

The New GDP: "Chainging" with the Times

In January 1996, the U.S. Department of Commerce changed the way it calculates real gross domestic product (GDP)—the broadest yardstick available for gauging the economy's performance. Most economists agree that accurate estimates of any measure of economic well-being are a necessity, but particularly so for GDP estimates, which affect everything from a firm's sales forecast to presidential elections.

To calculate GDP, the number crunchers at Commerce add up the current dollar value of spending on new goods and services produced in the economy each quarter. These data—culled from the tax returns, census surveys and profit statements of households, businesses and other government agencies—are grouped into four main components: spending by consumers, businesses, government and foreigners (less spending on imported goods by U.S. residents). The sum of these components equals the current dollar value of GDP, otherwise known as nominal GDP. These components are first "deflated"—that is, an adjustment is made for inflation—by a series of price indexes and then "summed up" to equal real GDP.

Under the old measure, these price indexes were known as "fixed-weighted" indexes because they measured changes in prices relative to a fixed base year, which Commerce would change about every five years.

This measure was flawed, however, because of the significant changes that occur in the economy over time. Moreover, because these structural changes cause corresponding changes in the relative prices of goods and services produced in the economy, the purchasing patterns of consumers and producers can also change

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markedly over time. For instance, technological innovations tend to lower the cost of producing a product like computers, thereby increasing the quantity of computers sold and produced. Thus, all other things equal, the value of computer output as a percent of the total value of real GDP should increase.

Fixed-weighted price indexes do not handle these types of changes well because their prices are tied to a specific base year. As a result, the accuracy of GDP calculated using this method erodes over time. To counter this, Commerce has decided with the new method to calculate real GDP using "chain-type" price indexes.

Simply put, instead of measuring prices and quantities relative to a fixed base period (fixed-weighted indexes), a chain-weight measure of GDP uses prices and quantities from the current year and the

previous year. In this way, more current prices are used to calculate real GDP, thereby better incorporating changes in the structure of the economy that are reflected in prices and quantities of goods and services.

For example, in 1987, according to the Commerce Department, today's Pentium personal computer would have cost about the same as what a new car cost—a little more than \$13,700. Thus, each new computer and new car produced would have added the same dollar amount to real GDP. By 1994, however, because of falling computer prices, the average price of a new PC was about \$2,500, while the price of a new car was about \$19,700. Using fixed 1987 weights meant that each new PC produced in 1994 was still being counted as if it were equal to one new car (\$19,700), rather than its actual amount (about \$2,500). Thus, under the old method, because the value of computer output was being overstated, estimates of real GDP were overstated as well.

The new chain-weighted measure should correct for these discrepancies, which, in turn, should produce more reliable estimates of economic growth.

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