Introduction to Public Finance

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Open Question: What does the government do?

What should the government do?

Syllabus review: What are some key questions/concepts?

Public Finance/Economics

Objective: understanding the role of government.

- ▶ When should government intervene?
- ▶ What should interventions look like?
- ▶ What is the effect of these interventions on economic outcomes?
- ▶ How should interventions be financed?
- ▶ Why do governments choose to do what they do?

Reasons for interventions in markets

When private market outcomes are inadequate on different dimensions:

- **Inefficiency:** Markets are not delivering an efficient solution
  Sources of market failures: externalities, public goods, market power, incomplete information.

- **Redistribution:** Markets create inequitable outcomes
  Redistribution often involves efficiency loss due to behavioral responses
  $\Rightarrow$ often an *efficiency-equity* tradeoff.

- **Paternalism:** Stop people from making bad choices

Types of interventions

► Cash transfers

► Relying on the price mechanism by taxing or subsidizing goods
Examples: tax preferences for charitable contributions and retirement savings, gasoline taxes, carbon taxes, "cash for clunkers," Paycheck Protection Program to firms, R&D tax credits

► Mandating private purchases
Examples: car insurance, purchasing health insurance

► Regulations — restricting choices
Examples: prescription drugs, minimum wage, limiting investments available through educational saving accounts, financial market regulations (e.g., reserve requirements, information disclosure, restrictions on short-selling).

► Public provision
Examples: public health care and education, vaccines, Social Security

Effects of interventions

- ▶ Direct effects — effects absent any changes in behavior
- ▶ Indirect effects, i.e., due to individuals altering their behavior in response to the intervention. This is the main subject of empirical public finance.

Example of direct and indirect effects

Example: suppose that government provides mortgage payment subsidies to home owners who have problems paying down their mortgages.
Direct effects: more mortgage payments made on time, fewer bankruptcies.
Indirect effects: other home owners not paying on time to qualify for a subsidy, increased demand for mortgages, more risky loans made, effects on prices, effect on solvency of lenders, dynamic implications.

Context for this class

- Last time I taught this class, students were dismayed by the heavy math load
- An anonymous student felt they learned little public economics and instead only learned utility maximization with some tricks to include taxes
- I hate to break it to that anonymous student, but that's about 95% of public economics
- Public economics is a vast field with many subfields, but taxes (and regulations) tie it them all together

Journal of Public Economics 2025 articles

- Tax design: "Unemployment and tax design" (Jan Hummel)
- Tax responses: "Avoidance Responses to the Wealth Tax" (Mas-Montserrat et al.)
- Tax enforcement: "Wealth tax enforcement in Sweden: Filing requirements and pre-populated returns" (Saez and Seim)
- Taxes to fit market failures: "Driving innovation? Carbon tax effects in the Swedish transport sector" (Moore et al.)
- Tax "incidence": "Uniform brand-variant pricing and heterogeneous firm responses to excise taxes: Evidence from six U.S. cities" (Thomas)

Only certainty in public econ class is taxes and more taxes

▶ Paper might help estimate an "optimal" tax, the (in)direct effects of a new tax or regulation, etc.

▶ Other papers estimate might simulate a tax vs. regulation vs. no tax to see which is more effective and make a policy recommendation

▶ Or might claim to be about minimum wage, which is just a regulation, contrasted with a tax/transfer system

▶ A macro public paper on debt financing might model borrowing as a tax on future generations, adjusted based on the interest rate

▶ Why so much emphasis on taxes?
  ▶ Flexible tool for policy makers to achieve a variety of goals
  ▶ Simplify many different problems into one common framework based on adjusting "prices"
  ▶ All governments have them, all people pay them
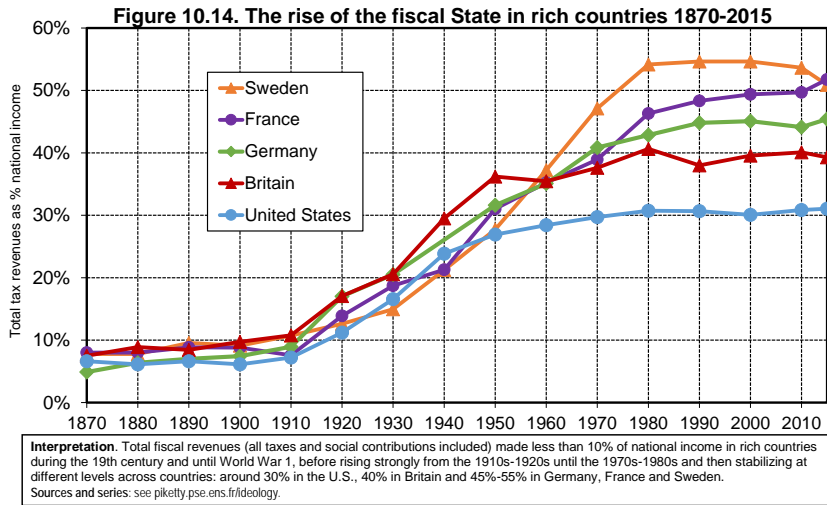 ▶ So let's take a look at taxes!

How big is the government?

Expenditures (state, local and federal): $9,803.6 billion, 34.0% of GDP (2024), federal spending constituted approximately 68.8% of that.
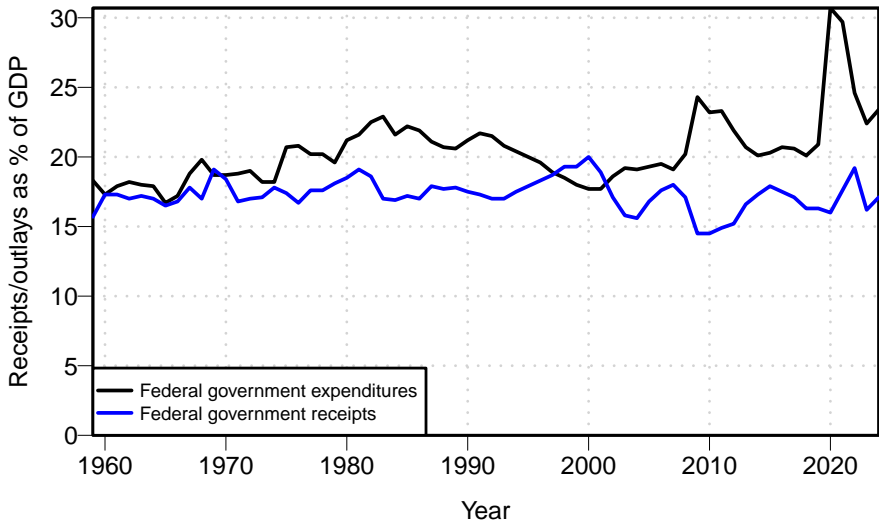
Receipts: $7,712.5 billion, 26.8% of GDP (2024), federal government — 63.8% of the total.

Long term trends in government revenue

Figure 10.14. The rise of the fiscal State in rich countries 1870-2015

Legend:
- Sweden
- France
- Germany
- Britain
- United States

Y-axis: Total tax revenues as % national income

Interpretation. Total fiscal revenues (all taxes and social contributions included) made less than 10% of national income in rich countries during the 19th century and until World War 1, before rising strongly from the 1910s-1920s until the 1970s-1980s and then stabilizing at different levels across countries: around 30% in the U.S., 40% in Britain and 45%-55% in Germany, France and Sweden.
Sources and series: see piketty.pse.ens.fr/ideology.

Piketty (2020), *Capital and Ideology*, Figure 10.14

Trends in federal spending and revenue, 1960-2024

Source: https://www.whitehouse.gov/omb/budget/historical-tables/ Table 1.3

Trends in federal spending and revenue, 1940-2024
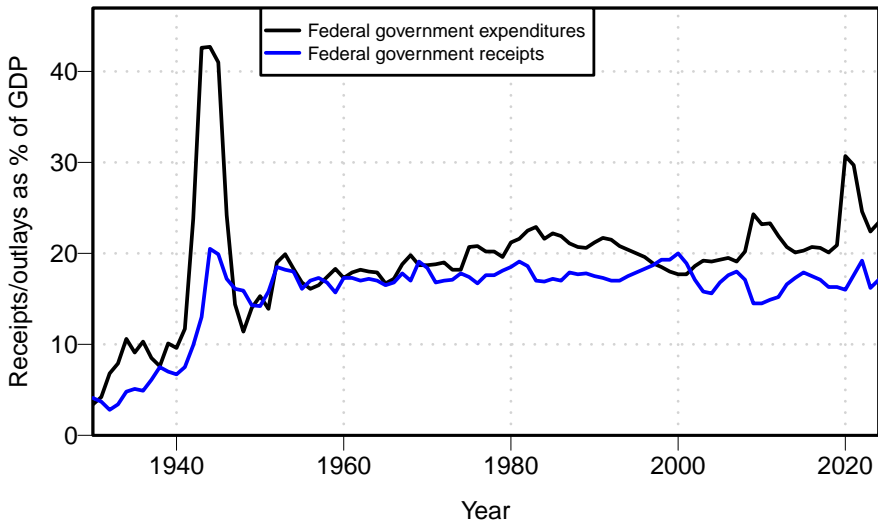

Source: https://www.whitehouse.gov/omb/budget/historical-tables/ Table 1.3

Government expenditures — composition

▶ Increased role of "entitlement" programs
▶ Decreased role of "traditional" expenditures such as defense
▶ Mandatory spending with little control (entitlements, debt service)
▶ Local gov'ts focus on social spending – health increased over time
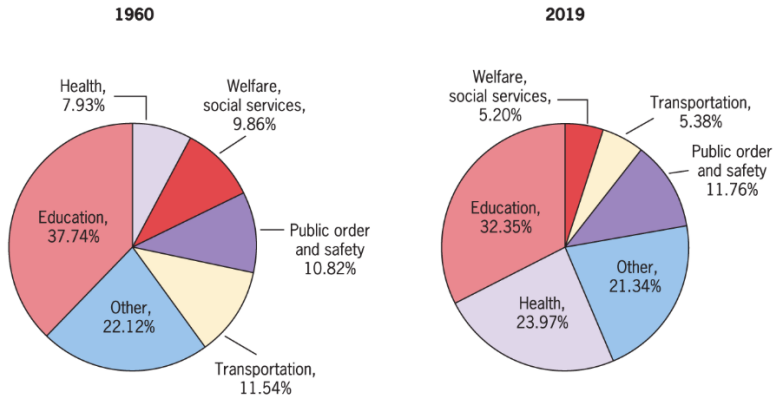▶ Ad hoc stabilization policy spending

Composition of government spending — federal

(a) Federal government expenditure by function
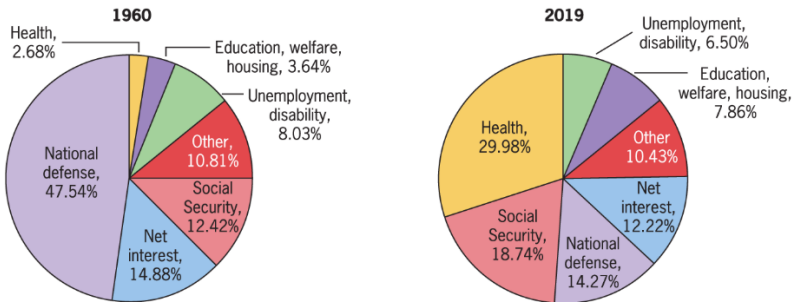
Gruber, *Public Finance and Public Policy*, Figure 1.7a

Composition of government spending — local

1960

Health, 7.93%

Welfare, social services, 9.86%

Education, 37.74%

Public order and safety 10.82%

Other, 22.12%

Transportation, 11.54%

2019

Welfare, social services, 5.20%

Transportation, 5.38%

Public order and safety 11.76%

Education, 32.35%

Other, 21.34%

Health, 23.97%

Gruber, *Public Finance and Public Policy*, Figure 1.7b

Trends in composition of spending in Western Europe

Figure 10.15. The rise of the social State in Europe, 1870-2015

Legend:
- Other social spending
- Social transfers (family, unemployment, etc.)
- Health (health insurance, hospitals, etc.)
- Retirement and disability pensions
- Education (primary, secondary, tertiary)
- Army, police, justice, administration, etc.

Y-axis: Uses of fiscal revenues as % national income
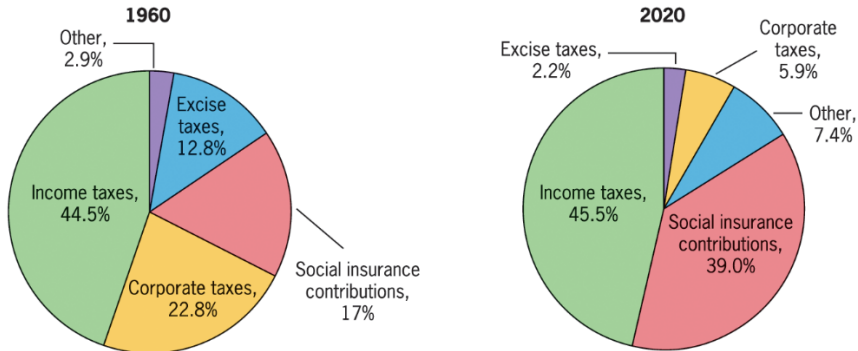
47%, 6%, 5%, 9%, 11%, 6%, 10%
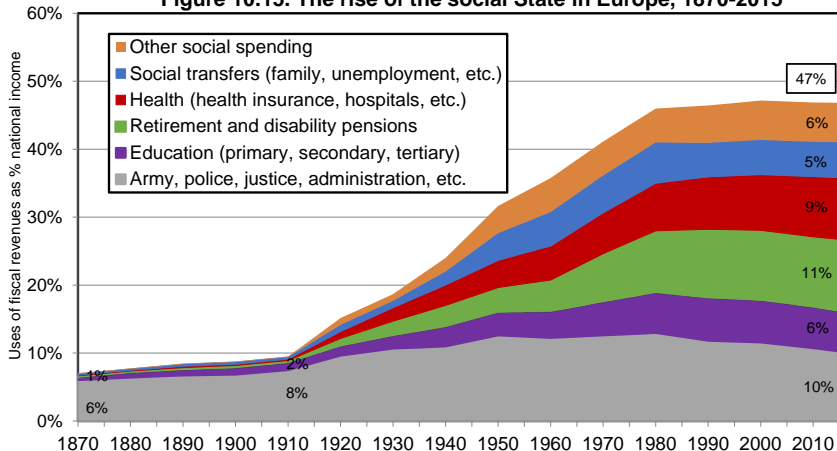
Interpretation. In 2015, fiscal revenues represented 47% of national income on average in Western Europe et were used as follows: 10% of national income for regalian expenditure (army, police, justice, general administration, basic infrastructure: roads, etc.); 6% for education; 11% for pensions; 9% for health; 5% for social transfers (other than pensions); 6% for other social spending (housing, etc.). Before 1914, regalian expenditure absorbed almost all fiscal revenues. **Note.** The evolution depicted here is the average of Germany, France, Britain and Sweden (see figure 10.14). **Sources and séries:** see piketty.pse.ens.fr/ideology.

Piketty (2020), *Capital and Ideology*, Figure 10.14

Revenue — composition

- ▶ Personal income tax
- ▶ Revenue from corporate taxation decreased over time
- ▶ Payroll tax — contributions out of paycheck (is it really a tax?)
- ▶ State and local — changing structure toward more federal aid
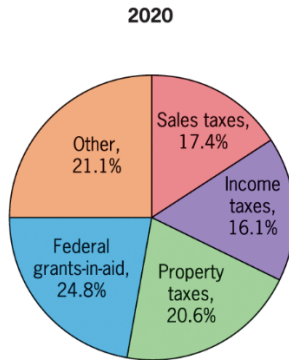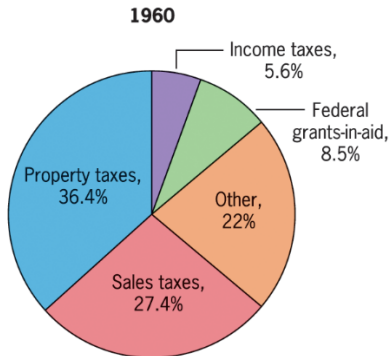
Composition of revenue — federal

(a) Sources of federal receipts

1960
- Other, 2.9%
- Excise taxes, 12.8%
- Income taxes, 44.5%
- Corporate taxes, 22.8%
- Social insurance contributions, 17%

2020
- Excise taxes, 2.2%
- Corporate taxes, 5.9%
- Other, 7.4%
- Income taxes, 45.5%
- Social insurance contributions, 39.0%

Gruber, *Public Finance and Public Policy*, Figure 1.8a

Composition of revenue — local

(b) Sources of state/local receipts

1960

- Income taxes, 5.6%
- Federal grants-in-aid, 8.5%
- Property taxes, 36.4%
- Other, 22%
- Sales taxes, 27.4%

2020

- Sales taxes, 17.4%
- Income taxes, 16.1%
- Other, 21.1%
- Federal grants-in-aid, 24.8%
- Property taxes, 20.6%

Gruber, *Public Finance and Public Policy*, Figure 1.8b

Current and recent policy debates

- Financing the cost of crisis and fiscal sustainability
- Tariffs and trade
- Health care
- Inequality and progressivity
- Low income support (Child tax credit)
- Tax reform (wealth tax vs. consumption tax vs. VAT)
- Environmental policy
- and many more "smaller" issues