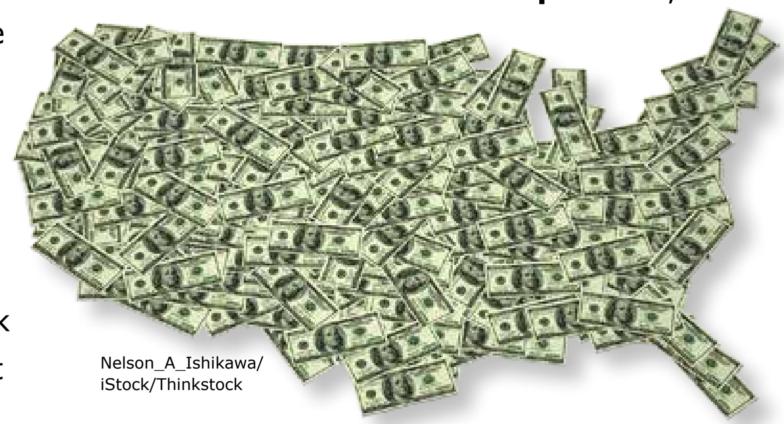
In 2014, the United States' gross domestic product was $17,419,000 (in millions)—in other words, over $17 trillion! This means that over $17 trillion in goods and services were produced in the U.S. during that year. That's a lot! During that same year, the Republic of Haiti had a gross domestic product of about $8.7 billion, the Federal Democratic Republic of Ethiopia had a gross domestic product of about $55 billion, and Italy had a gross domestic product of about $2 trillion.

So what does all this mean? Every country has a gross domestic product (or GDP). GDP serves as an indicator of how healthy a nation's economy is and whether it is growing or shrinking. It helps governments and businesses know what actions to take to support economic growth in their countries. While GDP is not the only indicator of a country's economic health, it is an important one. Learn more about what GDP is, how it is calculated, and its role in the economy.

GDP: The Sum of It All

What is GDP?

Chances are, you've never heard the term "gross domestic product" before. Or, if you have, you're not quite sure what it means. **Gross domestic product**, or GDP, is the final market value of the total output of all goods and services produced within a country's geographic boundaries during a year's time (whew!). It is a comprehensive measure of an economy's output. Let's break down that definition to see what it means.



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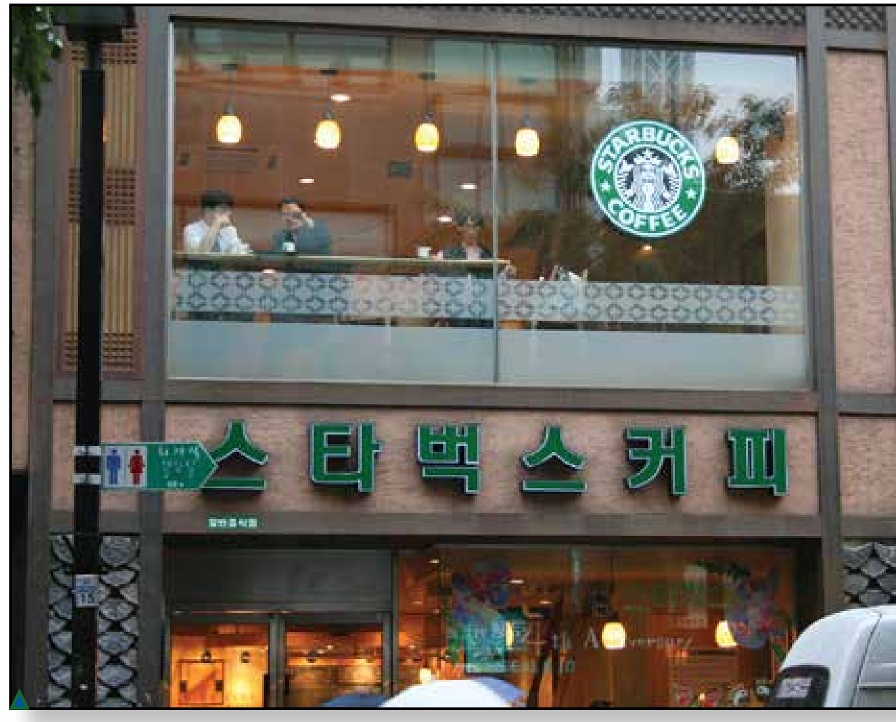
▲ *GDP is one way to understand a country's economic status as a whole.*

- ***Final market value.*** GDP reflects the final prices for goods and services that are sold in the marketplace. The figure does not include **intermediate products**, or items that are part of other finished products. The tires on a new car, for example, are intermediate products. They are separate items, but their cost is included in the total price of the car and should not be counted separately. However, when a car owner purchases new tires to replace worn-out ones, the price of these tires is included in GDP.

Gross domestic product is always expressed in dollars, not in the number of goods and services produced. It does not show how many televisions, pairs of jeans, or dental check-ups are produced each year. Instead, it shows the monetary value of those goods and services.

- ***Total output of all goods and services.*** GDP is comprehensive. It includes exchanges made by consumers, businesses, and the government. Each of these groups is accounted for when calculating GDP.

- ***Geographic boundaries.*** The output of all labor and capital within a country's boundaries is included in gross domestic product, regardless of who owns the resources. This means that the value of goods and services sold at the Pierre Hotel in Manhattan is counted in the United States' GDP, even though the hotel is owned by a company in India. On the other hand, Hershey's chocolate produced in Monterrey, Mexico, is not counted in U.S. GDP, even though Hershey is an American company. Instead, the value of those products is reflected in Mexico's GDP.



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▲ *Starbucks is an American company with locations in 70 countries. Which country's GDP includes the products sold at this Starbucks in Seoul, South Korea?*

Components of GDP

There are four categories of goods and services that make up gross domestic product. They are personal consumption expenditures, gross private domestic investment, government purchases of goods and services, and net exports of goods and services. Here's a closer look at each:

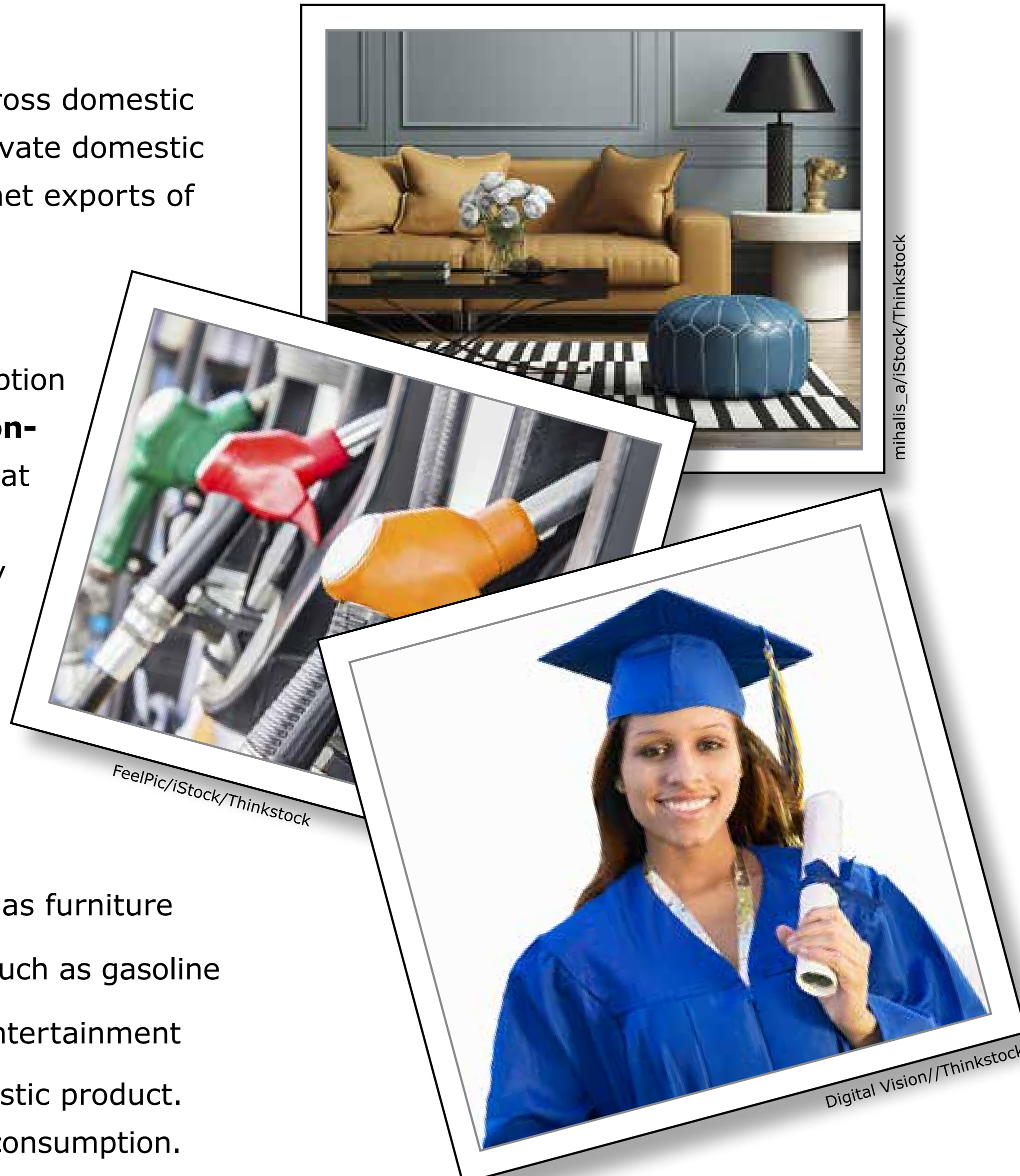
- **Personal consumption expenditures**

  The final market value of all products purchased for consumption by individuals belongs to a category known as **personal consumption expenditures**. The segment of the population that makes personal consumption purchases is often called the **household sector**. Everything that you and your family buy for personal use is included in this category, from shampoo to shoes to shrimp. Purchases made by U.S. citizens living abroad are also included in this category.

  Personal consumption expenditures are typically labeled as one of these three types:

  - **Durable goods**—goods that last a year or more, such as furniture
  - **Nondurable goods**—goods that last less than a year, such as gasoline
  - **Services**—intangible products, such as education or entertainment

  This category makes up the largest segment of gross domestic product. In the U.S., nearly 70% of what is produced is for personal consumption.



▲ *Have you purchased durable goods, nondurable goods, and services recently? If so, you've contributed to personal consumption expenditures.*

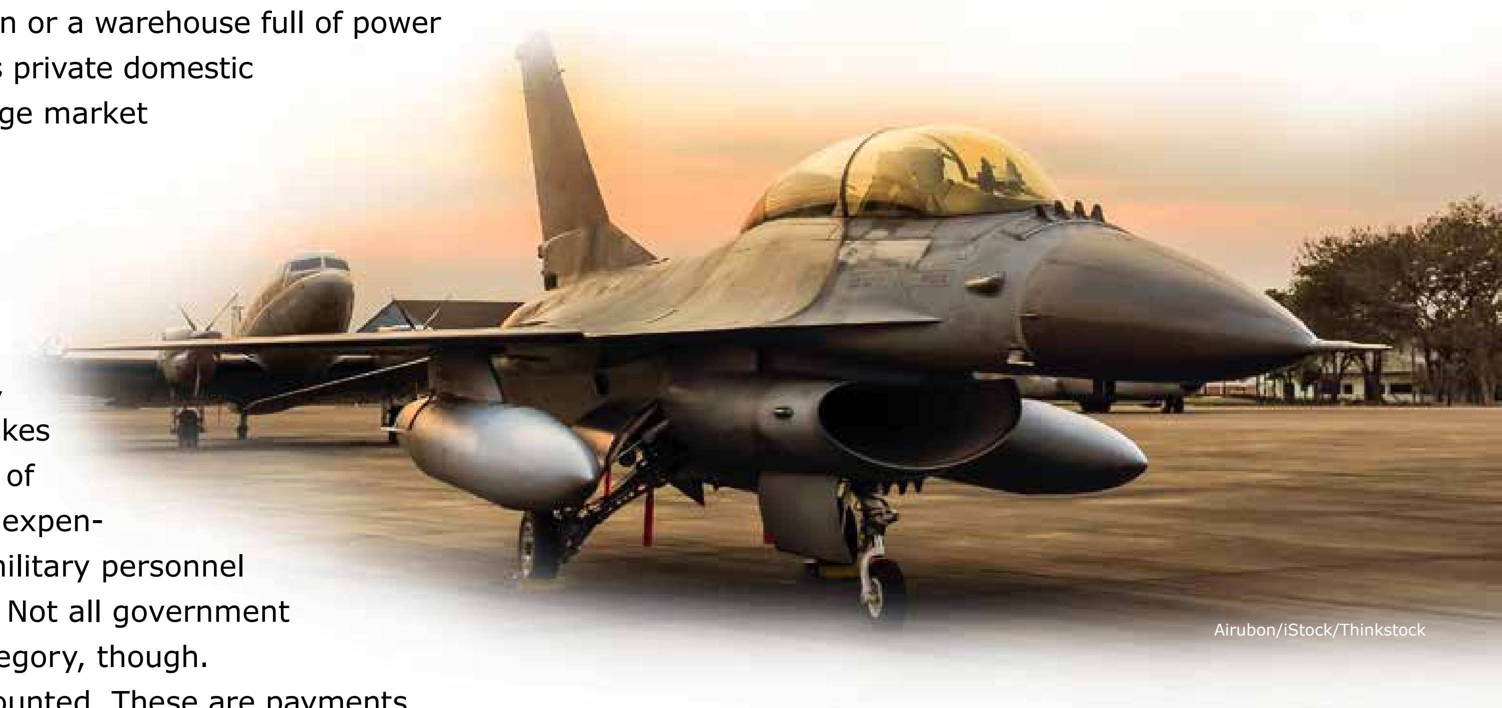
- **Gross private domestic investment**

  The purchases in the category of gross private domestic investment are made by the **business sector**. These include investments in both residential and nonresidential buildings, capital goods, and changes in the value of business inventories. Residential investment is the money that landlords invest in the buildings and equipment that they own and rent to others. If you own an apartment building, for instance, it is part of gross private domestic investment. Nonresidential investment includes the money that companies spend on buildings, equipment, vehicles, furniture, etc.

  Changes in business inventories are the increases or decreases in the value of inventories held by businesses. For example, the contents of a silo full of grain or a warehouse full of power tools would be included in gross private domestic investment and valued at average market prices for the year.

- **Government purchases of goods and services**

  This category includes everything purchased by local, state, and federal governments. It makes up the second largest segment of gross domestic product. These expenditures range from wages for military personnel to fire trucks to new highways. Not all government spending is included in this category, though. **Transfer payments** are not counted. These are payments of tax dollars to recipients who have not produced goods or services. Examples of transfer payments include Social Security payments, welfare payments, veterans' benefits, and disaster-relief funds.



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▲ *The money that the government spends on military equipment is a part of gross domestic product.*

- **Net exports of goods and services**

  The difference between what a country buys from other countries and what it sells to other countries is known as **net exports of goods and services** or the **balance of trade**. When a country exports more than it imports, it has a **trade surplus**, which increases GDP. When a country imports more than it exports, it has a **trade deficit**, which decreases GDP.

Adding it all up

Economists have assigned a symbol to each component of gross domestic product and have created a formula for calculating GDP. The symbols are:

C = Personal consumption expenditures

I = Gross private domestic investment

G = Government purchases of goods and services

E = Net exports of goods and services

The formula for calculating gross domestic product is:

$$C + I + G\ (\pm)\ E = GDP$$

Net exports (E) is shown as a plus or minus figure because economic circumstances determine whether it will be added to or subtracted from GDP.


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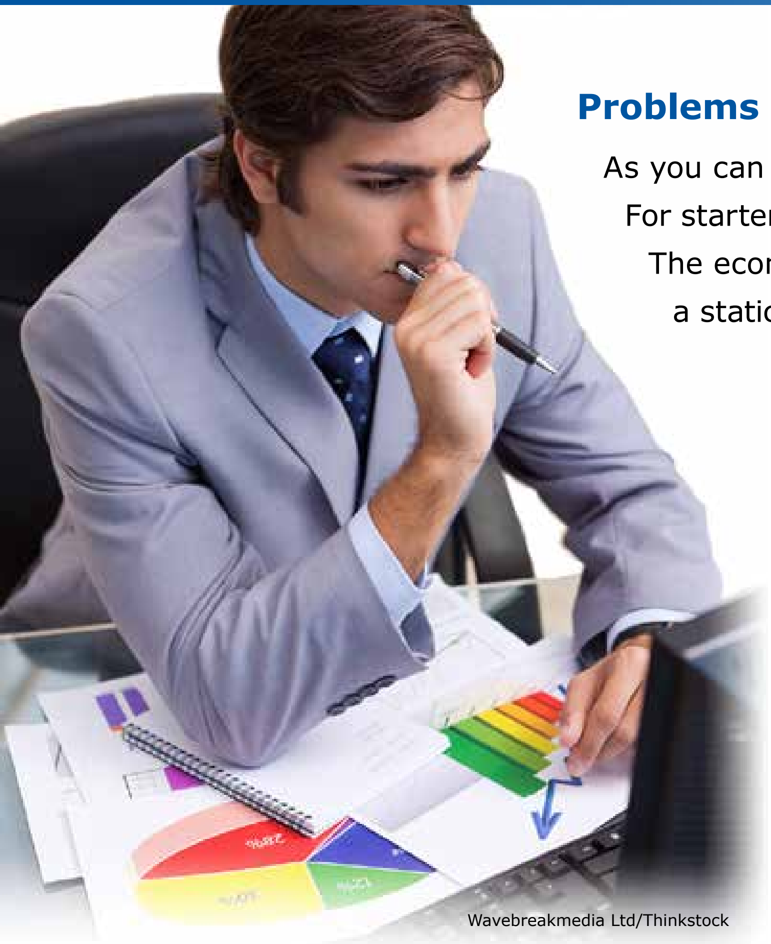
The video "Gross Domestic Product—The Economic Lowdown Video Series" by the Federal Reserve Bank of St. Louis gives a clear, simple overview of everything you need to know to understand GDP: https://www.youtube.com/watch?v=1Il5IQHcYP8.

Problems measuring GDP

As you can imagine, accurately measuring a country's gross domestic product is no easy task. For starters, you can't just press pause on the economy so that you can take a measurement. The economy is dynamic, always changing. Therefore, GDP represents trends rather than a static figure. Other factors that make calculating GDP difficult include:



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Uncounted production. People often produce goods and services that they do not sell in the marketplace. Since no money changes hands and no records are kept, the value of these products can only be estimated. Here are some examples of uncounted production:

- A farmer who keeps some of his crops for his own family's use
- A grandmother or cousin who provides free babysitting
- A neighbor who mows your lawn for you as a favor

The underground economy. The underground economy involves transactions in which money is exchanged but no records or receipts are kept. After the transaction occurs, the money goes underground into someone's pocket. Since this income is not reported to the government, it cannot be calculated as part of the country's gross domestic product.

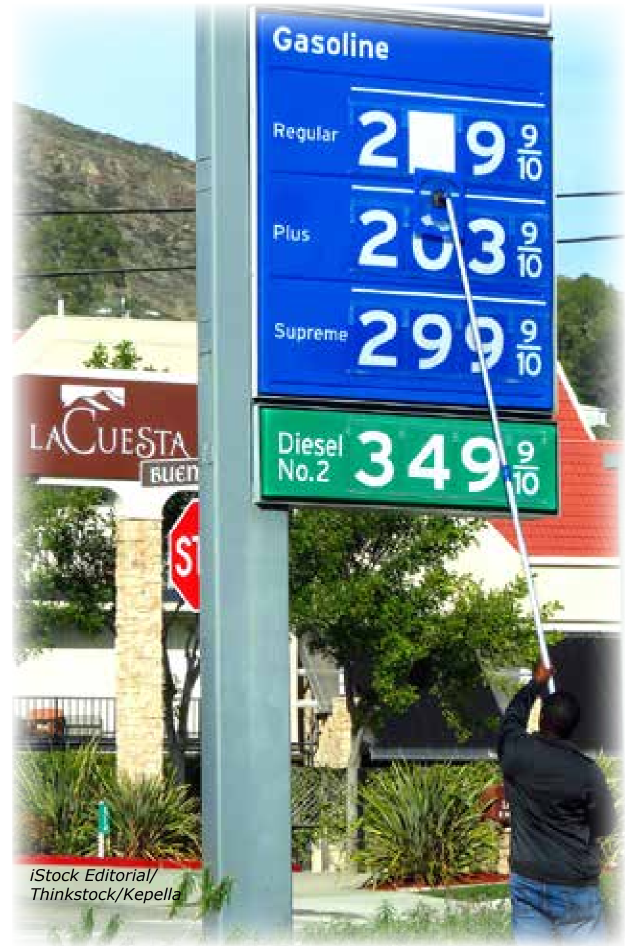
Underground transactions can stem from legal or illegal activities. Restaurant and hotel workers, for instance, can legally receive cash tips for their services. The law requires that they report these tips as part of their income for the year. If they fail to do so, they have handled a legal transaction in an illegal manner. Their tips become part of the underground economy and reduce the country's GDP.

The illegal activities of drug dealers, bookies, etc. also reduce GDP. They conduct activities in which money changes hands but no legitimate receipts are kept, and of course, the income is not reported to the government.

Double counting. A constant problem in calculating GDP is trying to count the production of a good or a service only one time. For example, if the ground beef that McDonald's uses to make hamburgers is counted in production, and the hamburgers that McDonald's sells are also counted, the same beef has been counted twice. This double counting inflates the value of GDP because it mistakenly increases the amount of beef produced in the country for the year. To prevent double counting, economists try to avoid counting any intermediate products.

Amount of information. The vast amount of information that must be dealt with when calculating GDP makes accuracy in counting a problem. Economists may make mistakes in gathering or working with statistics that will make the final GDP figure inaccurate. In addition, some of the figures used are merely estimates.

Inflation. Inflation is a rapid rise in prices that may occur when demand exceeds supply or productivity declines and costs of labor go up. Inflation can distort GDP figures. Let's imagine that a country's gross domestic product last year was $6.6 trillion, and this year, it's $7 trillion. When you compare the two figures, it appears that GDP has grown because this year's number is higher than last year's. Actually, the higher figure may not indicate any increase in the production of goods and services. Since GDP is based on prices, this year's GDP may be higher because inflation has increased prices. In other words, inflation may have caused production that was valued at $6.6 trillion last year to be valued at $7 trillion this year.



▲ Gasoline prices may not be as high or low as they seem when adjusted for inflation.

To account for the effects of inflation, economists make adjustments to GDP. These adjustments help them to truly understand how much the economy has grown or shrunk over time. Unadjusted GDP is known as **nominal GDP**, whereas GDP that has been adjusted to remove the effects of inflation is called **real GDP**. It is found by using a **price deflator**, which is an economic metric that converts current prices to a base dollar value. This allows GDP to be compared accurately over time.

Summary

Gross domestic product is the final market value of the total output of all goods and services produced within a country's geographic boundaries during a year's time. It is a comprehensive measure of an economy's output. The four components of GDP are personal consumption expenditures, gross private domestic investment, government purchases of goods and services, and net exports of goods and services. Problems with calculating GDP include uncounted production, the underground economy, double counting, the vast amount of information involved, and distorted figures due to inflation. GDP that has been adjusted for inflation is called real GDP, whereas unadjusted GDP is called nominal GDP.

TOTAL RECALL

1. What is gross domestic product?
2. What are intermediate products?
3. How is GDP expressed?
4. What are personal consumption expenditures?
5. What is gross private domestic investment?
6. What are government purchases of goods and services?
7. What are net exports of goods and services?
8. What is the formula for calculating GDP?
9. How does uncounted production affect GDP?
10. How does the underground economy affect GDP?
11. What is double counting?
12. How does inflation affect GDP?

The Gray Zone

Transactions that take place in the underground economy cannot be tracked and, therefore, weaken a country's gross domestic product. Many underground transactions are legal, but people don't report them to the government because they don't want to pay taxes on them. Take, for example, a person who makes and sells hair bows out of her home. She sells them to family and friends and doesn't make a lot of money, so she just keeps the cash and does not report the income at the end of the year. Depending on how much she makes, this action may or may not become illegal. However, she believes her actions are acceptable, no matter what, since the law is really intended to catch bigger fish than her. What do you think? Is she behaving unethically?

GDP: What It Means

Breaking down GDP

Why do countries take the time and make the effort to calculate gross domestic product each year? Most do so to get a reading on the performance of their economies and the well-being of their citizens. GDP also enables countries to compare their findings with those of other countries around the world.

Gross domestic product does have a few flaws as an economic indicator, however. Countries cannot look to GDP to provide meaningful information about the contributions that their economic outputs make to society. In other words, GDP does not indicate the types or quality of goods and services being produced, only their overall monetary value. Examining GDP also does not tell a country anything about the distribution of its wealth. It doesn't say whether most of a country's citizens experience a high **standard of living** or if the wealth is in the hands of just a few individuals.

Top Ten Gross Domestic Product Countries (2014)

Rank	Country	GDP (millions of US Dollars)
1.	United States	17,419,000
2.	China	10,354,832
3.	Japan	4,601,461
4.	Germany	3,868,291
5.	United Kingdom	2,988,893
6.	France	2,829,192
7.	Brazil	2,346,076
8.	Italy	2,141,161
9.	India	2,048,517
10.	Russian Federation	1,860,598

▲ *Check out World Bank's interactive map to see what the world's GDP looks like geographically and how it has changed over time: http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries?display=map.*

For example, China's GDP has grown rapidly in the past decade and is now the second-highest in the world, at around $10 trillion. However, China's GDP per capita, which is the GDP per person, is $7,590, which is only the 79th-highest in the world. In contrast, the U.S., which has the world's highest GDP, has a GDP per capita of $54,629.50, which is 10th in the world. Many other factors, such as population size, distribution of wealth, and type of economic system, should be analyzed alongside GDP to create a more accurate understanding of a country's standard of living.

You may notice that the United States has the world's largest GDP by a fair margin. In fact, some individual states have a higher GDP than many countries! You can see how each state's GDP compares to various countries around the world by visiting "Animated Map Renames States for Countries With Similar GDPs" by Business Insider: http://www.businessinsider.com/gdp-us-states-compared-other-countries-2015-7.

Another problem that comes when comparing GDP between countries is differences in price and currency. Prices vary greatly in different countries and need to be understood in relation to income in order to truly compare GDP. Converting currency using exchange rates does not take into account how much currency is needed to purchase a given good in either country. For example, 5 U.S. dollars are equal to 20.04 Polish Zloty. However, in the U.S., $5 can buy one fast-food burger, whereas in Poland, the same amount of money is enough to buy two burgers. Though the conversion rate makes the amount of money the same, it does not reflect the value of that money in different countries. This issue can be solved by adjusting rates for **purchasing power** to equalize any differences. The real value of money should be understood when using GDP to compare different countries because it will provide a more accurate, realistic depiction of economic health.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To see how much your favorite fast-food meal costs in countries around the world, check out "Interactive Currency-Comparison Tool: The Big Mac Index" by D.H. and R.L.W.: http://www.economist.com/content/big-mac-index.


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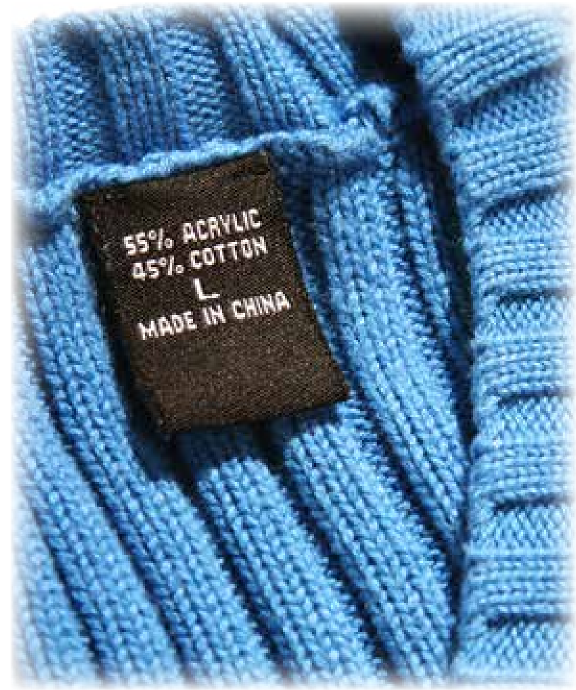
Economic growth

Though GDP isn't a completely perfect tool for measuring economic performance, it is still quite valuable. Countries want to know how their economies are faring because they strive to promote growth. Economic growth provides the following benefits:

- **It supports a higher standard of living.** The more goods and services a country produces, the more jobs it has available. High employment rates indicate that citizens are able to purchase more goods and services to satisfy their needs and wants.
- **It improves government performance.** When a country has strong economic activity, the government can carry out its activities more easily. This is due to the availability of more tax dollars. When employment is high, more people have jobs and more companies are in operation. They are all paying taxes. Therefore, the government has more money coming in.
- **It helps to resolve domestic economic problems.** Problems that a country's citizens face because of the way its economy is functioning are domestic economic problems. These problems might include poverty, lack of education, and inadequate medical services. If economic growth does not occur, these problems worsen. An increase in the production of goods and services enables a country to fight poverty and other social problems that occur when people cannot satisfy their basic economic needs.

- **It helps to develop trading partnerships with other countries.** Many developing nations lack the skilled workers, advanced technology, and capital resources needed to become economically strong. With economic assistance from other countries, they can develop their resources and raise their citizens' standard of living. Some of these countries will eventually be able to develop goods and services that can be exported. They will also become markets for goods and services from other countries. In this way, countries can become trading partners and contribute to each other's economic growth.



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▲ *China has become one of the world leaders in exports, and its economy has grown rapidly.*

Government and GDP

Governments are responsible for monitoring their countries' economic growth. In the United States, various government agencies keep a close watch on how slowly or quickly the economy is growing, using gross domestic product as an important indicator.

When the economy is growing too slowly, production and employment decrease. Out-of-work citizens have less money to spend on goods and services. They cut back their spending, and this affects businesses, causing them to have less money to spend as well. Businesses respond by decreasing production (and often laying off even more employees). When the economy is slow for two consecutive quarters, a **recession** exists.

To compensate for the downturn in economic activity, the government can take actions such as:

- Increasing the amount of money in circulation
- Increasing wages
- Spending more on goods and services
- Lowering the **prime interest rate** (the interest rate at which banks borrow from each other)
- Decreasing the discount rate for banks (the interest rate at which banks borrow from the **Federal Reserve**)
- Lowering taxes

The specific actions the government takes depend on the philosophies of the policymakers who are making decisions at the time action is needed. The actions are intended to jump-start the economy and to begin a period of expansion.

Though it may sound unbelievable, the economy can actually grow too quickly. Its growing pains surface when producers can't keep up with the demand for their goods and services. The excess demand results in a rapid increase in prices, causing consumers to pay more for the same products. This is **inflation**.

The government can attempt to fight inflation in several ways, including:

- Restricting the amount of money in circulation
- Spending less on goods and services
- Raising the prime interest rate
- Increasing the discount rate for banks
- Raising taxes

Taking the proper actions to keep economic growth on track—avoiding recessions and inflation—is an important responsibility of government.

The video "Recessions and Fiscal Policy—EconMovies #5: Cars" uses a popular animated movie to explain the relationship between government actions and GDP in a fun and familiar way:

https://www.youtube.com/watch?v=SYFYla1H7KE.

Businesses and GDP

Businesses look to gross domestic product as a planning tool. It helps them to decide whether to expand, to increase or decrease production, to borrow money, to increase or decrease investments, to hire new employees, or to increase or decrease their inventories. It provides information that is useful when planning sales forecasts and budgets.

Growth and contractions in economic activities set off chain reactions in the business world. Within a business, departments are interrelated, and changes in one department call for corresponding changes in other departments. When GDP has not grown, the sales department will probably reduce its sales forecasts, production will then cut back on quantities to be produced, purchasing will then buy fewer raw materials, human resources will cut back on hiring employees or even lay off existing employees, and management will reduce investment in capital goods.

Likewise, a business and its suppliers are also interrelated. Cutbacks for a business usually mean cutbacks for its suppliers as well. For example, if an auto manufa cturer cuts back on production, its steel suppliers would also cut back on steel production. Otherwise, the steel plants would end up with excess inventory that would be costly to keep.


JackF/iStock/Thinkstock

▲ *When job searching, pay attention to GDP—it could indicate whether or not businesses are likely to hire new employees.*

When GDP and other economic indicators are on the rise, producers become hopeful about the future, and they buy new equipment, build new facilities, or expand their current operations. This increase in capital-goods investment encourages the expansion of other economic activities. Producers continue to encourage this expansion by increasing their inventory levels so they are prepared for the increase in demand that they anticipate.

Summary

Economic activity and growth are vital to every country. Growth supports a higher standard of living, improves government performance, helps to resolve domestic economic problems, and helps to develop trading partnerships with other countries. Gross domestic product is an important economic indicator that both governments and businesses take into consideration when making key decisions for the future.

TOTAL RECALL

1. What is one advantage of calculating GDP?
2. What flaws does GDP have as an economic indicator?
3. Why is economic growth important?
4. How does the government react to changes in GDP?
5. How do businesses react to changes in GDP?

Make It Pay!

How are you contributing to your country's gross domestic product? If you have a job, what goods or services are you producing and selling? As a consumer, what did you purchase in the past week that will be part of this year's GDP?

