

# **Microeconomics of Public Policy**

## ***Part IV: Taxation***

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*MPA 2023-2024*

Theory of taxation

The rise of the fiscal state and the invention of progressive taxation

The distribution of the tax burden

# Theory of taxation

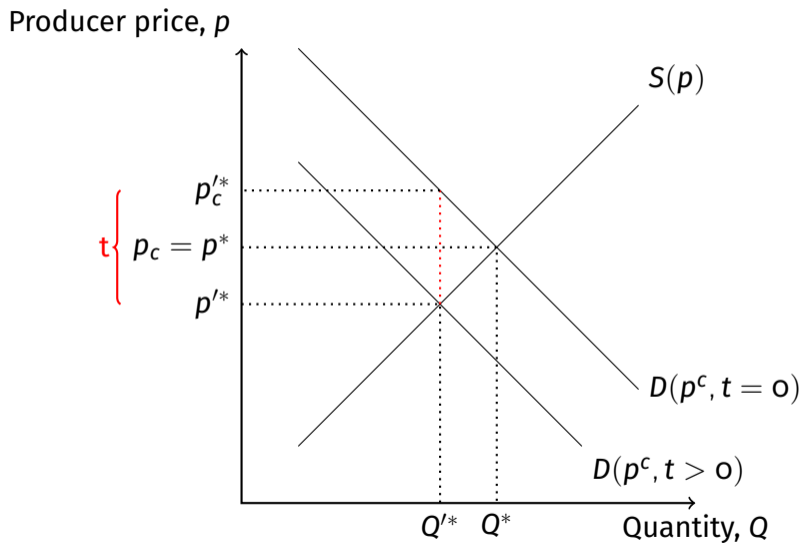
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The study of **tax incidence** looks at how changes in taxes affect prices and incomes

Economic incidence can differ from the legal incidence (who formally pays a tax)

Let's consider the market for a specific good: starting from an equilibrium with no tax ( $t = 0$ ), a tax is introduced on the consumer, creating a wedge between the the producer price ( $p$ ) and consumer price ( $p_c = p + t$ )

# Canonical example: excise tax



The introduction of the tax leads to an increase in the price faced by the consumer that is smaller than the tax itself because the producer reduces the producer price

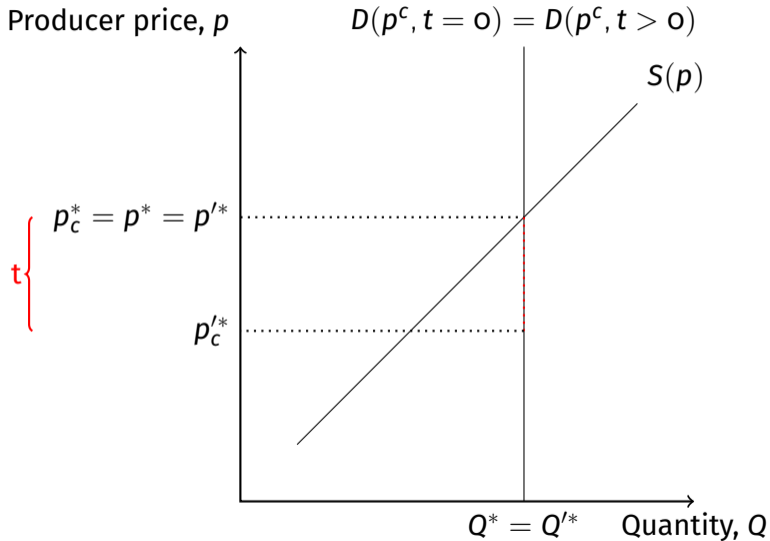
In theory, incidence does not depend on who pays the tax statutorily (but in practice it might...)

The extent to which tax changes are absorbed by either consumers or producers depends on the **relative elasticity of supply/demand**

**Elasticity:** percentage change in quantity following a 1% price change

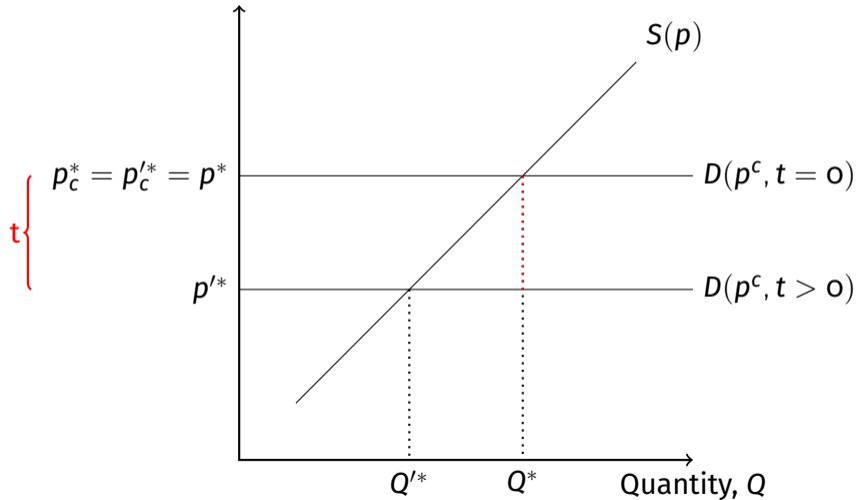
$$\varepsilon_D = \frac{p_c}{D} \frac{dD}{dp_c}, \varepsilon_S = \frac{p}{S} \frac{dS}{dp}$$

# Perfectly inelastic demand



# Perfectly elastic demand

Producer price,  $p$





Governments may want to reduce income inequality through a progressive income tax. This has two effects:

1. **Equity gain:** The income tax reduces inequality
2. **Efficiency loss:** Individuals may work less when income is taxed

The efficiency loss arises if individuals do not fully consider the societal benefit of working, i.e., if they care about net pay rather than gross pay. The size of the efficiency loss is determined by the **elasticity of labour supply**

Governments can dampen the efficiency losses by using tax revenue to subsidise goods that are complementary to working, such as child care

⇒ *“How can Scandinavians tax so much?”* by Henrik Kleven (2014)

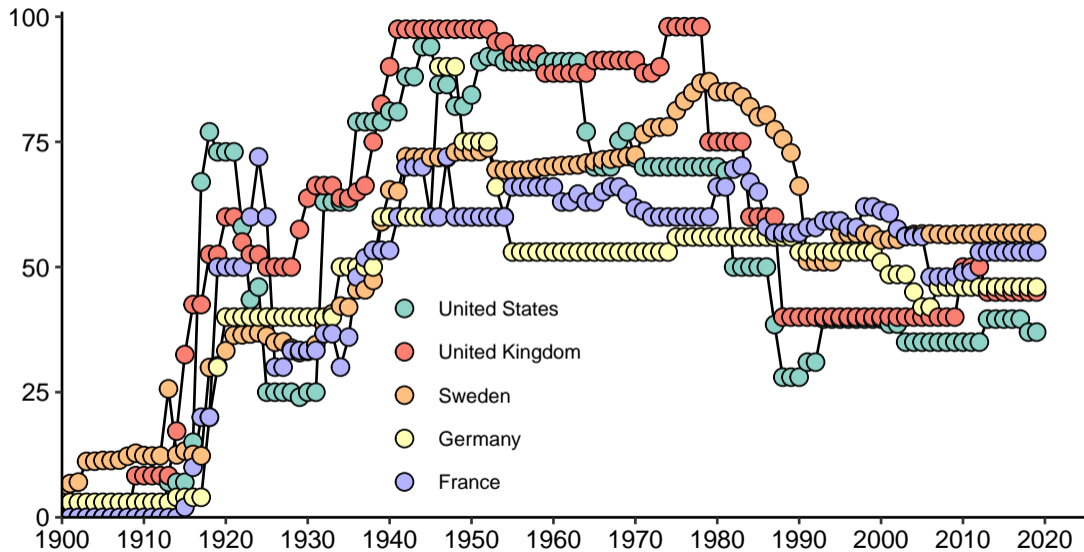
Inequality of capital income is larger than that of labour income. But capital income inequality is partly the result of labour income inequality. If we can tax labour income, why should we also tax capital income?

1. The distinction between capital income and labour income is fuzzy: is the income of business owners labour or capital income? See also *Capitalists in the Twenty-First Century* by Smith et al. (2019)
2. Wealth inequality today is largely the result of wealth inequality in the past. Progressive labour income taxation can prevent the build-up of new fortunes, but leaves existing fortunes largely unaffected

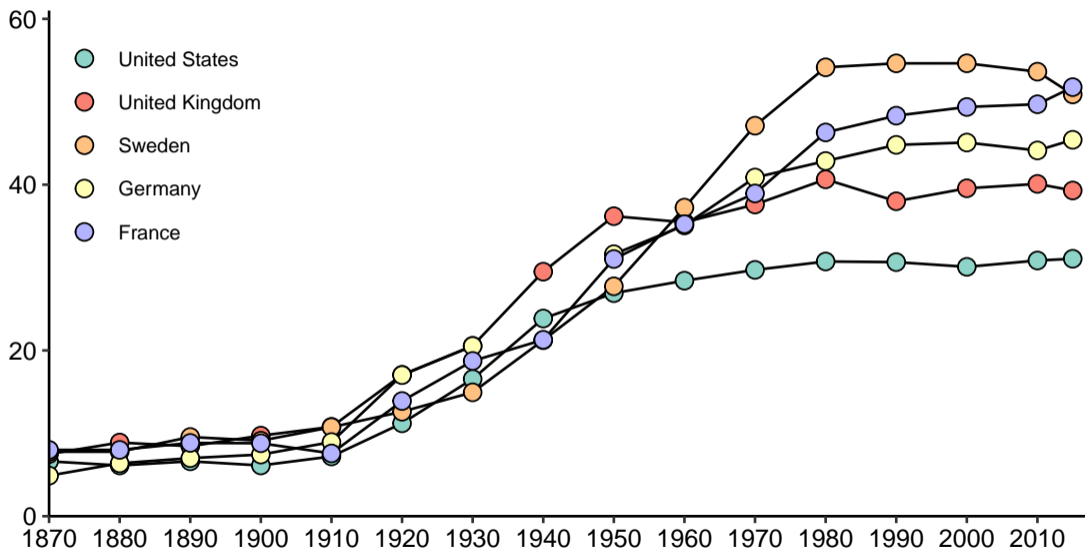
# The rise of the fiscal state and the invention of progressive taxation

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# Top income tax rates, 1900-2013



# Total tax receipts (% of national income)



At the onset of World War I, many western countries raised their top marginal tax rates on income and inheritances: “conscription of capital”

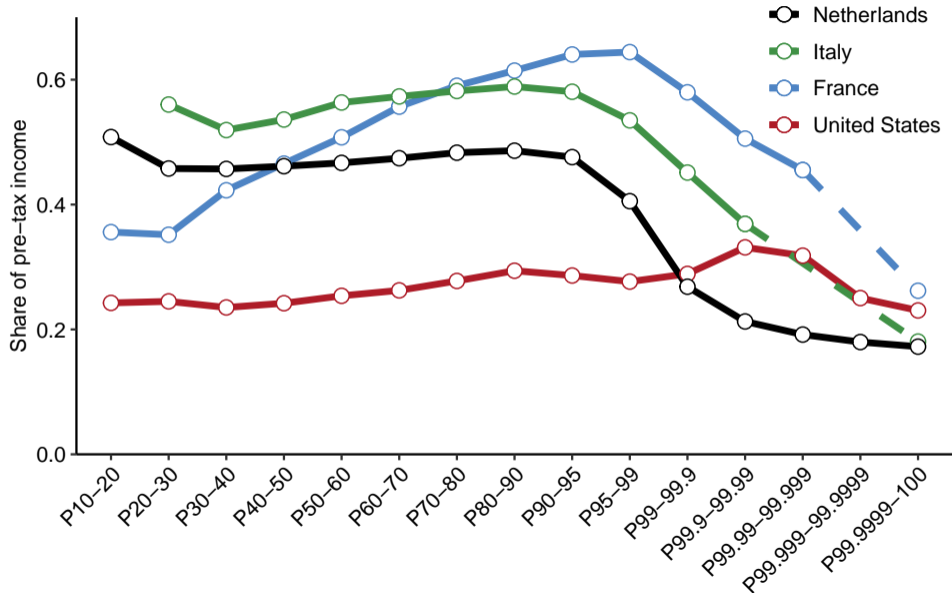
While the World Wars acted as catalysts, important technological, social and legal developments helped to sustain the permanently higher levels of taxation: employer-based withholding taxes, end of bank secrecy, improvements in information technology

The increased tax burden on the wealthy helps explain the drastic fall in inequality in the first half of the 20th century

# The distribution of the tax burden

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# The effective tax rate for each income group



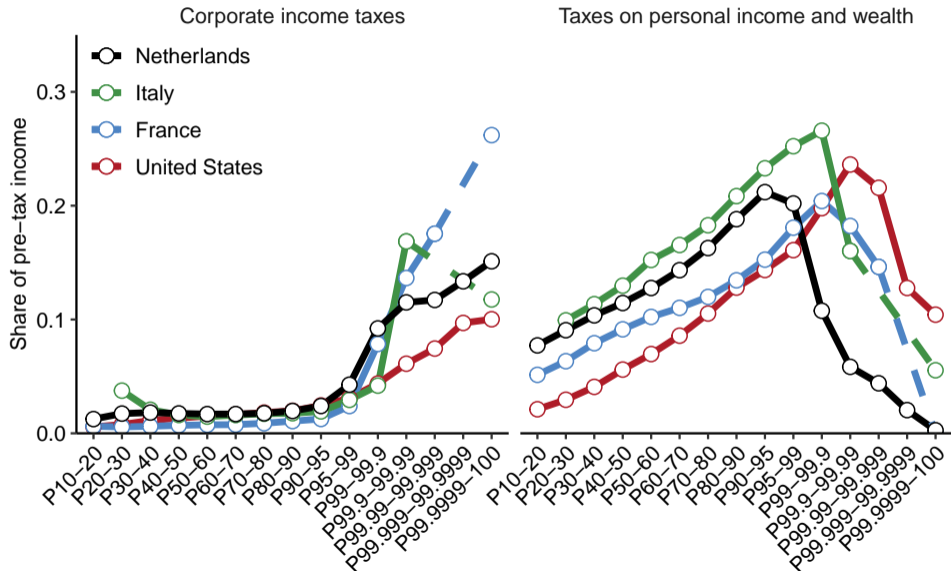


Saez and Zucman (2019) have spurred a new literature studying the distribution of the tax burden. Rather than looking at the effects of (hypothetical) tax changes on incomes and prices, their research studies existing tax burdens, taking incomes as given

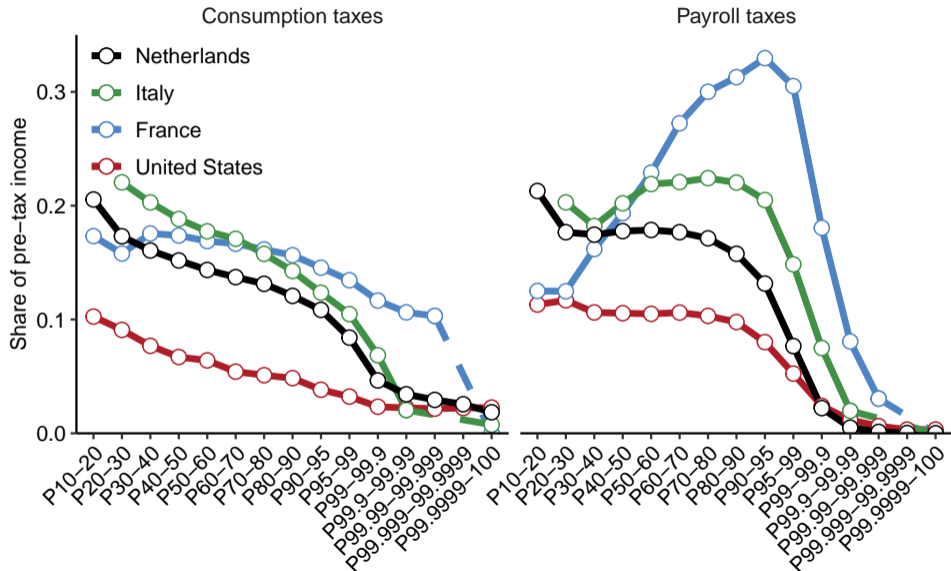
This research has led to the following insights:

1. **Income taxes** are progressive for the bottom 90% but they play a minor role at the very top
2. **Corporate taxes** serve as a minimum tax for the super-rich
3. The burden of **consumption taxes** is highest for the lowest income groups because their consumption share is highest
4. **Payroll taxes** are levied on labour income. The importance of labour income decreases as one goes up the income distribution which explains the regressive pattern

# Taxes on corporate and personal income



# Consumption and payroll taxes



# Make your own tax plan!

## Make Your Own Tax Plan

### STEP 1

Adjust the sliders below to make your own tax plan. Or, you can start with a preset tax plan from the dropdown below. [?](#)

Select a Tax Plan

Current Tax System ▼

### GRAPH OPTIONS

GRAPH VIEW:

TAX RATES [?](#)

TAX BREAKDOWN [?](#)

INEQUALITY [?](#)

X-AXIS SCALE:

PERCENTILE [?](#)

INCOME SHARE [?](#)

POPULATION [?](#)

### STEP 2

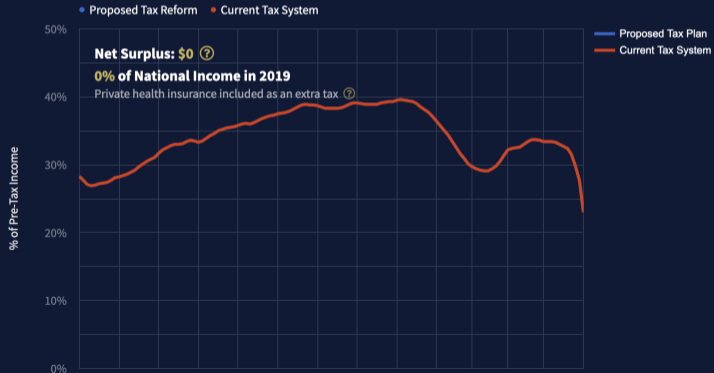
View the impact of your changes on the graph below. For a detailed breakdown of individual taxes, select the "Tax Breakdown" graph view.

### STEP 3

Download the results by clicking the button below, or reset the sliders to start over.

Download results

Reset all



- Kleven, Henrik.** 2014. “How Can Scandinavians Tax So Much.” *Journal of Economic Perspectives*, 28(4): 77–98.
- Piketty, Thomas.** 2020. *Capital and Ideology*. Harvard University Press.
- Saez, Emmanuel, and Gabriel Zucman.** 2019. *The Triumph of Injustice: How the Rich Dodge Taxes and How to Make Them Pay*. W. W. Norton & Company.
- Smith, Matthew, Danny Yagan, Owen Zidar, and Eric Zwick.** 2019. “Capitalists in the Twenty-First Century.” *The Quarterly Journal of Economics*, 134(4): 1675–1745.