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Do imports subtract from GDP?
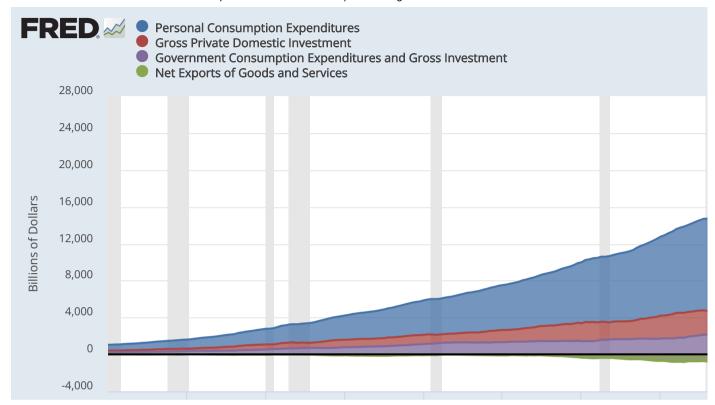
A basic explanation of GDP = C + I + G + (X-M)

Posted on September 13, 2018

The typical textbook treatment of GDP is the expenditure approach, where spending is categorized into the following buckets: personal consumption expenditures (C); gross private investment (I); government purchases (G); and net exports (X – M), composed of exports (X) and imports (M). Textbooks often capture this in one relatively simple equation:

$$GDP = C + I + G + (X - M).$$

Notice that, here, imports (M) are subtracted. On the surface, this implies that an extra dollar of spending on imports (M) will decrease GDP by one dollar. For example, let's assume you spend $30,000 on an imported car; because imports are subtracted (e.g., "– M"), the equation seems to imply that $30,000 should be subtracted from GDP. However, this cannot be correct because GDP measures domestic production, so imports (foreign production) should have no impact on GDP.

Archives

When the Bureau of Economic Analysis (BEA; see its primer on this topic) measures economic output, it categorizes spending with the National Income and Product Accounts (NIPA). Some of this spending (which is counted as C, I, and G) is spent on imported goods. As such, the value of imports must be subtracted to ensure that only spending on domestic goods is measured in GDP. For example, $30,000 spent on an imported car is counted as a personal consumption expenditure (C), but then the $30,000 is subtracted as an import (M) to ensure that only the value of domestic production is counted. As such, the imports variable (M) functions as an accounting variable rather than an expenditure variable. To be clear, the purchase of domestic goods and services increases GDP because it increases domestic production, but the purchase of imported goods and services has no direct impact on GDP.

The misconception that imports reduce GDP also seems to be implied when the GDP components are stacked using the FRED release view. Notice that the green "net exports" area is negative. This occurs because the dollar value of imported goods and services exceeds the value of exported goods and services. While this aspect of net exports (X – M) is useful for evaluating how international trade affects economic activity, it can be misleading. Like the misleading aspects of the expenditure equation, it suggests (visually) that imports reduce overall GDP. While the graph is not incorrect, it is important to keep in mind that, when calculating GDP, the value of imports is actually subtracted from the other components of GDP (personal consumption expenditures, gross private domestic investment, government consumption expenditures, and gross investment), not exports. Again, it's important to emphasize that the imports variable (M) is an accounting variable rather than an expenditure variable.

To learn how to create your own GDP stacking graph, see this FRED blog post. For a more complete description of GDP and the expenditures equation, read the September 2018 issue of Page One Economics.

Suggested by Scott Wolla.
View on FRED, series used in this post: GCE, GPDI, NETEXP, PCEC