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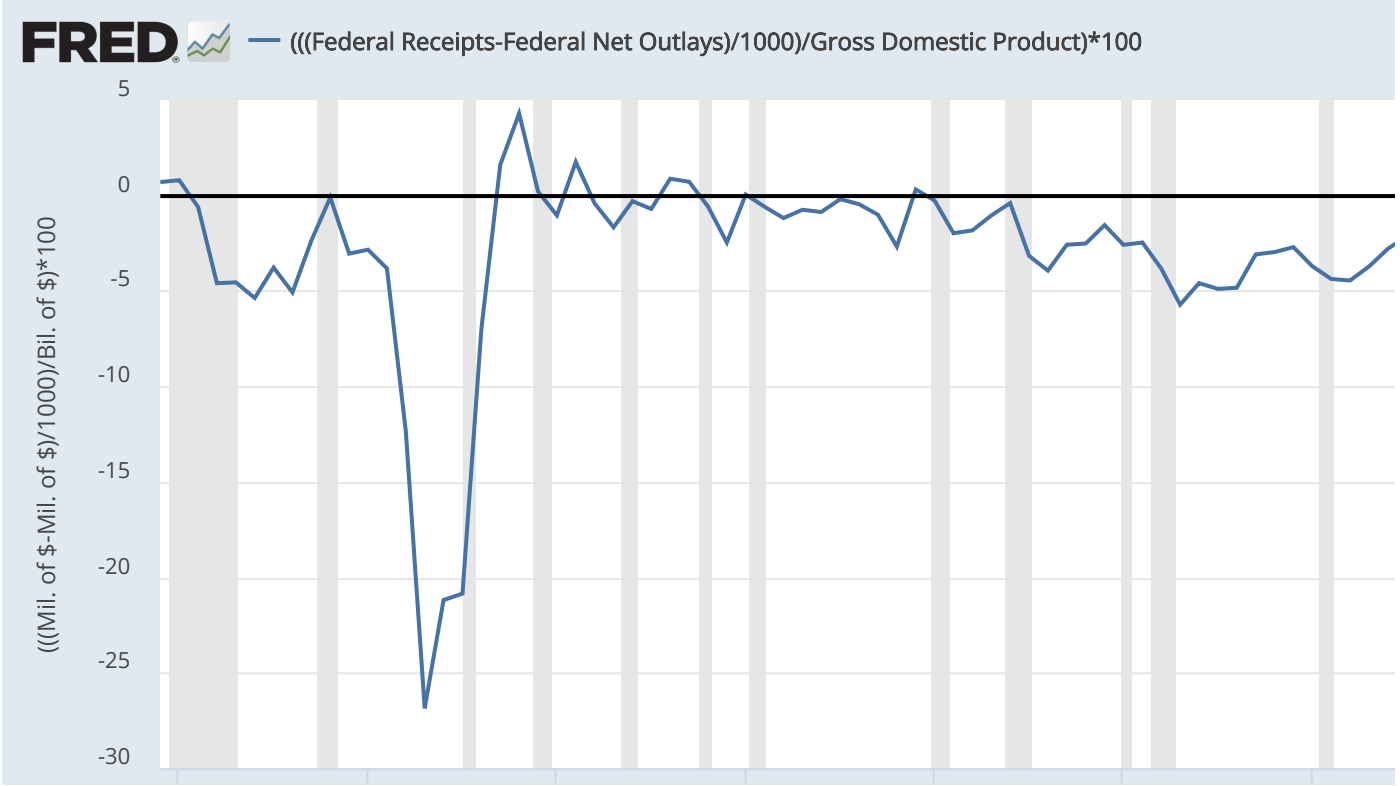
The FRED® Blog

The federal budget balance as a fraction of GDP

Tracking data from two sources with two different calendars

Posted on February 25, 2021



The FRED Blog has discussed how many weekdays there are per month, quarter, and year. (It may seem trivial, but when you work with data, you need to be precise about federal and local holidays and how weekends shake out in a given month.)

Today, we consider two data sources, each with its own calendar year.

The FRED graph above shows the balance of the federal government budget as a percent of GDP. To calculate the budget balance, we subtract the value of federal net outlays from the value of federal receipts. Because those receipts and outlays change with the overall level of economic activity, we divide their difference by GDP and multiply by 100 to show it at as annual percentage.

And here's the rub: Federal receipts and net outlays are reported by the Office of Management and Budget (OMB) for the fiscal year, which runs from October of the previous year to September of the current year. But GDP is reported by the Bureau of Economic Analysis (BEA) for the calendar year,

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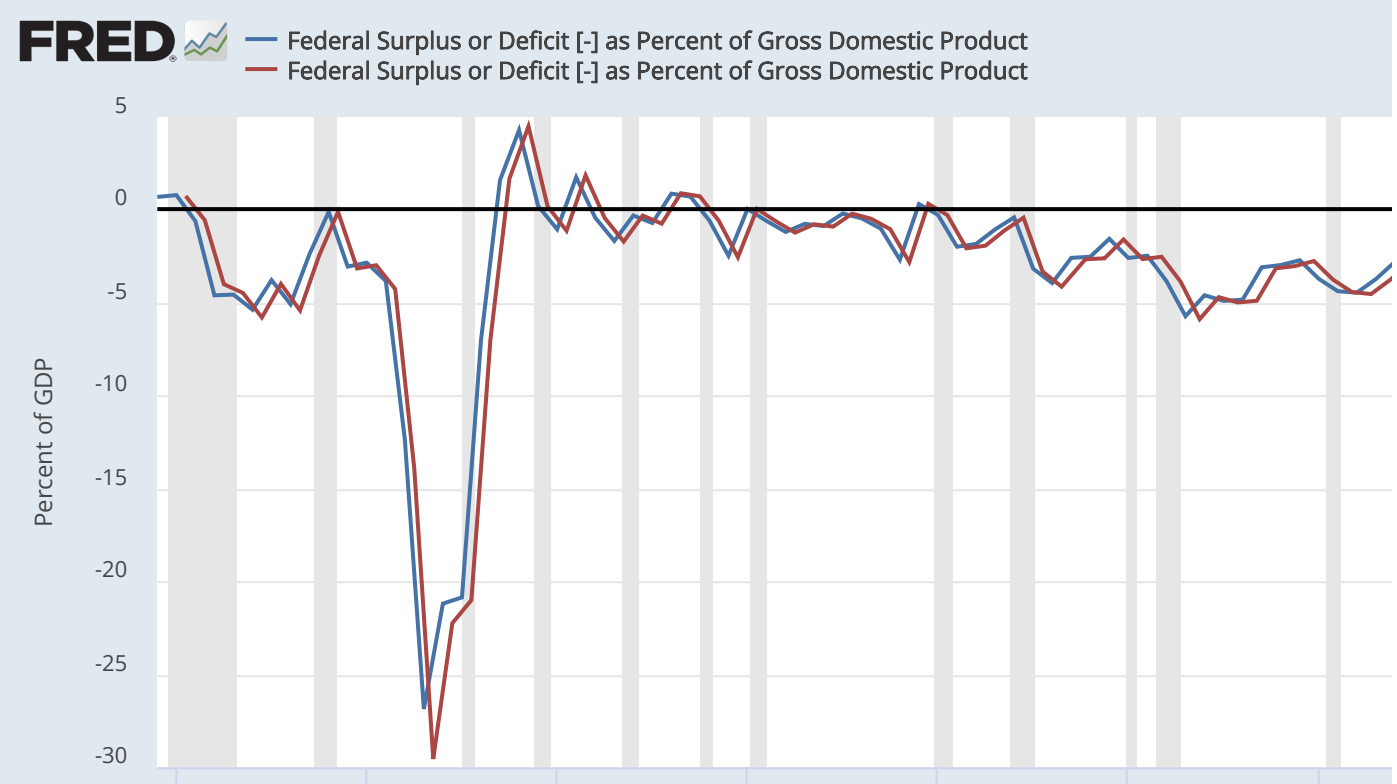
which—just to make sure we're on the same page—runs from January to December. So each organization counts 12 months for each year but starts counting on different dates.

If you want to learn more, keep on reading…



The second FRED graph shows the annual balance of the federal government budget as a percent of GDP using both calendars: Data from the fiscal year is in red, and data from the calendar year is in blue. The lines are very similar in value, meaning that the use of two different calendars has a small impact on the calculation overall. Small though it may be, the difference is largest for the calendar year at the end of a recession. At that time, the automatic stabilizers of fiscal policy have widened the gap between federal revenues and outlays while GDP is starting to rebound.

How these graphs were created: For the first graph, search for and select "Federal Receipts." From the "Edit Graph" panel, use the "Edit Line 1" tab to customize the data by searching for and selecting "Federal Net Outlays" and "Gross Domestic Product (GDPA)." Next, create a custom formula to

- September 2021
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combine the series by typing in *(((a-b)/1000)/c)*100* and clicking “Apply.”
For the second graph, from FRED’s main page, browse data by “Release.” Search for ”Debt to Gross Domestic Product Ratios” and check the two boxes under “Federal Surplus or Deficit [-] as Percent of Gross Domestic Product.” Last, click “Add to Graph.”

Suggested by Diego Mendez-Carbajo, Maria Arias, and Chris Russell.
View on FRED, series used in this post: FYFR, FYFSDFYGDP, FYFSGDA188S, FYONET, GDPA