# Introduction
# (Chapter 1, Gruber textbook)

131 Undergraduate Public Economics

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# PUBLIC ECONOMICS DEFINITION

Public Economics = study of the Role of the Government in the Economy

Government is instrumental in most aspects of economic life:

1) Government in charge of huge **regulatory** structure

2) **Taxes:** governments in advanced economies collect 30-50% of National Income in taxes

3) **Expenditures:** taxes fund **public goods** (infrastructure, public order and safety, defense) and **social state** (Education, Retirement benefits, Health care, Income support)

4) Macro-economic **stabilization** through central bank (interest rate, inflation control), fiscal stimulus, bailout policies

⇒ We pool a large share of our incomes through government

# Bigger view on government (Saez 2021)

Economists have a narrow minded view of individual behavior: purely selfish and economically rational interacting through markets $\Rightarrow$ limitation to fully understand **public economics**

Social interactions are critical for humans: cooperation at many levels: families, workplaces, communities, nation states with very strong/versatile in-group attachments

We produce in teams and then we have to split production $\Rightarrow$ We are cooperative and very sensitive to distribution

Archaic human societies depended on social cooperation for protection and taking care of the young, sick, and old

$\Rightarrow$ Explains best why our modern nation states provide defense and education, health care, and retirement benefits

# More modest role for economists

Replacing social institutions by markets does not always work:

Education is primarily government funded: student loans work in economic theory but in practice end up being a huge lifetime burden. For-profit education has a tendency to become a scam

Retirement benefits: Saving for your own retirement works in theory but in practice most people unable to do so unless institutions (government/employers) help them

Health care: Health care relies heavily on government/employers support everywhere. People are not able to afford or shop rationally for health care

Economists can still play a useful role in understanding when markets can help and how individualistic forces can undermine institutions

# Three questions in public economics

1) When should the government intervene in the economy?

2) What is the effect of those interventions on economic outcomes?

3) Why do governments choose to intervene in the way that they do?

# When should the government intervene in the economy? Economists' traditional view:

**1) Market Failures**: Market economy sometimes fails to deliver an outcome that is efficient

$\Rightarrow$ Government intervention may improve the situation

**2) Redistribution**: Market economy generates substantial inequality in economic resources across individuals

Inequality is an issue because we are "social beings"

$\Rightarrow$ People willing to pool their resources (through government taxes and transfers) to help reduce inequality

First part of the class focuses on Redistribution

Second part of the class focuses on Market Failures

# Main Market Failures

**1) Externalities:** (example: greenhouse carbon emissions) $\Rightarrow$ require govt interventions (such as corrective taxation)

**2) Imperfect competition:** (example: monopoly) $\Rightarrow$ requires regulation (typically studied in Industrial Organization)

**3) Imperfect or Asymmetric Information:** (example: health insurance markets are subject to death spirals)

**4) Individual failures:** People do not behave as "fully rational individuals". This is analyzed in behavioral economics a field in huge expansion (example: myopic people may not save enough for retirement)

# Inequality and Redistribution

Even if market outcome is efficient, society might not be happy with the market outcome because market equilibrium might generate very high economic disparity across individuals

Governments use taxes and transfers to redistribute from rich to poor and reduce inequality

Redistribution through taxes and transfers might reduce incentives to work (**efficiency costs**)

$\Rightarrow$ Redistribution creates an **equity-efficiency trade-off**

Income inequality has soared in the United States in recent decades, and has moved to the forefront in the public debate (Piketty's 2014 book success, stats from Piketty-Saez-Zucman '18)

# Top 10% Pre-tax Income Share in the US, 1913-2018
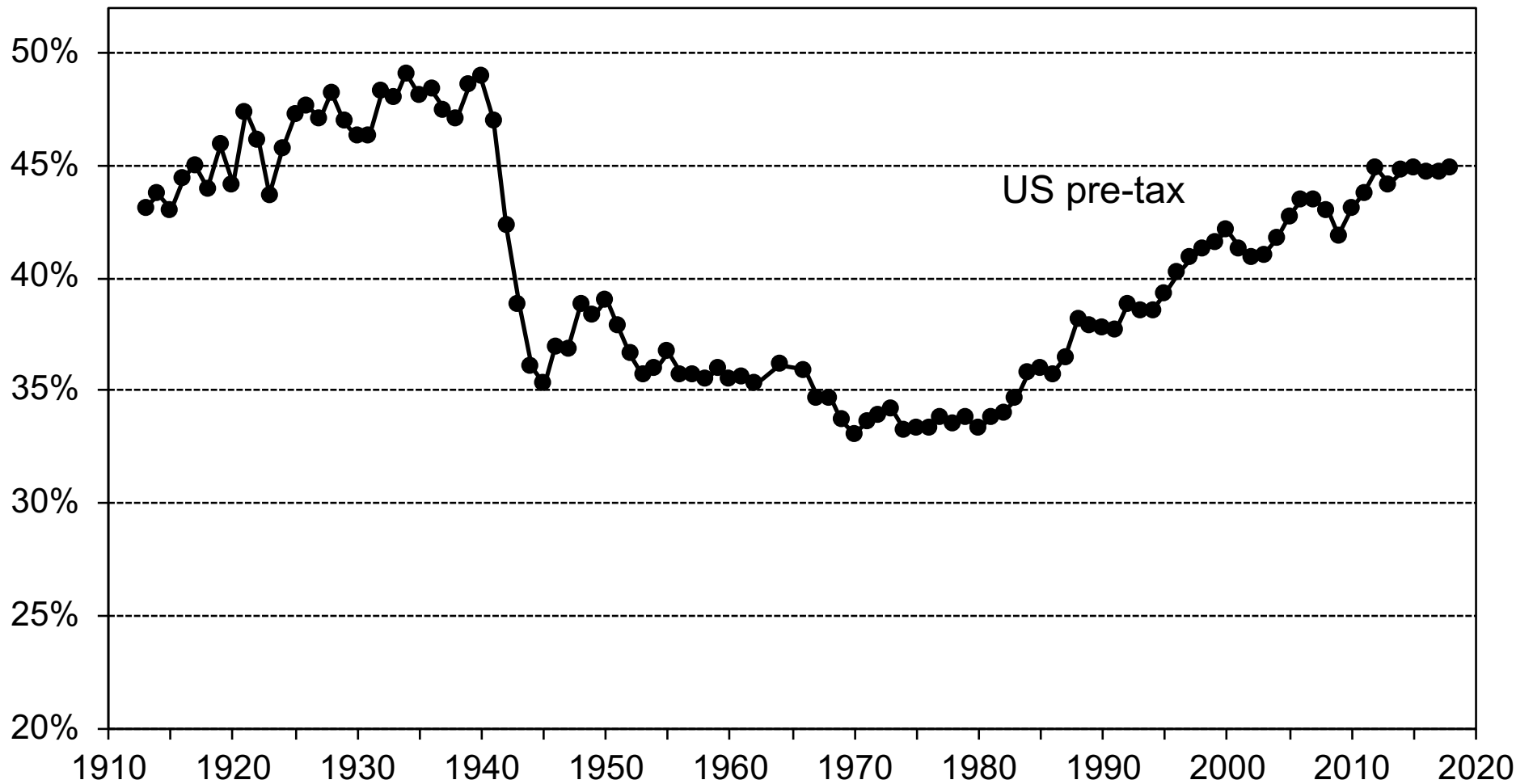


US pre-tax

Top income shares of pretax national income among adults aged 20+ (income within couples equally split). Source is World Inequality Database wid.world (from Piketty, Saez, Zucman 2018).

# US Top 10% Income Shares pre-tax vs. post-tax, 1913-2018



US pre-tax
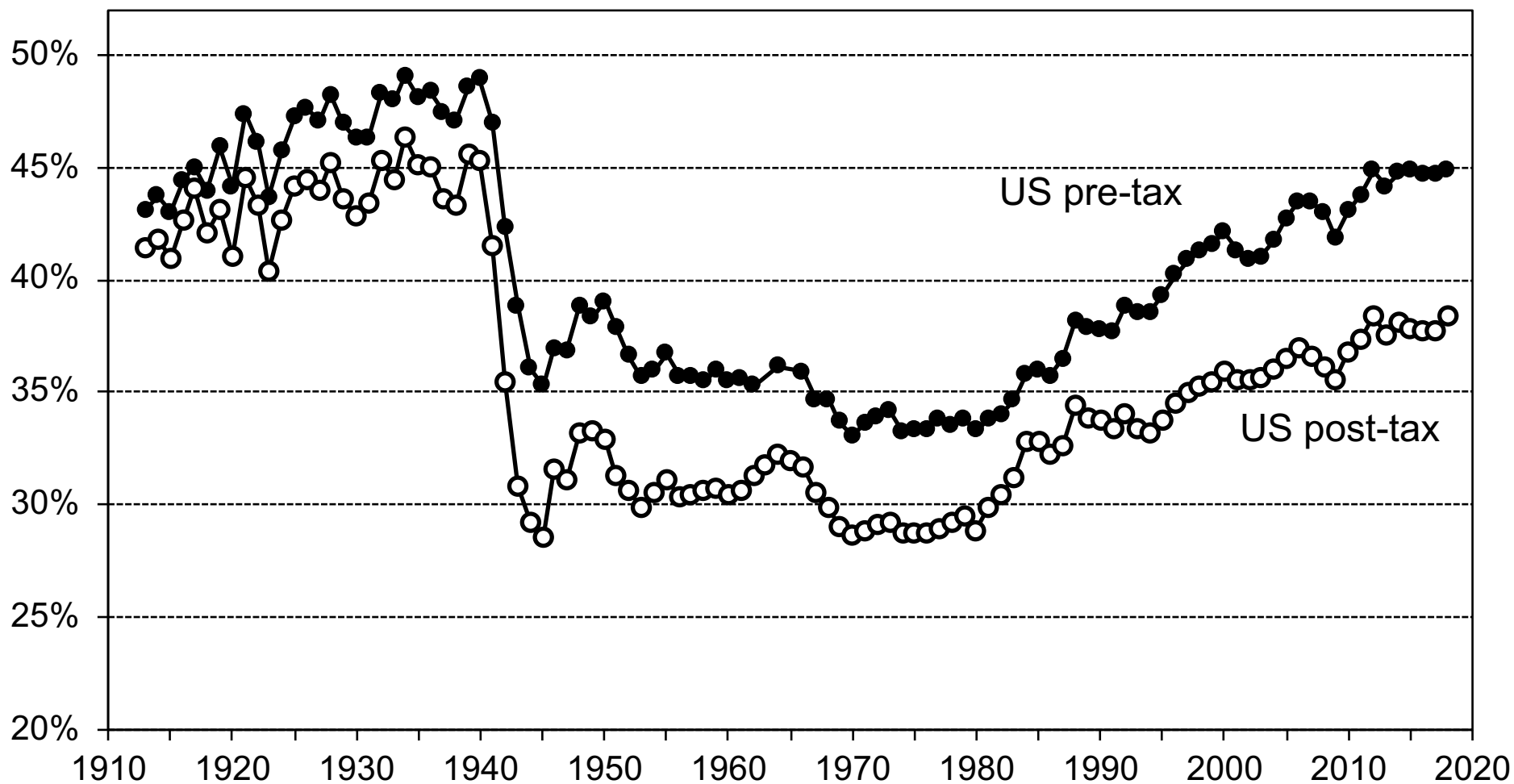
US post-tax

Top income shares of pretax and posttax national income among adults (income within married couples equally split). Source is Piketty, Saez, Zucman (2018) for US and Piketty et al. (2020) for France.

# What Are the Effects of Alternative Interventions?

**1) Direct Effects:** The effects of government interventions that would be predicted if individuals did not change their behavior in response to the interventions.

Direct effects are relatively easy to compute

**2) Indirect Effects:** The effects of government interventions that arise only because individuals change their behavior in response to the interventions (sometimes called **unintended effects**)

Empirical public economics analysis tries to estimate indirect effects to inform the policy debate

**Example:** increasing top income tax rates mechanically raises tax revenue but top earners might find ways to evade/avoid taxes, reducing tax revenue relative to mechanical calculation

# Why Do Governments Do What They Do?

**Political economy**: The theory of how the political process produces decisions that affect individuals and the economy

**Example:** Understanding how the level of taxes and spending is set through voting and voters' preferences in a democracy

**Public choice** is a sub-field of political economy from a Libertarian perspective that focuses on **government failures**

government failures = situations where the government does not act in the benefit of society (e.g., government captured by a dictator or special interests)

# Normative vs. Positive Public Economics

**Normative Public Economics:** Analysis of How Things Should be (e.g., should the government intervene in health insurance market? how high should taxes be?, etc.)

**Positive Public Economics:** Analysis of How Things Really Are (e.g., Does govt provided health care crowd out private health care insurance? Do higher taxes reduce labor supply?)
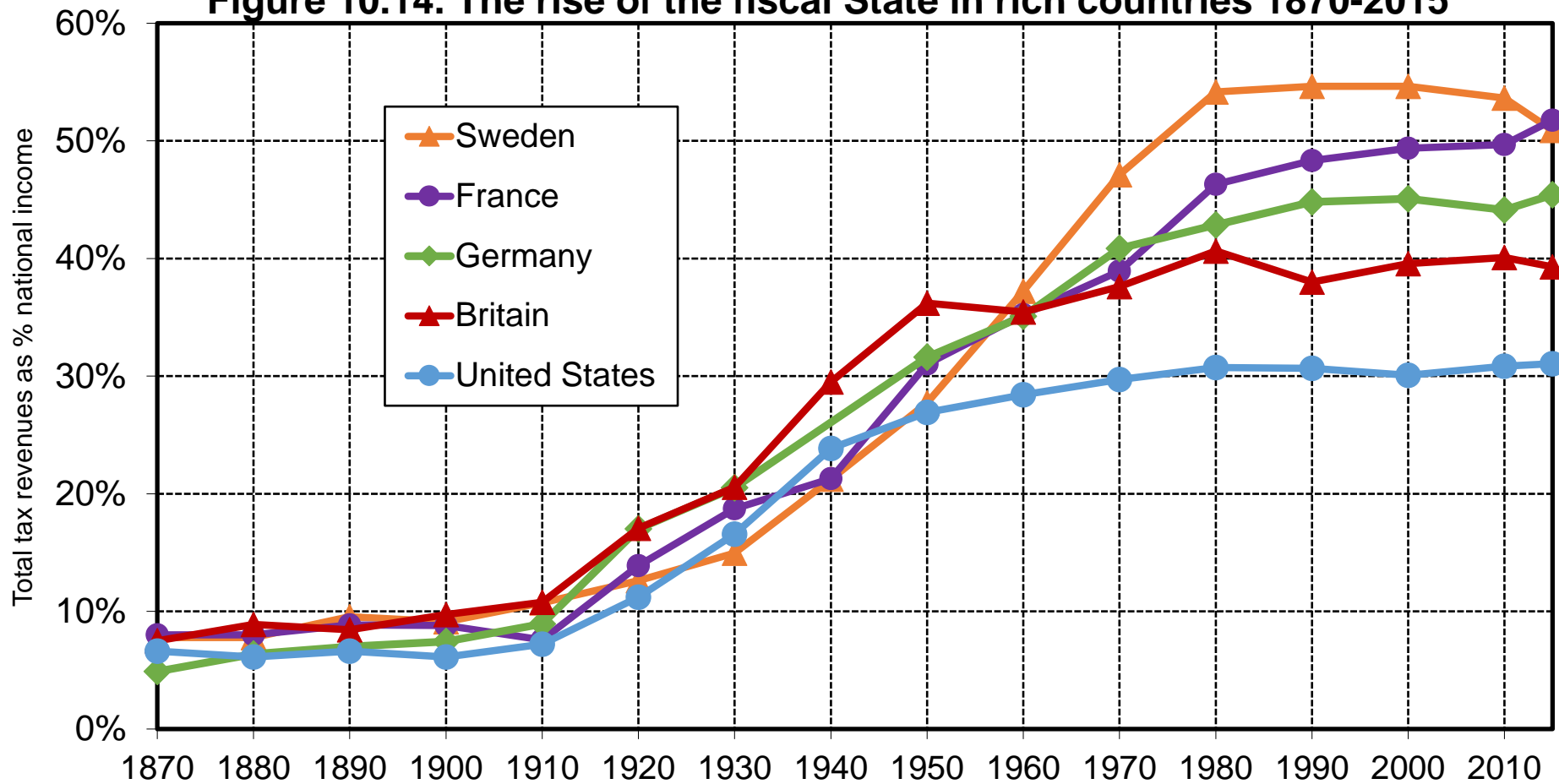
Positive Public Economics is a required 1st step before we can complete Normative Public Economics

Positive analysis is primarily empirical and Normative analysis is primarily theoretical

# Key Facts on Taxes and Spending

**1) Government Growth:** Size of government relative to National Income grows dramatically over the process of development from less than 10% in less developed economies to 30-50% in most advanced economies

**2) Government Size Stable** in richest countries after 1980

**3) Government Growth** is due to the expansion of the **social state:** (a) public education, (b) public retirement benefits, (c) public health insurance, (d) income support programs

**4) Govt spending > Taxes:** Most rich countries run deficits and have significant public debt (relative to GDP), particularly during Great Recession of 2008-10 and Covid 2020-21
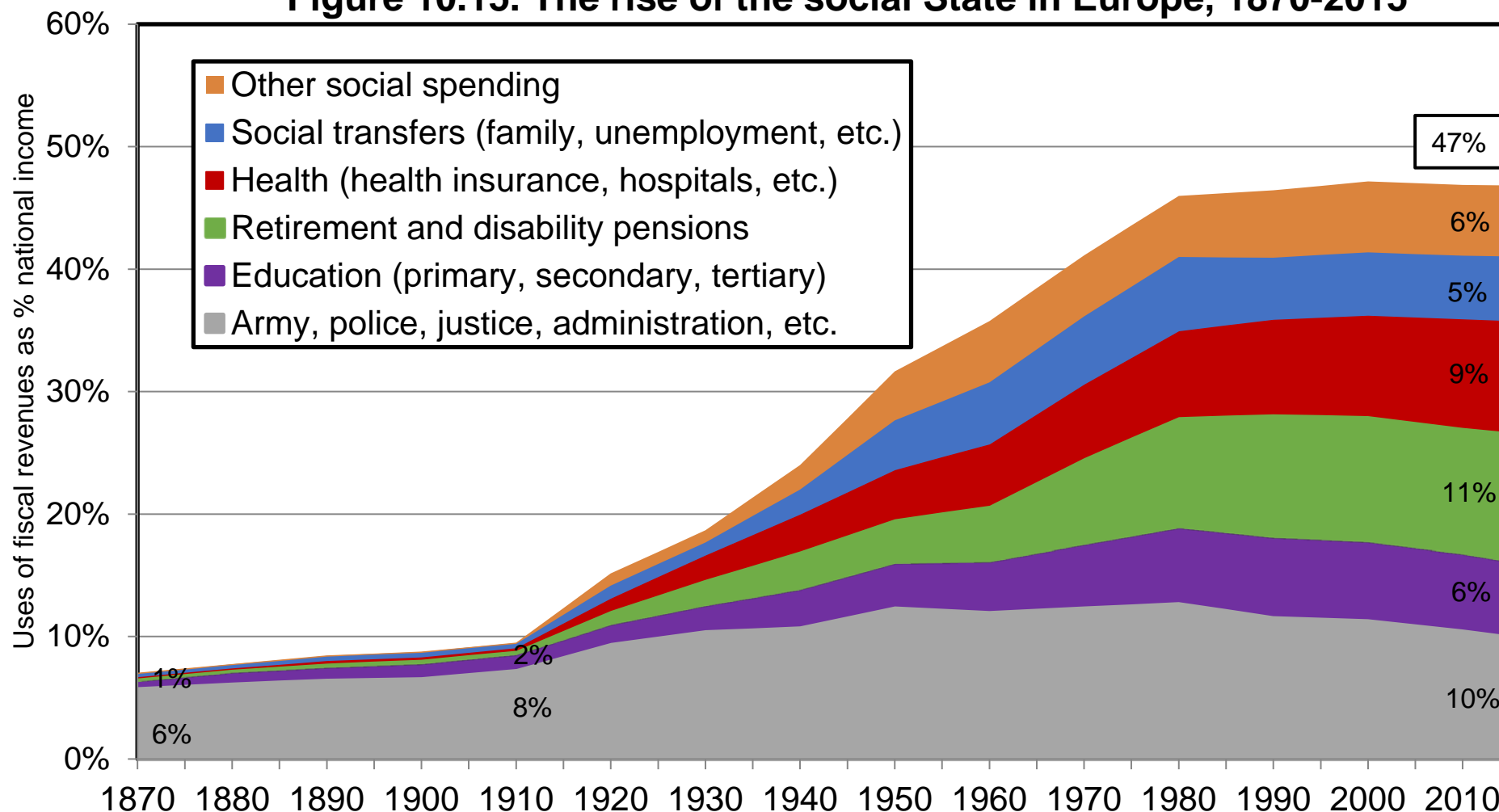
**Figure 10.14. The rise of the fiscal State in rich countries 1870-2015**

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

Y-axis: Total tax revenues as % national income (0% to 60%)

X-axis: 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980, 1990, 2000, 2010

**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.

# 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

X-axis values: 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980, 1990, 2000, 2010

Labels on chart (1870): 6%, 1%, and (1910): 2%, 8%

Labels on chart (2015): 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.

# DIFFERENT LEVELS OF GOVERNMENTS

US Federal govt raises about 20% of GDP in taxes (and can run deficits)

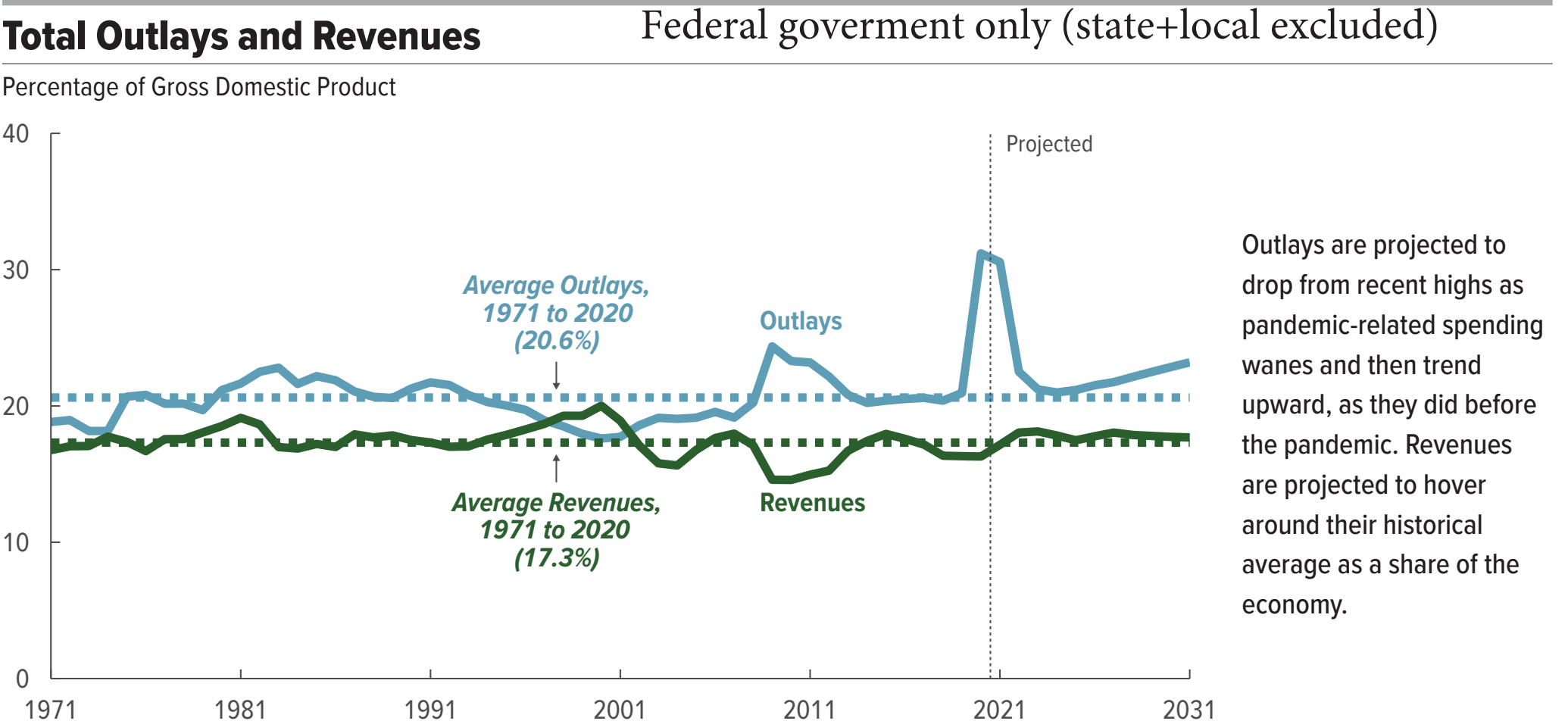State+Local govts raise about 10% of GDP in taxes (cannot run deficits)

Decentralized govt = a larger fraction of taxes/spending are decided at local level

Decentralized govt can tailor policy to local views (example: California has more liberal policies than Texas)

Redistribution through taxes and transfers harder to achieve at local level (rich can leave local jurisdiction if local taxes are too high) $\Rightarrow$ Local govts tend to do less redistribution

$\Rightarrow$ Conservatives/libertarians tend to prefer decentralized states

**Figure 1-3.**

## Total Outlays and Revenues

Federal goverment only (state+local excluded)

Percentage of Gross Domestic Product



*Outlays are projected to drop from recent highs as pandemic-related spending wanes and then trend upward, as they did before the pandemic. Revenues are projected to hover around their historical average as a share of the economy.*

Data source: Congressional Budget Office. See www.cbo.gov/publication/57263#data.

When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. All projections presented here have been adjusted to exclude the effects of those timing shifts. Historical amounts have been adjusted as far back as the available data will allow.
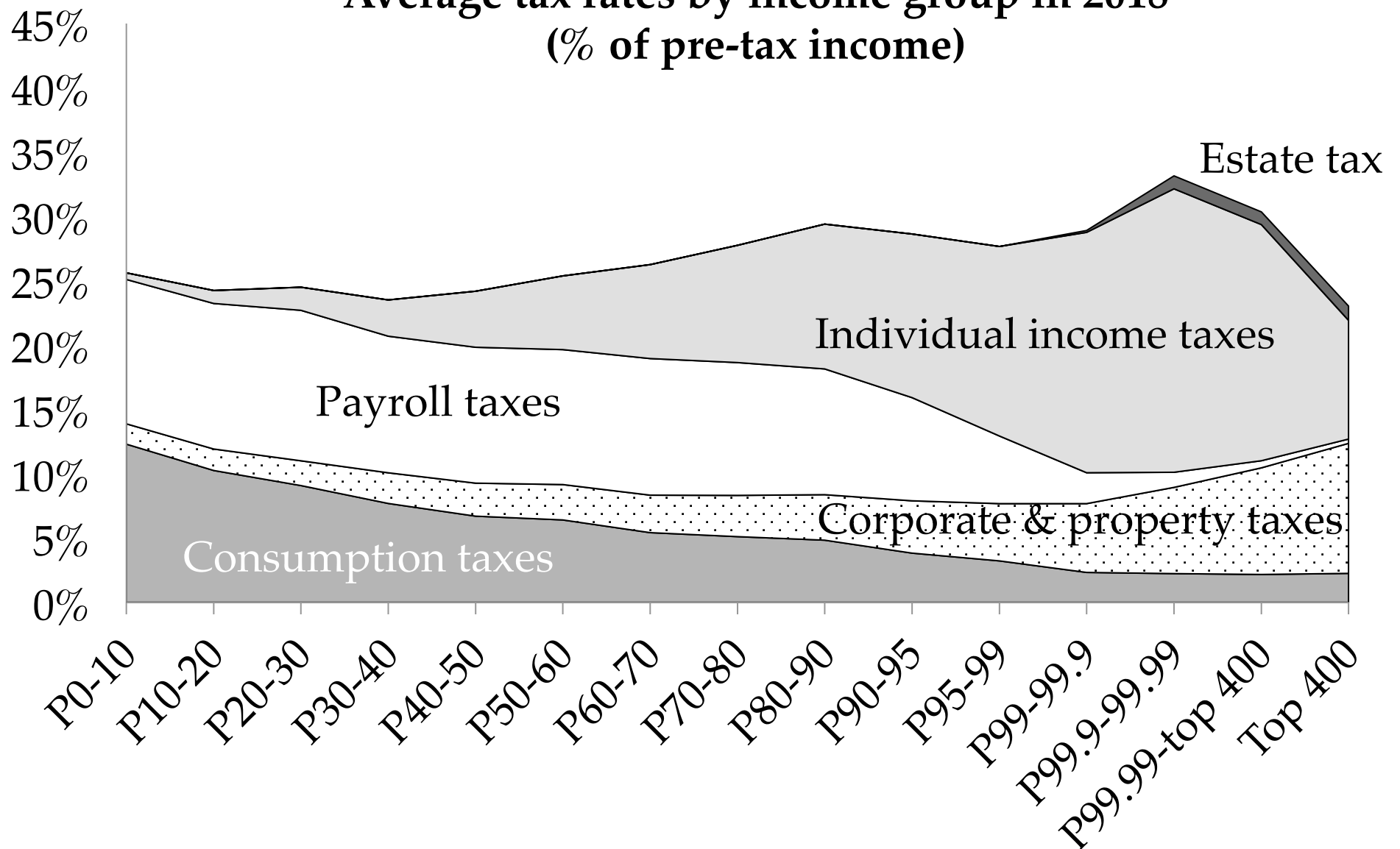
# DISTRIBUTION OF TAXES IN THE US

Federal government raises about 2/3 of total taxes, State+Local government raises 1/3 of total taxes.

Main Federal taxes: (1) Individual income tax (40% of Fed tax revenue), (2) payroll taxes on labor earnings (40%), (3) corporate tax (15%) of profits

Main State taxes: (1) real estate property taxes (30% of state+local tax revenue), (2) sales and excise taxes on consumption (30%), (3) individual and corporate state taxes (30%)

Key questions: how are these taxes distributed by income groups (Saez-Zucman '19 book)? what impact do they have on the economy?

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**Average tax rates by income group in 2018**
**(% of pre-tax income)**

Estate tax

Individual income taxes

Payroll taxes

Consumption taxes

Corporate & property taxes

Y-axis: 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%

X-axis: P0-10, P10-20, P20-30, P30-40, P40-50, P50-60, P60-70, P70-80, P80-90, P90-95, P95-99, P99-99.9, P99.9-99.99, P99.99-top 400, Top 400

Source: Saez and Zucman (2019)

# REGULATORY ROLE OF THE GOVERNMENT

Another critical role the government plays in all nations is that of **regulating economic and social activities**.  Examples:

1) **Minimum wage** at the federal level is $7.25/hour (states or cities can adopt higher min wages: Berkeley $17/hour) $\Rightarrow$ potential impact on inequality

2) The **Food and Drug Administration (FDA)** regulates the labeling and safety of nearly all food products and approves drugs and medical devices to be sold to the public

3) The **Occupational Safety and Health Administration (OSHA)** is charged with regulating the workplace safety of American workers

4) The **Environmental Protection Agency (EPA)** is charged with minimizing dangerous pollutants in the air, water, and food supplies

# PUBLIC DEBATES OVER TAXES, HEALTH CARE, AND CLIMATE CHANGE

Taxes, health care, and climate change are each the subject of debate, with both the "liberal" and "conservative" positions holding differing views in their approach to each problem.

**Taxes:** Trump decreased taxes on corporations and individuals in 2018. Biden wanted to increase taxes on the rich (got more IRS funding)

**Health Care:** Up to 2013, 17-18% of the non-elderly U.S. population not insured. With Obamacare, uninsured down to 10%. Biden strengthened Obamacare further a little bit.

**Climate change:** Carbon emissions are generating global warming with potentially devastating future consequences (sea rise, extreme weather, agricultural output risk). What should government do? Biden increased govt funding.

# PROFESSOR SAEZ' RESEARCH

Most of my research (available on my webpage) is in public economics:

1) Analysis of inequality overtime and across countries (empirical, descriptive)

2) Analysis of the effects of taxes and transfers on individual behavior (empirical, positive)

3) Design of optimal tax policies and optimal transfer programs (theory, normative)

I will discuss some of my research in this course when we cover the relevant topics

# REFERENCES

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