

Curriculum Guide

TEACHING TAXES



MODULE 1

Why taxes matter. What is federal spending? What is state and local spending? Online interactive game to adjust federal spending

MODULE 2

What is wealth? What is income? Recommended videos and in-class "Ten Chairs" activity

MODULE 3

Progressive versus regressive taxes

MODULE 4

The US income tax. What is the marginal tax rate? What is the average tax rate? Why is it a progressive tax? Practice in calculating income tax.

MODULE 5

The US payroll tax. Why is it a regressive tax? What would be the effect of proposals to change Social Security?

MODULE 6

Other US taxes and the Tax Game. What are sales taxes, property taxes, excise taxes? Why are sales and excise taxes regressive?

WHY TAXES MATTER

Few things cause more emotion in politics than taxes. Yet the purpose of taxes is simple: to provide the revenues so that government can function for the people. Taxes pay for parks, transportation, roads, bridges, unemployment insurance, the Affordable Care Act, Social Security, the military: the list is long, and the feelings about each program vary from person to person.

But there can be no doubt about the necessity of some form of taxes to make society work. The questions are: how much? for what purpose? and who is taxed?

ACTIVITY 1

U.S. VERSUS STATE AND LOCAL SPENDING

Students often are unclear about what is a U.S. expenditure and what is a state or local expenditure. Using figure 1 cards on page 13, student groups identify which are mostly federal (US) or State and local expenditures?

Military
Social Security
Police
Education
International affairs
Firefighting

Answers: Federal are military, social security, and international affairs; State and local are police, education, and firefighting.

Note: Some expenditures are a combination. Interstate highways are mostly federal; other roads and streets are state or local. Housing programs and economic security programs are funded by federal and state governments.

ACTIVITY 2

WHAT IS LARGEST IN US GOVERNMENT SPENDING?

Federal spending is the largest sector of government spending. In this activity, students identify which federal spending categories should be the largest and then compare their recommendations with what are the largest federal spending categories

Instructions: Using the cards in Figure 2 on page 14, place these categories of Federal spending in order of importance. Which should receive the most spending?

After making your decisions, compare your order to the current order of spending. Which categories did you recommend for more spending? For less spending?

Cards: (in descending order of spending amounts, revealed to students after they choose their desired order)

Social Security
Military
Economic security programs: Earned Income Tax Credit, Supplemental income and nutrition
Veterans' Benefits and Services
Education
Transportation
Natural resources
Science and medical research
Law enforcement
International Affairs

Note: students may be unclear about what these categories include.

- Social Security is primarily assistance to the elderly, including Medicare. It also includes assistance to the disabled and to orphans.
- Military includes pay for personnel (about 25%); the remainder for maintaining and purchasing equipment
- Economic security programs include the Earned Income Tax Credit, a tax break for low income workers, Supplemental income sometimes called "welfare," and nutrition (formerly known as Food Stamps).
- Education in the federal budget is much less than state and local education spending. It includes programs like Head Start and college grants and loans.
- Transportation. Most streets and roads are state or local expenditures. The federal government pays most costs of Interstate highways.
- Natural resources includes environmental programs, parks and recreation
- Law enforcement includes organizations such as the FBI. Most police forces are state or local organizations
- International affairs includes foreign aid for humanitarian, security and development

Figure 3

(optional) California state and local

Cards: (in descending order of spending amounts, revealed to students after they choose their desired order)

Health and human services
K- 12 education
Higher education
Health and hospitals
Highways
Transit
Prisons
Electric utilities
Police
Fire protection
Housing

ACTIVITY 3**GOVERNMENT SPENDING PER PERSON**

One way to understand the big numbers in government budgets is to calculate how much each is on a per person basis. This also is good practice in dealing with big numbers.

Here is U.S. federal spending on key items rounded off to make our calculations easier.

- Social Security \$800 billion
- Health \$500 billion
- Military \$500 billion
- Medicare \$450 billion
- Income security \$400 billion
- Veterans benefits \$200 billion
- Education and social services \$100 billion
- Transportation \$100 billion

The U.S. population is about 340,000,000

To find spending per person, called spending per capita, we need to divide each spending category by 340,00,000

Here it is for military spending:

\$500 billion is \$500,000,000,000

$\$500,000,000,000 / 340,000,000 =$

(cross off 7 zeroes from each) $50000/34 = \$1471$

That means in a sense each man, woman and child pays \$1,471 for the US military.

For practice, find per capita spending for these other categories

ACTIVITY 4**HOW WOULD YOU CHANGE FEDERAL SPENDING?**

Online simulations allow students to reallocate federal spending. These simulations also allow students to adjust federal taxes, and thus may be more appropriate after modules 3, 4 and 5.

Option 1: The Fiscal Ship

<https://fiscalship.org/>

In this simulation users select spending and tax policies from a broad range of choices, including quite conservative policies as well as progressive policies. The rationale, and possible drawback, for each policy is explained and can be compared to those advocated by Republicans and Democrats. Thus, the simulation serves as a guide to the broad range of spending and tax policies that could be adopted.

The simulation sets a goal of preventing an increase in the Federal debt by 2042, a goal that is difficult to achieve—and in fact may not be important in an economy beset with more important problems such as inequality and climate change. Thus it may be most useful to use the simulation for students to study policy choices rather than focus on the debt.

Option 2: Balancing the federal budget

<https://us.abalancingact.com/2023-federal-budget>

Federal Balancing Act: An Interactive Budget Simulation

This is a less user-friendly simulation. It allows for detailed changes in taxes and spending, showing their impact on the deficit. The advantage is that students see the impact of each decision on overall revenue or spending. But students will need to keep a record of their decisions. The further information button for each policy brings up only a very brief explanation.

WEALTH VS INCOME

The U.S. has a large number of different taxes. Most are collected from people, not from businesses. If we look at the total of all taxes, it turns out that most households pay about the same amount of their income in taxes, although the very rich pay less. The reason is that taxes are based mostly on what people earn, which is their income. The rich have wealth that is not taxed. So let's make certain we understand the difference between income and wealth.

ACTIVITY 5

Which of the following are wealth and which are income? (If cards from figure 4 are used, student groups can put them into piles, one for wealth and one for income.)

Figure 4

- Stock in Apple Corporation
- Wages earned at McDonalds
- Diamond ring
- Dividends earned from Apple stock
- Interest on a bank savings account
- Profits from a family restaurant
- Toyota Corolla
- Apartment building
- Cell phone
- Rent received by landlord

Wealth: Stock in Apple Corporation; Diamond ring; Toyota Corolla, Apartment building, cell phone

Income: Wages earned at McDonalds; Dividends earned from Apple stock; Interest on a bank savings account; Profits from a family restaurant; Rent received by landlord

How do you know?

Hint to teacher: incomes are a flow, always measured over time. Wealth is a stock, independent of time.

Both income and wealth are quite unequal in the U.S.—but wealth is much more unequal.

Follow-up question: Why is it important to know the difference between wealth and income?

ACTIVITY 6

TEN CHAIRS

<https://rswr.org/share-your-abundance/activities-games>

Scroll down to see "Ten Chairs." This is a lesson plan in which students act out the distribution of wealth in the United States. What is wealth and who owns how much of it? What are assets and debts?

Follow-up: What were your feelings during this activity?

ACTIVITY 7

WEALTH INEQUALITY VIDEO

<https://www.youtube.com/watch?v=QPKKQnijnsM>

Infographics on the distribution of wealth in America, highlighting both the inequality and the difference between our perception of inequality and the actual numbers. The reality is often not what we think it is. (6 minutes)

Follow-up: What was surprising in this video?

PROGRESSIVE VS REGRESSIVE TAXES

Who pays more taxes, the rich, the middle, or the poor? The answer depends whether a tax is progressive or regressive.

In a progressive tax, higher income people pay a higher percentage in taxes. In a regressive tax, lower income people pay a higher percentage in taxes.

Here are some examples:

Ms. Rich

Income \$200,000

Taxes paid \$20,000

Tax rate is income / taxes paid = $\$20,000 / \$200,000 = 10\%$

Mr. Middle

Income \$50,000

Taxes paid \$10,000

Tax rate is income / taxes paid = $\$10,000 / \$50,000 = 20\%$

This is a regressive tax because Mr. Middle pays a higher tax rate, 20%, versus only 10% for Ms. Rich.

Notice that even in a regressive tax, the rich may pay more in dollars, just less as percentage of their income. Although in some very regressive taxes like the lottery, the poor may even pay more in dollars.

In the next module we'll see that some U.S. taxes can be progressive like an income or wealth tax. But these progressive taxes are cancelled by other regressive taxes like the payroll and sales tax.

THE U.S. INCOME TAX

The federal income tax is the largest U.S. tax. It is the tax we hear about every April 15 when taxes are due, although for most workers, the tax is collected throughout the year. Unlike most other U.S. taxes, the income tax collects a higher rate from those with higher incomes, called a **progressive tax**.

U.S. federal tax rates change over time, adjusted for inflation and by the political party in power. The rates also depend on the type of household and by deductions that reduce the income to be taxed. These are the approximate current US rates for a single person after deductions.

What will be the taxes owed for Mr. Middle earning \$50,000?

Answer:

Tax is $\$15,000 \times 0\% + \$10,000 \times 10\% + \$25,000 \times 12\% = \$4,000$

Marginal tax rate is 12%.

What will be the taxes owed for Ms. Rich earning \$200,000?

Answer:

Tax is $\$15,000 \times 0\% + \$10,000 \times 10\% + \$25,000 \times 12\% + \$100,000 \times 22\% + \$50,000 \times 24\% = \$38,000$

Marginal tax rate is 24%

Note that Ms. Rich pays a higher tax rate than Mr. Middle

ACTIVITY 8

SHOULD YOU ACCEPT A PAY RAISE IF IT PUTS YOU IN A HIGHER TAX BRACKET?

Marco makes \$50,000 and is in the 12% marginal tax bracket. He worries that a promised raise to \$51,000 will put him in the 22% marginal tax bracket. Should he:

A) Refuse the raise so that he doesn't pay more in taxes

B) Accept the raise even though he will be in the higher marginal tax bracket

TV commentators sometimes have answered this question incorrectly. See:

<https://archive.nytimes.com/economix.blogs.nytimes.com/2009/03/03/tax-fallacies-explaining-marginal-tax-rates/>

Answer:

B. It is true that the \$1000 raise will be taxed at the higher 22% rate. But the remaining \$50,000 will still be taxed at Marco's lower tax rates. Before the raise his after tax income was $\$50,000 - \$4,000$ in taxes = \$46,000 (see calculation above). After the raise he will pay \$220 in taxes on the \$1000 raise, leaving him \$780 in new income. So his total earnings will be \$46,780.

Income	U.S. Marginal Tax Rate (tax paid on last dollar received)	Average U.S. Income Tax Rate (total tax paid / total income after deductions)
\$0 - \$15,000	0%	0%
\$15,001 - 25,000	10%	2%
\$25,001 - 50,000	12%	4%
\$50,001 - \$150,000	22%	10%
\$150,001 - 250,000	24%	12%
\$250,001 - \$300,000	32%	14%
\$300,001 - \$600,000	35%	19%
Over \$600,001	37%	23%

ACTIVITY 9

HOW TO FILE TAXES

A lesson on the basics of how to file taxes if students new to the process or unsure of what to do. Topics include tax preparation, necessary documents, tax deductions, tax credits, and tax return filing status.

<https://lesson.moneyinstructor.com/949/how-to-do-taxes-tax-filing-guide-for-beginners-lesson.html>

ACTIVITY 10

MARGINAL AND AVERAGE TAX RATES

Notice that there are two ways to measure the tax rate

The average tax rate tells how much of the income goes to taxes.

The marginal tax rate tells how much additional tax will be owed if income rises (or how much will be saved if incomes falls.)

Both rates are important.

Mary wants to know how his taxes will change if she works overtime? Should she look at her marginal tax rate or her average tax rate? Why?

Jim wants to make a budget for the year, taking into account taxes he will owe? Should he look at his marginal tax rate or his average tax rate? Why?

Answers:

Mary should look at her marginal tax rate because it tells her how much more she will pay in taxes as her income increases.

Jim should look at the average tax rate because it tells him how much of his budget will go to taxes.

PAYROLL TAX

The U.S. payroll tax, sometimes called the social security tax, collects the second highest amount of U.S. taxes, lower only than taxes collected by the federal income tax. But for most low and modest income households it is the most important tax. Unlike the progressive income tax, the payroll tax is a regressive tax. That means the tax has higher rate for lower income households.

The payroll tax rates are simple

Income level (approximate, this changes slightly every year).
Tax rate

\$0 - \$160,000 7.65%

Over \$160,000 1.45%. (except for an additional 0.9 % at higher income levels)

Notice that this is a regressive tax: the marginal tax rate falls at higher income levels. It is 7.65% for most people, but only 1.45% or 2.35% for the rich.

Example:

Ms. Rich Income \$200,000. Payroll tax is $7.65\% \times \$160,000 + 1.45\% \times \$40,000 = \$12,240 + \$580 = \$12,820$

- Average tax rate is $\$12,820 / \$200,000 = 6.41\%$
- Marginal tax rate is 1.45%

Mr. Middle Income \$50,000 Payroll tax is $7.65\% \times 50,000 = \$3,825$

- Average tax rate is 7.65%
- Marginal tax rate is 7.65%

ACTIVITY 11

PRACTICE WITH THE PAYROLL TAX

What is the marginal payroll tax rate for Mr. Poor earning \$20,000?

What is the average payroll tax rate for Mr. Poor earning \$20,000?

What is the marginal payroll tax rate for Ms. Well Off earning \$180,000?

What is the marginal payroll tax rate for Ms. Well Off earning \$180,000?

Answers:

Mr. Poor $\$20,000 \times 7.65\% = \1530 .

Marginal tax rate is 7.65%.

Average tax rate = $\$1530 / \$2000 = 7.65\%$

Ms. Well Off $\$160,000 \times 7.65\% + \$20,000 \times 1.45\% = \$12,240 + \$290 = \$12,530$

Marginal tax rate = 1.45%

Average tax rate = $\$12,530 / \$180,000 = 6.96\%$

A regressive tax

The payroll tax is sometimes called the "Social Security tax." In fact, this tax pays for a large number of programs in addition to social security for the retired, including, Medicare, and assistance for the disabled and youth without parents.

ACTIVITY 12

FIXING SOCIAL SECURITY

Because the payroll tax supports Social Security and Medicare, there are concerns that more funds will be needed as the U.S. population ages. Here are two possible solutions.

Which will make the tax less regressive?

Which will make the tax more regressive?

1. Raise the retirement age so that workers pay the 7.65% tax for more years because they work longer.
2. Increase the income level at which the tax rate falls to 1.45% so that those earning over \$160,000 pay 7.65% instead of 1.45%.

Answers:

1. Raise the retirement age so that workers pay the 7.65% tax for more years. This makes the payroll tax even more regressive because the lower income people will pay the higher tax for more years.

2. Keeping high income earners at the 7.65% tax rate rather than the current 1.45% tax rate makes the payroll tax less regressive.

Which solution do students prefer?

OTHER U.S. TAXES AND THE TAX GAME

On the federal (U.S.) level the income tax and payroll tax are most important. California also has an income tax, but other taxes are important, including the sales tax, property tax, and excise taxes (taxes on goods such as tobacco, alcohol and gas.)

Sales tax: The California sales tax rate differs by city. In most cities it is about 10% on goods that have a sales tax. Let's see how the tax affects people with different incomes

Mr. Middle

Income \$50,000

Amount spent on sales taxable goods \$10,000

Sales tax = \$10,000 x 10% = \$1000

Tax rate = \$1000 / \$50,000 = 2%

Ms. Rich

Income \$200,000

Amount spent on sales taxable goods \$20,000

Sales tax = \$20,000 x 10% = \$2000

Tax rate = \$2000 / \$200,000 = 1%

Notice that the sales tax is regressive. Most people think the sales tax is a "flat" tax, affecting all income levels with the same percentage tax. But as you can see in the example above, in fact the sales tax affects the poor and middle class more than the rich. The reason is that poor and middle income people spend more of their income on things that are sales taxed.

Property tax

California has a complicated property tax. The rate depends on the value of the property and when the property was purchased. Because of Proposition 13 passed in 1978 the property tax is kept at low level for most residential and commercial properties until those properties are sold. As a result, funding for schools and other public services has been reduced.

Excise taxes

Taxes on specific goods are called excise taxes. The most important of these are taxes on gasoline, tobacco and alcohol. Although these taxes are often in the news, the actual dollar amounts collected are much less than other taxes. Overall these taxes are regressive. Like the sales tax, lower income people spend a greater proportion of their income on these goods, so the taxes affect them more.

Estate taxes

Taxes collected when someone dies are very small. They affect only those in the top 1%, and then are a tiny slice of the taxes they pay.

ACTIVITY 13

TAX THE RICH: AN ANIMATED FAIRY TALE

<https://www.youtube.com/watch?v=S6ZsXrzF8Cc>

Tax the rich: An animated fairy tale, is narrated by Ed Asner, with animation by Mike Konopacki. Written and directed by Fred Glass for the California Federation of Teachers. An 8 minute video about how we arrived at this moment of poorly funded public services and widening economic inequality. Things go downhill in a happy and prosperous land after the rich decide they don't want to pay taxes anymore. They tell the people that there is no alternative, but the people aren't so sure. This land bears a startling resemblance to our land.

ACTIVITY 14

ARE OUR TAX SYSTEMS SKEWED?

<https://www.morningsidecenter.org/teachable-moment/lessons/our-tax-system-skewed>

Students dive into a new report documenting how little the very rich are taxed - and what that might mean for the rest of us.

ACTIVITY 15

ONLINE TAX SIMULATION: THE TAX GAME

<http://econ.glendale.edu/index.php>

In this simulation, students select rates for the US taxes. If insufficient revenues is collected, or more than needed to provide for current service levels, students are prompted to adjust their tax choices. Once sufficient revenue is collected, choices are summarized along with the overall progressive or regressive effect of the tax system. Students can then adjust their tax choices to change the overall tax impact.

Note that under the current US tax system, the overall tax rates are close to even, adding up to 25% for lower and middle income households, 28% for rich households, but only 23% for the 400 richest Americans. (Saez and Zucman The Triumph of Injustice: How the Rich Dodge Taxes and How to Make Them Pay. Norton 2019, pp 13-16.)

Possible Assignment

Handout for students

In this game you will decide tax rates for a country similar to the U.S. You will need to collect enough revenue to support current government services—but not too much.

There are seven taxes for which you need to make decisions. The game begins with the most important tax, the income tax. For this tax you will need to decide the tax rate for different income groups and what deductions you will allow. Then you will decide the payroll tax. For this tax you will need to decide the rate that applies to most people, and when the rate will fall to a lower level for high income people. The other taxes are the sales tax, property tax, corporate income tax, excise taxes, and wealth tax.

Once you have set your tax rates, the game will tell you if you have collected enough revenue—or too much. In those cases, you will need to go back and adjust tax rates until you have the correct amount, between \$4000 billion and \$4800 billion.

Once you have the correct amount, the game will tell you the overall effect of your tax choices. If you have a higher rate on high incomes, you will have a progressive tax. If you have a lower rate on high incomes, you will have a regressive tax.

If you are unhappy with results, perhaps because the poor are paying too much, or the rich are paying too little, you can go back and change any of your tax choices.

When you are happy with your results, copy the information on the last page showing each tax choice and the overall effect on different income levels.

Then answer the following questions:

1. What was your reason for making each choice in the Tax Game? Make certain that you have explained all seven different taxes
2. How does your tax system compare to the current US tax system? Which taxes are higher and which are lower?

Technical details for the instructor.

The simulation includes a few topics not covered in the modules above. That will not detract from the overall learning that will occur. However, students may ask about the following:

- The simulation calculates the tax system's Gini coefficient, a measure of equality or inequality. If students ask, the current US system is about 0.4. A lower coefficient means that choices made the system more equal; a higher coefficient means that choices made the system less equal.
- The simulation computes average income tax rates depending on the choices for the marginal tax rate. If appropriate students could explain why the average

rates are lower than the marginal rates (assuming the students chose a progressive income tax.). The reason is that the average tax rate takes into account income that is taxed at marginal rates lower than the top rate for any income level. Also deductions mean that some income is not taxed.

- The corporate income tax. It is currently quite low and has minimal impact on outcomes
- The wealth tax: currently is not in effect in the U.S. The simulation limits this tax to 1%, a quite high tax that will be collected cumulatively, year after year
- Deductions for the income tax: two important deductions are included. The dependent deduction is quite complex, so the simulation simplifies it to choices \$1000 - \$10,000 per dependent. The home mortgage deduction applies to interest paid on mortgages. The simulation gives a choice to eliminate it, or apply it to one or two homes.

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For more on the federal budget see:

<https://www.cbpp.org/research/topics/federal-budget>

Specifically on military spending see:

<https://www.nationalpriorities.org/analysis/2023/warfare-state-how-funding-militarism-compromises-our-welfare/>

On the California budget see:

<https://www.cft.org/state-budget-0>

For more on the distribution of wealth and income see:

<https://inequality.org/facts/wealth-inequality/>

For more on the income tax see:

<https://www.americanprogress.org/article/5-little-known-facts-about-taxes-and-inequality-in-america/>

For more on social security and the payroll tax see:

<https://cepr.net/the-social-security-scare-story-industry/>

For more on wealth taxes see:

<https://www.aeaweb.org/articles?id=10.1257/jep.35.1.207>

<https://equitablegrowth.org/wealth-taxation-an-introduction-to-net-worth-taxes-and-how-one-might-work-in-the-u-s/>

For more on excise and sales taxes see:

<https://itep.org/whopays-7th-edition/>

For more on the California property tax and Prop 13 see: <https://techequity.us/2019/12/03/6-ways-prop-13-sucks/>

FIGURE 1

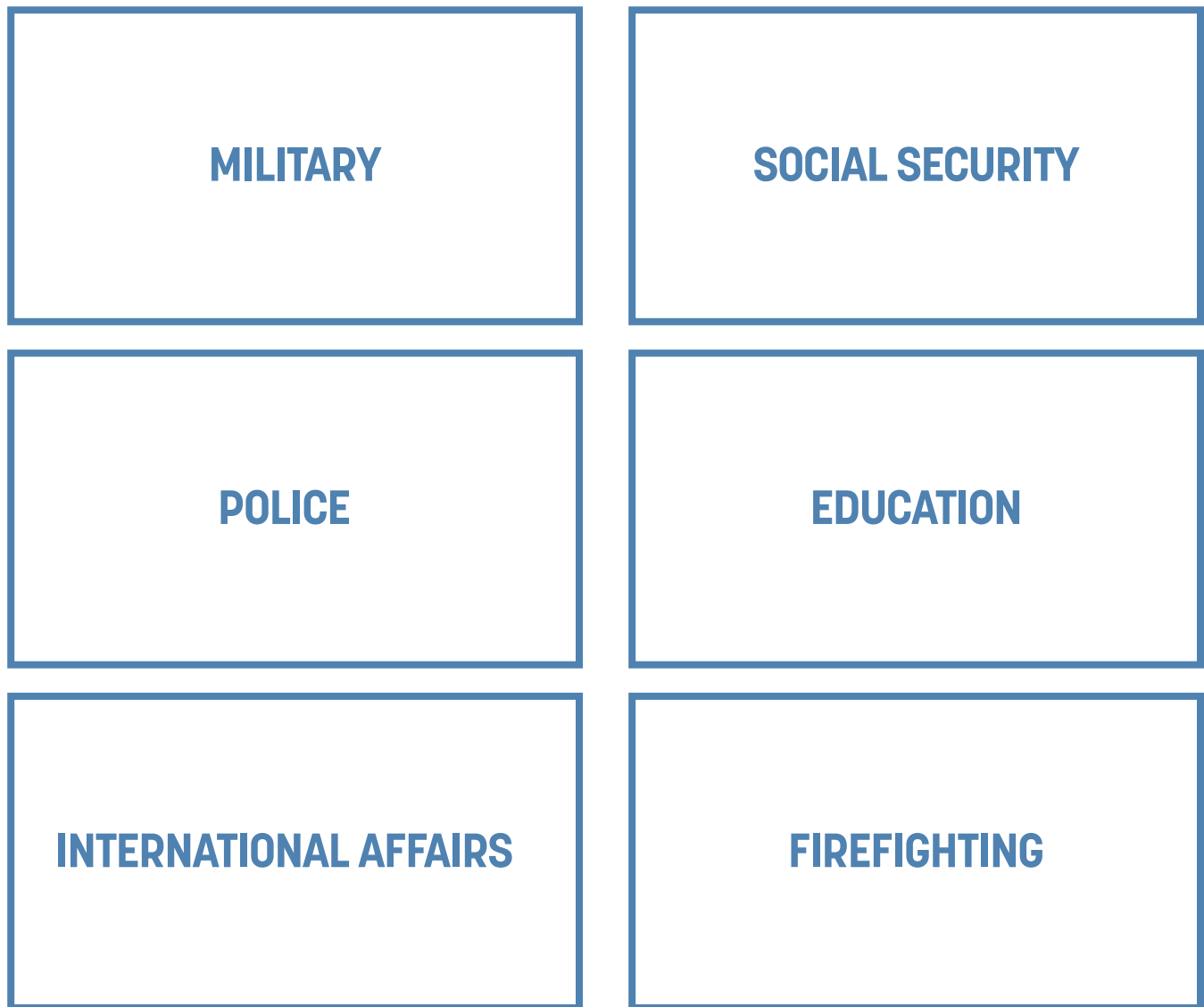


FIGURE 2



FIGURE 3

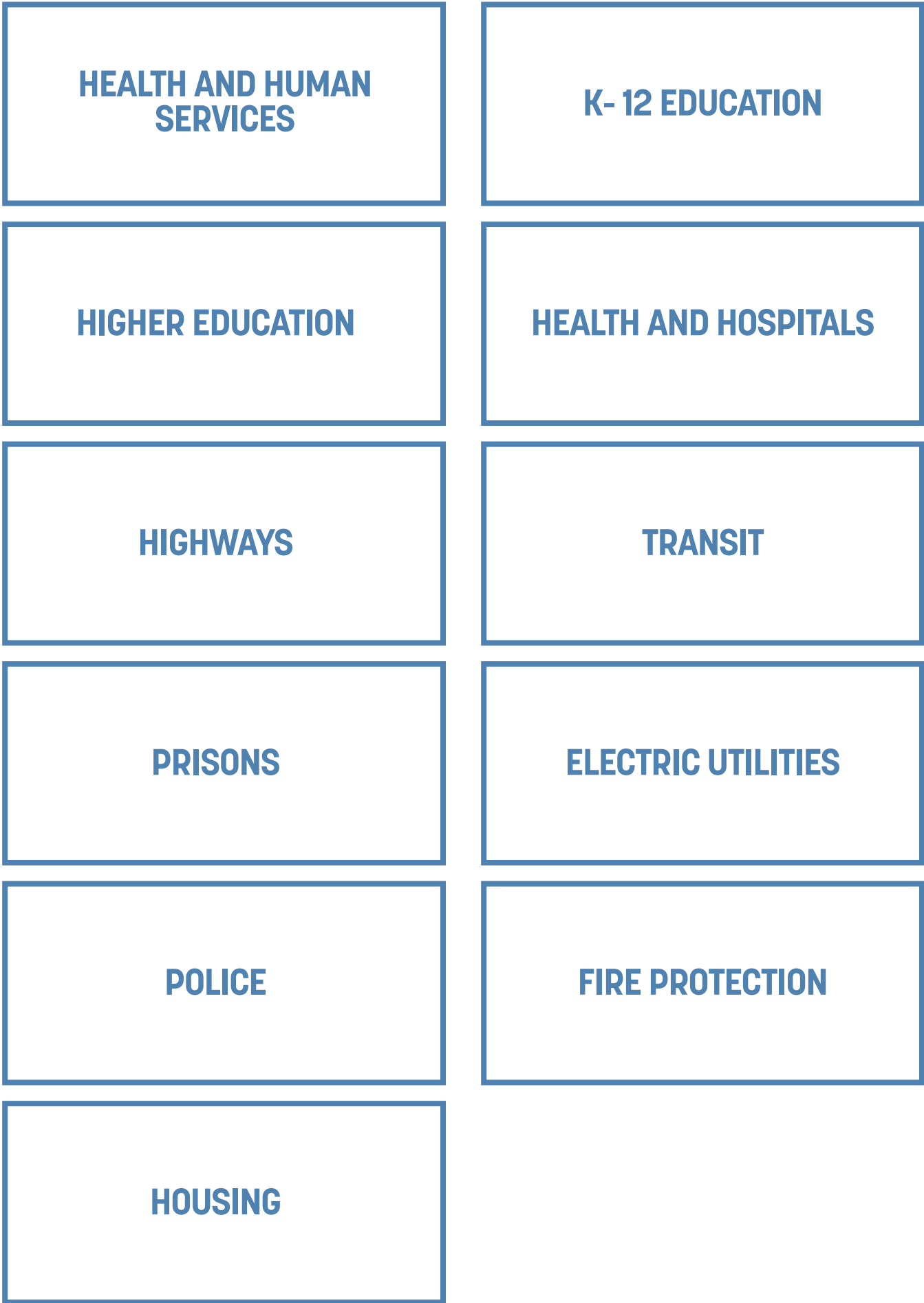


FIGURE 4

**STOCK IN APPLE
CORPORATION**

**WAGES EARNED AT
MCDONALDS**

DIAMOND RING

**DIVIDENDS EARNED
FROM APPLE STOCK**

**INTEREST ON A BANK
SAVINGS ACCOUNT**

**PROFITS FROM A FAMILY
RESTAURANT**

TOYOTA COROLLA

APARTMENT BUILDING

CELL PHONE

**RENT RECEIVED BY
LANDLORD**