

Taxes, Deficits, and the National Debt



NEWS UPDATE

- The Organization of Economic Co-operation and Development (OECD) published new rules requiring a global minimum tax of 15 percent on multinational corporations. The impetus and promotion of this minimum tax was from Treasury Secretary Janet Yellen, former chair of the Fed under President Obama (OECD, www.oecd.org, December 20, 2021).
- While we can expect slower growth and worsening inflation, the other major economic impact of the Russian invasion of Ukraine is uncertainty. Uncertainty about the future, whether it is about Russia, COVID-19, or the rising division within the Republican party, means that U.S. consumers, workers, and businesses are operating with more unknown variables. Those who are risk averse will shut down their economic activity entirely. Consumers will avoid purchases of homes, workers will think twice before changing jobs, businesses will avoid investments in capital when they cannot predict costs, revenues, and profits, and students will decide not to enroll in college if they no longer know whether they can afford tuition four years from now. Global businesses, including those headquartered in the United States, will bear an additional uncertainty. They will use caution in decisions to move operations into Eastern European countries such as Poland if Ukraine no longer serves as a buffer between them and Russia (Kavita Kumar, “Invasion to Cause Economic Ripple Effects,” *Minneapolis Star Tribune*, February 25, 2022). To the extent that any of these economic actors are risk averse, our economy will grow more slowly. All this uncertainty also manifests in government taxes and deficit spending, since aside from deliberate macroeconomic policy, we know that government spending, taxes, and budget deficits respond automatically to changing economic conditions. Ultimately, these will also impact the national debt.

PURPOSE

The purpose of this chapter is to introduce students to the concepts of taxes, government borrowing, and the national debt. The objective is to explain and clarify these concepts without being overly technical. This is one of those chapters that covers material that everyone (i.e., the public) knows a little about (as in “taxes are too high, and so is the national debt!”), but nobody (i.e., the public) really understands enough to see the whole picture. The concept of government borrowing is particularly confusing to the public (and our students), as is the distinction between the budget deficit and the national debt. Our job is to convince our students that these topics are not as difficult as they might seem and that the frequent comparisons between governments and households made by politicians and pundits are not particularly useful.

WHAT’S NEW?

1. Data are updated, first on the share of total federal tax revenue received from each tax source, and second on the share of state and local tax revenue from each tax source. Data are also updated for the government budget deficit as a share of GDP, the national debt as a share of GDP, the ownership shares of the national debt, and global tax rates.

2. The 2021 tax forms are used to provide information on the tax brackets and marginal tax rates associated with each.
3. The American Rescue Plan, passed and signed into law in 2021, expanded the Earned Income Tax Credit and the Child Tax Credit (temporarily). This, as well as controversy over continuation of the Child Tax Credit, is discussed in the text.

TEACHING SUGGESTIONS

➤ *Student Interest*

- I'm going out on a limb here to suggest that the topics of taxes, deficits, and the national debt are not particularly exciting for our students. Since there are so many misconceptions when it comes to these topics, it may help to start off with an informal poll among your students. Ask them if they agree:
 - Taxes are too complex. We'd be better off with a simple flat rate tax.
 - Households must balance their budgets, so the government should, too.
 - If the government keeps borrowing, there will be a day of reckoning and bankruptcy.
 - The best way to stop the government from borrowing is to pass a law or constitutional amendment requiring the government to balance its budget.

At the end of the chapter, repeat the poll. Have many students changed their minds?

➤ *Controversy*

- There is controversy over the 2017 tax bill and its impact on 1) income distribution and 2) the budget deficit over the next several years. The largest benefits went to high income people and profitable corporations.
- President Biden proposed a tax on the wealth (not income) of very wealthy people to pay for some of his Build Back Better proposals, but Congress did not support this. Rich people often have relatively low income, but own large amounts of wealth — this suggests that wealth should be taxed as a tax revenue source and a means to ultimately redistribute income.

➤ *Economic Theory and Models*

- As in Chapter 15, we do not include a discussion of the multiplier within the chapter. Instructors can introduce this topic in a nontechnical manner if they wish. There is some detail in the end note #1 to this chapter.
- We use the aggregate demand/aggregate supply (AD/AS) model to show the different outcomes when an increase in government purchases of public parks is financed by borrowing versus taxes.
- We use the demand and supply model to show the impact of an excise tax on gasoline and show that the burden of the tax is shared by consumers and suppliers. We also show the impact of the property tax on the rent charged for rental housing and show that the burden of the tax is shared by renters and landlords.
- Just as other chapters have included more detailed elasticity topics in their appendices, there is a model of an excise tax in the cases of a perfectly inelastic demand and a perfectly inelastic supply in Appendix 16–1. Instructors are welcome to use these appendices as they wish. Note that Appendix 16–2 uses graphical analysis to show the effect of government spending on interest rates.

➤ *Data and Terminology*

- Students struggle with the difference between the government budget deficit and the national debt and are especially confused about “printing money.” (You may have noticed that former President Trump doesn’t understand it either.) Carefully clarify the first two concepts.
- Students also have difficulty thinking of taxes as a percent of income. For example, they think that a sales tax is proportional because it takes the same percent of the item’s price, regardless of the purchaser’s level of income. Carefully define the tax base and the meaning of progressive, proportional, and regressive taxes.

➤ *Fundamentals*

- The expanded Child Tax Credit was found to cut child poverty by about half while it was in effect. Congress voted against a bill (Build Back Better) that would have extended this tax credit. At a minimum, this shows apathy for our nation’s children, and at worst, it shows an attitude of contempt for the poor, especially poor mothers. The same is true for Congressional opposition for maternity leave and sick leave.
- The same bill that would have extended the Child Tax Credit would have also sought greater racial equity in a number of areas. Opposition to this also reveals apathy and contempt for racial and ethnic minorities.
- While the excise tax on gasoline generally takes a greater share of income from low- income people than from high-income people, it nevertheless serves other worthy goals, including the provision of incentives for people to reduce the amount of their driving and avoid purchasing gas-guzzling vehicles. The government could assist low-income people by establishing a tax credit for gasoline purchased by people whose incomes qualify.
- The 2017 tax bill joins the ranks of the tax bills passed under former Presidents Reagan and G.W. Bush that increased inequality in income distribution. Our vastly unequal income distribution is continually becoming more unequal through 1) steady reductions in the progressivity of the federal personal income tax and 2) a drop in the overall share of this one progressive tax among other highly regressive tax sources. (We note that the tax rate structure of the federal personal income tax is progressive, but the overall tax with all its complexity is not clear.)
- We noted in the text that conservatives had an underlying goal of using the budget deficits created by the 2017 tax bill to force a reduction in government social programs, including entitlements. This intentional shift of well-being from the poor to the rich is disturbing and raises concerns about people’s contempt for the poor.

CLASSROOM EXERCISES

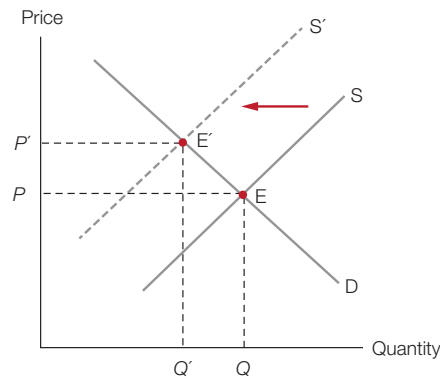
1. Calculate the effects of a sales tax on a hypothetical higher and lower income family over one year, using the following data:

	<u>Higher-Income Family</u>	<u>Lower-Income Family</u>
Income	\$200,000	\$20,000
Purchases of taxable goods and services	\$100,000	\$18,000
Sales tax rate	5%	5%
Amount of sales tax paid	\$5,000	\$900
Amount of sales tax paid as % of income	$\$5,000 / \$200,000 = 2.5\%$	$\$900 / \$20,000 = 4.5\%$

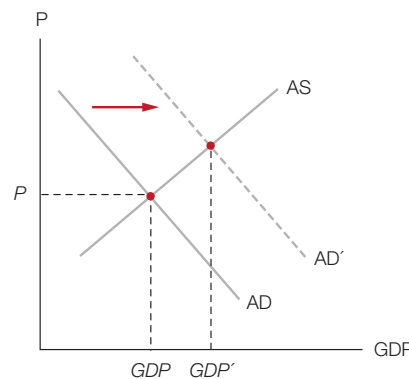
What are the implications of this mathematical exercise? [The low-income family spends a higher share of their income on the sales tax than the higher income family, demonstrating the tax is regressive.]

2. Show how the Social Security tax is regressive by assuming a low-income person earns \$20,000 per year through work (earnings) and a rich person earns \$200,000 per year through work. The rich person also receives \$400,000 in capital gains; \$300,000 in interest income; and \$500,000 in dividends. Assume the tax rate = 6.2% and the ceiling on earnings allowed to be taxed is \$142,800, as it was in 2021.
 - a. Calculate the amount of Social Security tax the poor person pays. [$0.062 \times \$20,000 = \$1,240$] What share of the person's income is paid in the tax? [$\$1,240 / \$20,000 = 0.0620 = 6.20\%$]
 - b. Calculate the Social Security tax the rich person pays. [$0.062 \times \$102,000 = \$6,324$] What share of the rich person's income is paid in the tax? [$\$6,324 / \$1,400,000 = 0.0045 = 0.45\%$.]
 - c. What is the conclusion about the regressivity of the tax? [It is highly regressive.]

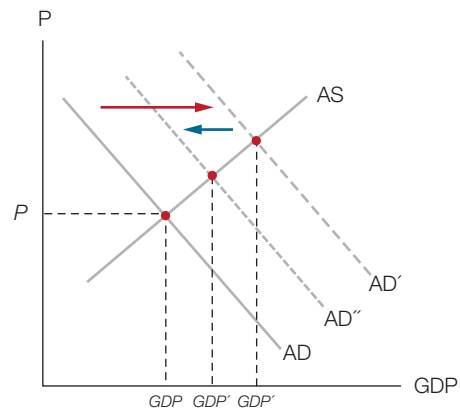
3. Consider the market for strawberries (with normally sloped demand and supply curves). Label the initial equilibrium point (E) within the graph; and label the equilibrium price (P) and equilibrium quantity (Q) along their respective axes. Shift the curve to show what happens with the imposition of an excise tax. [The supply curve shifts backward.] Label the new equilibrium point (E'); and label the new equilibrium price (P') and equilibrium quantity (Q') along their respective axes. What is the effect on the price paid by consumers? [Increase] What is the effect on the quantity of strawberries bought and sold? [Decrease] Who bears the burden of the excise tax? [The consumer bears some of the burden in the form of a higher price, whereas the supplier bears part of the burden in the form of fewer profits (since the price paid by the consumer increases by only part of the extra costs of production.)] (Extra from Appendix 16-1: Who bears the burden of the tax if the supply of strawberries is perfectly inelastic? [Answer: The supplier does. The group with the more inelastic curve bears the greater burden of the tax.]



4. Show the effect on GDP of each of the following:
 - a. Government purchases of public prisons, financed by government borrowing:

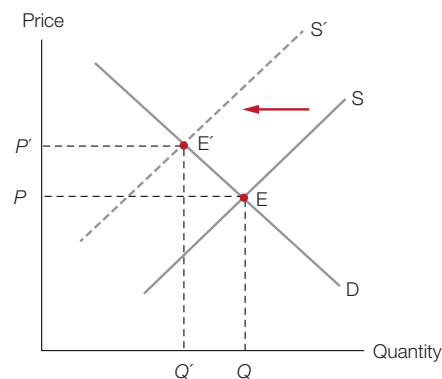


- b. Government purchases of public prisons, financed by increased taxes:



- c. Which situation results in a larger increase in GDP, assuming the increase in government spending is the same in each case? [A]

5. Consider the hypothetical market for alcohol. Label the initial equilibrium point (E) within the graph, and label the equilibrium price (P) and equilibrium quantity (Q) along their respective axes. Shift the curve to show what happens with the imposition of an excise tax. [The supply curve shifts backward.] Label the new equilibrium point (E') within the graph, and label the new equilibrium price (P') and equilibrium quantity (Q') along their respective axes. What is the effect on the price? [Increase] On the quantity of alcohol bought and sold? [Decrease] Who bears the burden of the excise tax? [Both consumers and producers] (Appendix 16–1): The consumer bears the burden of the tax if the demand for alcohol is perfectly inelastic.)



SAMPLE TEST QUESTIONS

Multiple Choice Questions

1. Government securities consist of:
 - a. the treasury building and the federal reserve system.
 - b. government bonds and treasury bills.**
 - c. corporate bonds and stocks.
 - d. all of the above

2. A tax base is:
 - a. always expressed as a percentage.
 - b. always expressed as some form of income.
 - c. an item that has a tax credit applied to it.
 - d. an item that has a tax rate applied to it.**

3. Which tax brings in the greatest share of federal government tax revenue?
 - a. Federal personal income tax**
 - b. Social security tax
 - c. Federal excise taxes
 - d. Tariffs

4. Which tax brings in the greatest share of state and local government tax revenue combined?
 - a. Property tax**
 - b. Sales tax
 - c. Excise taxes
 - d. State income tax

5. In 2021, the marginal federal income tax rate on the highest increment of income was:
 - a. 74%.
 - b. 55%.
 - c. 37%.**
 - d. 5%.

6. About what share of federal tax revenue comes from the payroll tax?
 - a. 10%
 - b. 25%
 - c. 33%**
 - d. 90%

7. The estate tax brings in about what share of total federal tax revenue?
 - a. 1%**
 - b. 10%
 - c. 40%
 - d. 90%

8. The Earned Income Tax Credit:
 - a. is available to low-income eligible working people.
 - b. is refundable.
 - c. has increased in recent years.
 - d. all of the above**

9. Excise taxes:
 - a. operate like sales taxes but are applied only to specific goods and services.**
 - b. bring in approximately 20% of total federal tax revenue.
 - c. bring in approximately 50% of total state and local tax revenue.
 - d. none of the above

10. Which of the following is a regressive tax?
- Sales tax
 - Property tax
 - Social Security tax
 - All of the above**
11. Which of the following is correct? A regressive tax:
- takes a larger amount of tax dollars from low-income people than high-income people.
 - takes a larger percent of income from low-income people than high-income people.**
 - takes a larger percent of income from high-income people than low-income people.
 - takes the same percent of income from high-income people as low-income people.
12. Which causes greater expansion of the economy?
- An increase in taxes
 - An increase in government spending financed by an increase in taxes
 - An increase in government spending financed by government borrowing**
 - The impact of all of these is equal.
13. About what share of the national debt is owned by (owed to) foreigners?
- 10%
 - 17%
 - 27%**
 - 67%
14. What are the effects of a tax cut on the macroeconomy?
- An increase in GDP
 - An increase in employment
 - A rise in the average price level
 - All of the above**
15. The 2017 tax bill was supported by:
- President Trump.
 - the Senate and the House of Representatives.
 - most Republicans.
 - all of the above**
16. Government tax revenue of \$100 billion and government spending of \$80 billion in any given year results in a:
- budget deficit of \$20 billion.
 - budget surplus of \$20 billion.**
 - national debt of \$20 billion.
 - national surplus of \$20 billion.
17. The difference between federal government spending and federal tax revenue in one year is:
- the budget deficit.**
 - the national debt.
 - crowding out.
 - the trade deficit.

18. Economists generally believe a law or constitutional amendment requiring a balanced budget would:
- be extremely difficult to implement.
 - limit the government's use of fiscal policy.
 - destabilize the economy.
 - d. all of the above**
19. Why do conservatives generally favor reductions in taxes? They prefer:
- income to be concentrated in the private sector rather than the government.
 - lowered income taxes to increase personal incentives to work.
 - lowered taxes to encourage personal savings.
 - d. all of the above**
20. (*Appendix 16–2*) Increased government spending financed by government borrowing will:
- increase interest rates.
 - expand the economy.
 - create some crowding out.
 - d. all of the above**

True / False Questions

- The government borrows money when it issues government securities. (T)
- The standard deduction is a fixed amount taxpayers can deduct from their taxable income when calculating their income taxes if other deductions are not claimed. (T)
- A tax credit directly reduces the amount of tax payable to the government. (T)
- A refundable tax credit is available only if the person pays a large amount in income taxes. (F)
- The only purpose of taxes is to raise revenue for government spending. (F)
- A payroll tax is deducted directly from the worker's paycheck. (T)
- Property taxes bring in the largest share of combined state and local government tax revenue. (T)
- The United States has the highest business taxes as a share of profits in the world. (T)
- Increased government spending financed by increased taxes creates more expansion of the economy than if it is financed by government borrowing. (F)
- It is probably better to pay for government purchases by raising taxes when the economy is operating at full employment. (T)
- A regressive tax is one that takes a larger percentage of income from low-income people than from high-income people. (T)
- Property taxes are generally considered to be progressive. (F)
- The effect of the tax cuts under former Presidents Reagan, G.W. Bush, and Trump was reduced progressivity of the U.S. tax system. (T)
- In 2021, the G7 and G20 agreed to a minimum business tax rate of 15%. (T)
- Janet Yellen was Chair of the Federal Reserve under Trump and is Treasury Secretary under Biden. (T)
- Government borrowing has the positive consequences of enabling the government to expand the economy as needed and to make expenditures that can benefit our society. (T)

17. The total amount of money the government has ever borrowed and not yet repaid is the national debt. (T)
18. Property taxes are used primarily to finance local public schools. (T)
19. The national debt will eventually bankrupt the nation. (F)
20. Former President Trump said he could eliminate the national debt within about eight years. (T)
21. The burden of an excise tax is generally borne by both the consumer and supplier of a product. (T)
22. The United States has the lowest maximum federal personal income tax rate in the Western industrialized world. (F)
23. Government borrowing can result in a redistribution of income from low-income people to high-income people. (T)
24. The Netherlands and Spain have the world's lowest business taxes as a share of profits. (F)
25. (*Appendix 16-1*) An excise tax imposed on a product with a perfectly inelastic demand will cause a large increase in the price of the product. (T)
26. (*Appendix 16-1*) An excise tax imposed on a product with a perfectly inelastic supply will cause a large increase in the price of the product. (F)
27. (*Appendix 16-1*) An excise tax generally results in a higher price of the product, though the price usually does not increase by the full amount of the excise tax. (T)
28. (*Appendix 16-2*) Increased government borrowing will generally cause a decrease in interest rates. (F)
29. (*Appendix 16-2*) Crowding out refers to a situation whereby increased government borrowing results in increased interest rates, thereby causing some reduction in private borrowing and spending. (T)
30. (*Appendix 16-2*) An increase in the demand for loanable funds will generally cause an increase in the interest rate. (T)

Critical Thinking Questions

1. You now have a much better understanding of the effects of taxes in our economy. Taking into account government spending programs and income distribution, what changes would you like to see in our nation's spending and tax policies?
2. Would we be better off with a simple flat rate tax or a national sales tax instead of the complicated progressive tax rate structure for the federal personal income tax? Keep in mind that the complexity of the current income tax is not in the tax rate structure, but the various deductions, credits, and loopholes, so moving to a flat rate tax will not help with complexity. If we move to a flat rate structure, our income tax will lose its progressivity. Replacing the personal income tax with a national sales tax would amount to replacing a progressive tax with a regressive one. Both of the alternatives would result in a more regressive tax system.
3. Why do conservatives refer to the estate tax as a "death tax"? Are they trying to suggest that we are over-taxed, because we even pay taxes for dying (i.e., "taxed to death")? Only the extremely wealthy pay the estate tax. Conservatives are trying to make it sound like we are taxed too much, even for dying.
4. The Earned Income Tax Credit is a very efficient way to bolster the incomes of low-wage people. How does this potential eliminate the objections of some people that government assistance encourages people to work less? How does it avoid the labor market distortions caused by the minimum wage? Since conservatives oppose an expansion of the Earned Income Tax Credit, does this mean their reservations about work disincentives are not sincere?

5. Should Social Security benefits be provided to high-income retired people, even though economists are concerned about the viability of the program? Or is it the case that the Social Security program was set up as a social insurance program for all eligible people who have paid into it, and to eliminate benefits to the rich would substantially change the nature of the program?
6. How could the regressivity of the Social Security tax be eliminated? Rather than taxing only income earned through working, all income could be taxed for social security purposes (including capital gains, interest income, dividends, rental income, and so on). This would have the effect of making the Social Security tax proportional up to the ceiling on income. Secondly, this ceiling on income could become a floor instead of a ceiling; that is, all income below that level would not be taxed, while all income above it would be taxed. Finally, benefits might be reduced for higher income individuals and taxes might be fully placed on the benefits to these people. All these options will clearly raise even more issues!