David Youngberg
ECON 201—Montgomery College

TOPIC 09: THE GOVERNMENT BUDGET

I. Context
   a. To prepare us for different parts of the course, it's helpful to do an overview of the government budget. This material will focus on the U.S. federal government budget, but many concepts are applicable to other countries as well as state and local budgets.

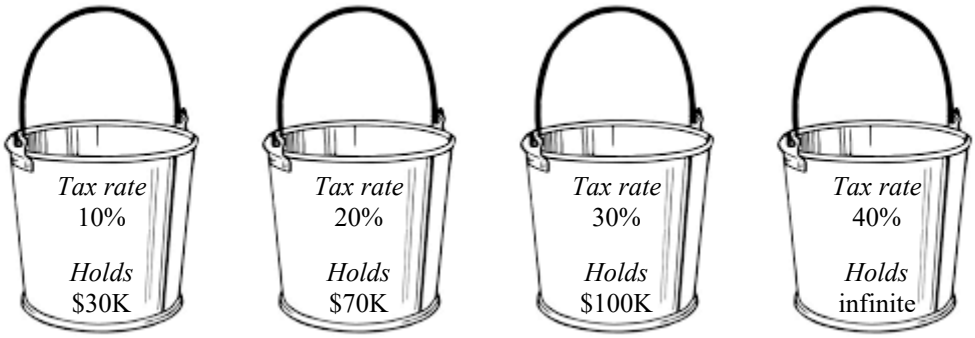
II. Types of taxes
   a. There are three types of taxes: regressive, flat, and progressive. These differ based on how the tax rate, or the percent of income that's paid in taxes, changes with income.
   b. *Regressive taxes* have a lower tax rate on people with higher incomes.
      i. There's a fair amount of taxes that are regressive. The sales tax is one of them, since low-income households spend the vast majority of their income while high-income households spend a smaller portion of their income.
         1. Suppose the sales tax is 6 percent. If a poor household spends all of its income, it will pay 6 percent of its income towards sales tax. If a rich household spends half its income, it will spend 3 percent of its income on taxes.
         2. This gets complicated by the fact that not all spending is subject to sales tax. A lot of food, for example, is exempt.
      ii. Fines, while not technically taxes, are regressive. A $300 parking ticket is a much smaller share of a high income compared to a low income. One can link fines to income, as Finland does, to avoid this problem.
   c. *Flat taxes* have a constant tax rate—everyone pays the same portion of income. The tax rate does not change based on income.
   d. *Progressive taxes* have a higher tax rate on people with higher incomes.
      i. Tax rates here are always *marginal* tax rates. If you make more money and you move into a higher tax bracket, you don't pay a higher tax rate on *all* the income you earned—you pay that higher rate on just part of the income that you earned, the part that's over certain thresholds.

ii. To illustrate, consider a simple tax system. If someone makes $200,000, they ***do not*** pay $60,000 in taxes. If all of their income was taxed at the bracket's rate, then a raise could result in earning less money.

Income Bracket	Tax Rate
$1 to $30,000	10%
$30,001 to $100,000	20%
$100,001 to $200,000	30%
$200,001 or more	40%

1. For someone making $200,000, paying $60,000 in taxes means they make $140,000 after taxes.
2. If they got a $1,000 raise and ALL money was taxed at the rate they're in, then a salary of $201,000 would mean $80,400—an income of $120,600. Almost $20,000 less than before the raise.

iii. How does the tax system avoid this problem? By thinking on the margin! Imagine the government creates four buckets, each labeled a different tax rate and each bucket holds a different amount of money based on the size of the tax bracket, as so:



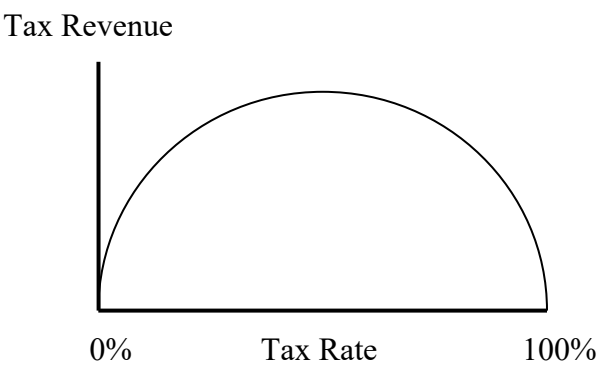
1. The ranges come from counting the dollars. You might think that the 20% bucket should hold only $69,999 (because that's what $100,000 minus $30,001 is), but you have to count the endpoint. We're counting the 30,001st dollar, the 30,002nd dollar, and so on.
2. Similarly, numbers from 5 to 7 isn't two numbers, it's three: 5, 6, and 7.

iv. Now imagine each person puts their taxable income (income minus deductions) into the first bucket until it's full, then the second, the third, and so on. Each person is then taxed 10% on whatever money is in the first bucket, 20% on whatever money is in the second bucket, and so on and all those values are added together. That's the tax bill.

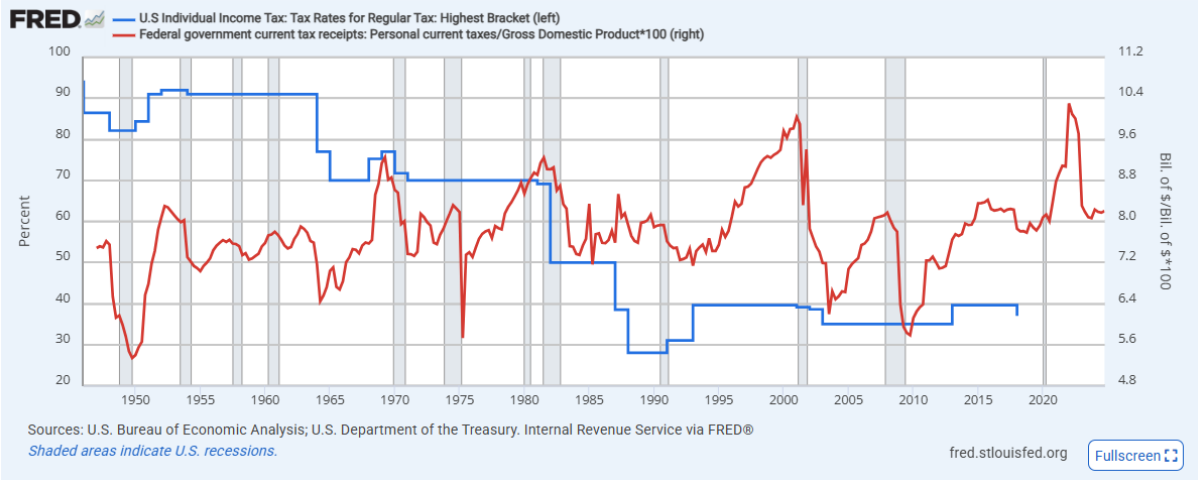
v. In this case, a person making $200,000 would have their income split into $30,000, $70,000, and $100,000, taxed at 10%, 20%, and 30%, respectively. Thus:
    1. $30,000 * 0.1 = $3,000
    2. $70,000 * 0.2 = $14,000
    3. $100,000 * 0.3 = $30,000
vi. $3,000 + $14,000 + $30,000 is $47,000, or $153,000 after taxes.
vii. If they make an additional $1,000, and because the entirety of that $1,000 is in the highest tax bracket, they'd pay 40% of it to the government for an after-tax income of $153,600.

III. The Laffer Curve

a. Taxes change incentives and high rates can become an "excess burden." An *excess burden of taxation* is a loss that society suffers because taxes discourage productive behavior. Remember the equality-efficiency trade-off? Redistribution can shrink the pie.
b. Higher taxes result in more *tax avoidance*, or legal ways to not pay taxes. Examples include donations, certain investments (like a retirement account), and working less.
c. Higher taxes also result in more *tax evasion*, or illegal ways to not pay taxes. Examples include not reporting income, overstating deductions, and claiming you have more dependents than you do.
d. The higher the income tax rate, the larger the incentive to avoid and evade taxes. This is especially true of very high earners who have the savings available to not work.
    i. For example, when the top tax rate was 90 percent (in the 1950s and 60s) and 70 percent (in the 1960s and 70s), no one actually paid those tax rates.
e. Just as charging a higher price doesn't necessarily mean a firm will get more revenue, a higher tax rates do not necessarily result in more tax revenue. While a higher rate means the government can collect a larger share of taxable income, it also increases the incentive to *lower* the total amount of taxable income. The Laffer Curve illustrates this trade-off.



i. If the income tax rate is 0%, then the government obviously collects no revenue. If the income tax rate is 100%, there's no incentive to work (at least not legally) and the government still collects no revenue.[1]
ii. Crucially, we don't know the exact shape of the curve. I drew the maximizing revenue point at 50 percent tax rate mark, but maybe the maximum point is lower than that mark or higher than that mark.
iii. We also don't know how "flat" the curve is, though it's worth noting that income tax revenue as a percent of GDP is somewhat constant, suggesting that the Laffer Curve "peak" is somewhat flat.



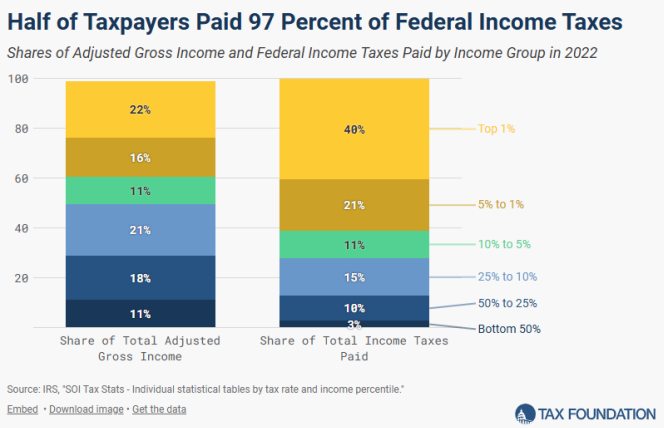
1. The blue line is the top marginal income tax rate.
2. The red line is the Federal tax receipts for personal current taxes divided by gross domestic product times 100.

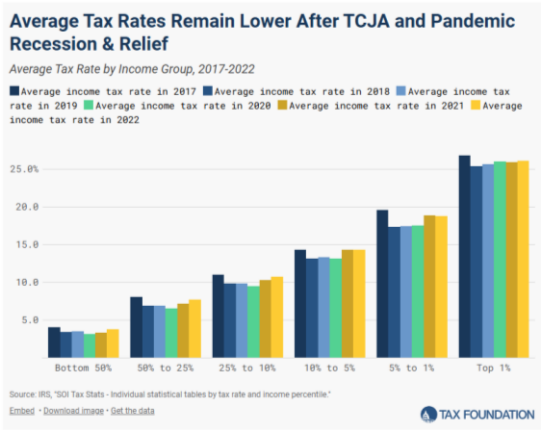
IV. Tax revenue

a. The U.S. Federal government gets its revenue from three main sources: income tax, payroll taxes, and corporate income taxes. Let's look at each of these in detail.
b. *Income tax*—a tax on income, including capital gains and interest, paid directly by the individual. As mentioned, this is a progressive tax.

[1] The government would still probably collect some revenue since some people would be motivated by other reasons to do their job. But it's safe to say that, at least officially, most people would not be working.

i. Despite popular rhetoric to the contrary, the U.S. has a progressive tax system, even after deductions. And the vast majority of income tax collected by the IRS comes from high income households.





ii. Think about this chart whenever someone says "the rich should pay their fair share." What does "fair" mean? And share of what? Of their total income or of the total income tax revenue?

c. *Payroll tax*—a tax on income, paid directly and indirectly by the individual. These taxes fund Social Security programs as well as Medicare (which is also partly funded out of general funds).
   i. Why do I say they are paid "directly and indirectly" by the individual?
   ii. You pay it directly because some of it comes out of your paycheck explicitly (you can see it on your W-2).
   iii. Your employer pays the rest—that's the indirect part. If your employer didn't have to pay that tax, you would get more income. How much more depends on the relative sensitivities to price (what economists call "elasticity," something covered in detail in introductory microeconomics).

d. *Corporate income tax*—a tax companies pay on profits.
   i. This is a flat tax—21%—but was progressive (ranging from 15% to 39%) before the Tax Cuts and Jobs Act of 2017.
   ii. Don't companies sometimes pay zero taxes? Yes and no. No, because there are the FICA taxes we discussed (while employees shoulder some of that, they don't shoulder all of it), and state and local taxes, plus there are many firms who do pay loads of corporate taxes (don't extrapolate from the most attention-grabbing headlines!). But companies can avoid some

taxes, because (a) some revenue is held offshore and thus not taxed and (b) the government allows for deductions, much like personal income taxes.

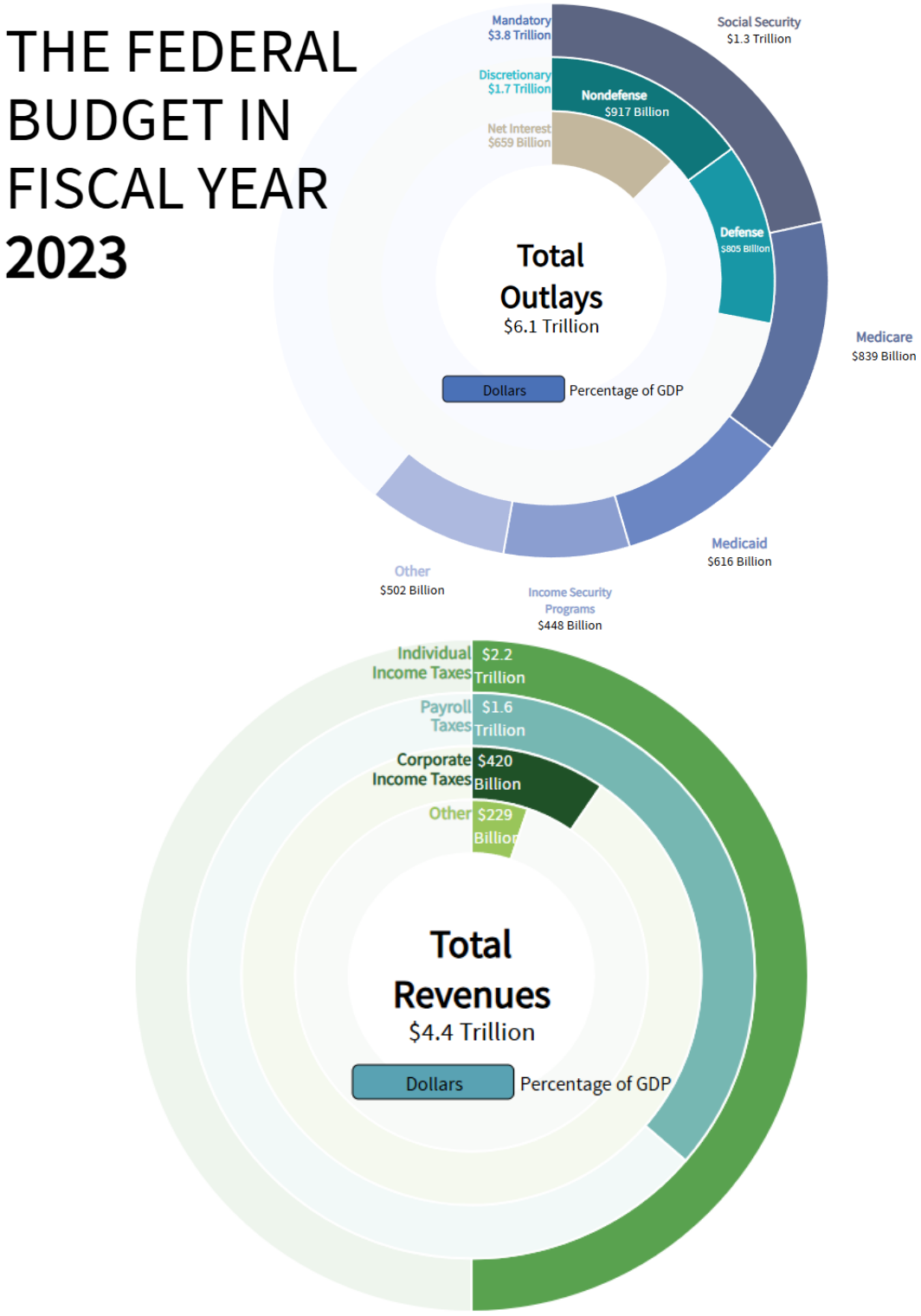
iii. For example, Amazon famously paid zero federal corporate taxes in 2017 and 2018. How is this possible? Because of the tax code. It allows Amazon to deduct investment and employee stock compensation from its taxable profits. The code does this to more strongly incentivize firms to invest their profits and spread ownership power to company employees. That Amazon pays no taxes is the *intended and natural result* of the tax code. If you still don't like this result, recognize it's not due to any sneaky trick Amazon is doing—they are just following the incentives of the tax code. Don't hate the player; hate the game.

V. Outlays (spending)
   a. There are two major types of government spending: mandatory and discretionary.
   b. Mandatory is spending the government has to spend due to statutory criteria and do not have set limits. These are called entitlements—government benefits with guaranteed access assuming you meet the criteria.
      i. Social Security, Medicare, welfare, food stamps are all examples of entitlements.
   c. Discretionary spending is the spending the government decides on with explicit numbers attached. When Congress decides on a budget, this is what they're deciding on. It includes defense and nondefense spending and there are roughly equal shares of each.
      i. Nondefense spending includes funding for NASA, the National Institutes of Health, veterans' health care, transportation, etc.
   d. Both mandatory and discretionary spending include *transfers*—money the government spends on others but doesn't get anything in return. Medicare, farm subsidies, unemployment insurance are all transfers. Buying fighter jet, building a road, and doing medical research at NIH are not transfers.

VI. Of debt and deficits
   a. The government spends more than it takes in from taxes. This is called a deficit (when spending for a year exceed revenue for a year).
   b. The government borrows money to make up the difference (these are government bonds) and this borrowed money makes up the total debt. How much the government owes in total.
   c. Finally, there's interest paid on the debt accumulated.

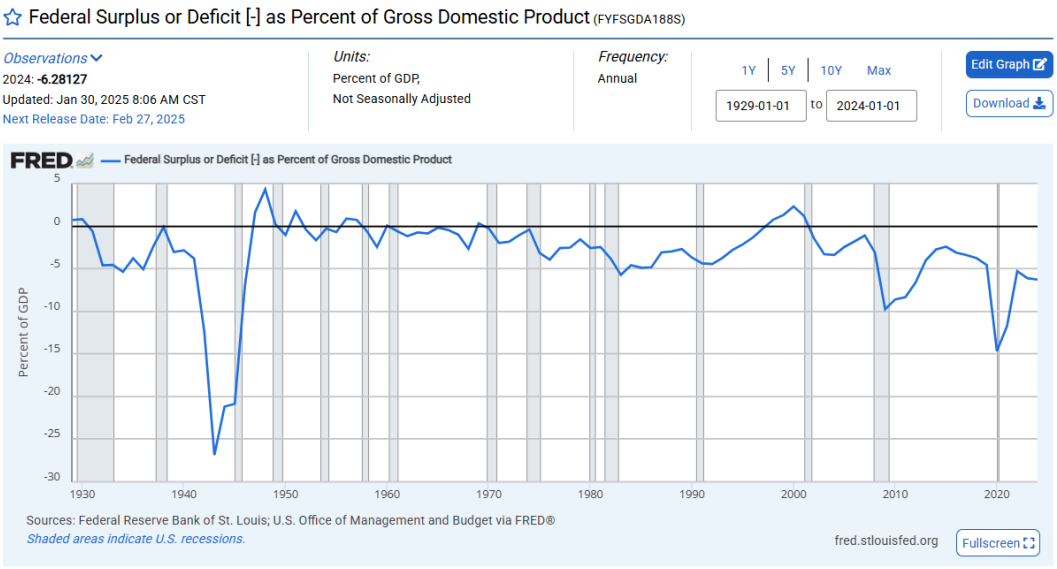
VII. On balance

a. Here's the information for 2023, from the Congressional Budget Office. (Here's 2022.)



i. In 2023, mandatory spending was about 62 percent of the budget and the U.S. federal budget deficit was about $1.7 trillion.

b. Here's a chart showing the federal deficit as a percent of GDP (thus avoiding inflation issues). By that measure, the likes of the 2020 deficit hasn't been seen since World War 2.



c. Note how often the government runs a deficit. The government hasn't run a surplus since the late 1990s. Why is that?
   i. This is an application of our public choice section. The reality is that people who benefit from this spending vote and the future generations who have to pay the costs are too young to vote or aren't even born yet. And the clock is ticking.

d. None of this, by the way, includes unfunded liabilities: especially future Social Security and Medicare payments (but also pensions and debt). Remember, these are entitlements and, by law, the government must pay them, even if it has to borrow yet more money.

e. One final note to leave on: total debt as a percent of GDP. Note that when the number's falling, it's largely due to GDP increasing, not the debt being paid off. Also, this data only goes back to 1966.

Federal Debt: Total Public Debt as Percent of Gross Domestic Product (GFDEGDQ188S)

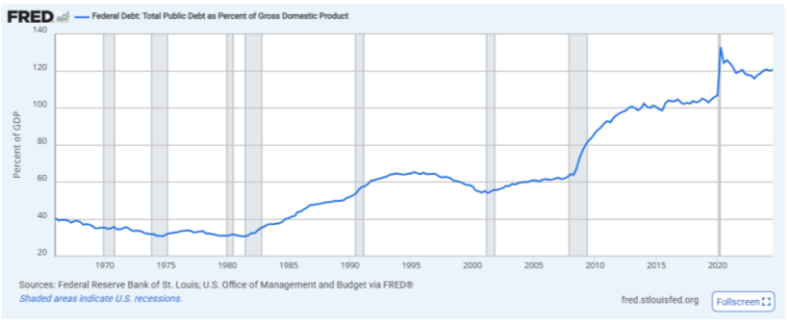
Observations
Q3 2024: **120.73116**
Updated: Dec 19, 2024 8:05 AM CST
Next Release Date: Feb 27, 2025

Units:
Percent of GDP,
Seasonally Adjusted

Frequency:
Quarterly

1Y | 5Y | 10Y | Max
1966-01-01 to 2024-07-01

Edit Graph
Download



Sources: Federal Reserve Bank of St. Louis; U.S. Office of Management and Budget via FRED®
Shaded areas indicate U.S. recessions.

fred.stlouisfed.org
Fullscreen