

Tax Policy and Redistribution

Stefanie Stantcheva (Harvard)

Fondation France-Israel, Young Economist Prize 2019

Jerusalem, 10 June 2019

Taxation: Balancing Efficiency and Equity

Benefits of Taxation

Raise revenues.

Redistribute (raise more from some people).

Efficiency costs of Taxation:

Labor supply, labor market participation...

Reduced investment in skills, occupational choice...

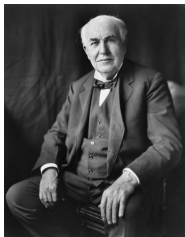
Other real responses: Savings? Investment? Migration?

Evasion?

Taxation and Innovation in the 20th Century

Akcigit, Grigsby, Nicholas, and Stantcheva (2018)

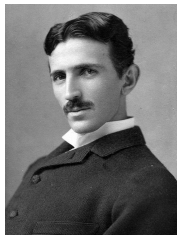
Taxation and Innovation in the 20th Century



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Light bulb.
Holds 1093 patents.

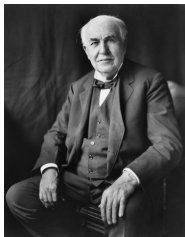


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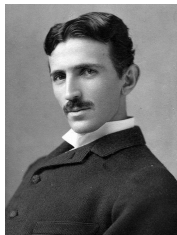
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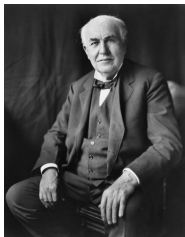
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Mad geniuses? Non responsive to net returns?

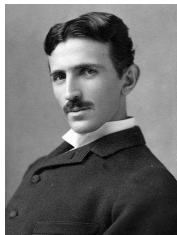
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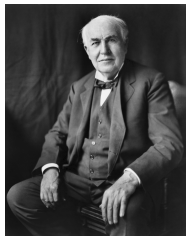
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Or were these inventors affected by taxes?

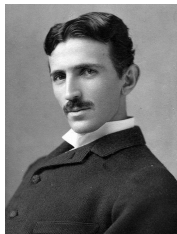
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Personal taxes? Corporate taxes? In terms of patents produced? Quality of patents produced? Where they move? What firms they work for? Where they open research labs?

Akcigit, Grigsby, Nicholas, and Stantcheva (2018): Taxation and Innovation in the 20th Century

- How do taxes affect innovation?

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- Challenging question, to a large extent unanswered because of:
 - i) Lack of long-run systematic data on innovation in the U.S.,
 - ii) Difficulty in identifying effects of taxes.

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 - iii) Historical state-level corporate tax database.

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 - ii) Firms that do R&D (micro level).
 - iii) Innovation in states (macro level).

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 - iii) Innovation in states (macro level).
- Because long-run panel data basically non-existent, our study sheds light on taxation more generally (entrepreneurship, mobility, labor supply..)

Historical Patent Data

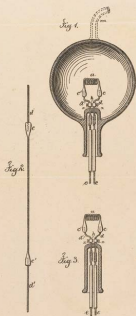
Akcigit, Grigsby, and Nicholas (2017): digitize historical patent records.

Match them to decennial Censuses by names.

T. A. EDISON.
Electric-Lamp.

No. 223,898.

Patented Jan. 27, 1880.



Witnesses
Chas. A. Rice
Geo. P. Amory

Inventor
Thomas A. Edison

+ Lemuel W. Serrell

att

THE PATENT OFFICE



To the Honorable Commissioner of Patents:

Your Petitioner
Thomas A. Edison
of *Menlo Park* in the State of *New Jersey*
prays that LETTERS PATENT may be granted to him

for the invention of an *Improvement in Electric Lamps*
and in the method of *manufacturing the same*,
(Case No. 186)

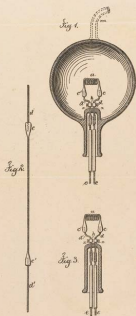
And further prays that you will recognize LEMUEL W. SERRELL, of the City of New York, N. Y., as his Attorney, with full power of substitution and revocation, to prosecute this application, to make objections and amendments therein, to receive the Patent, and to transact all business in the Patent Office connected therewith.

1879

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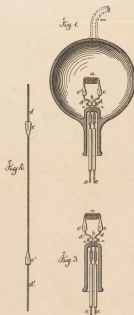
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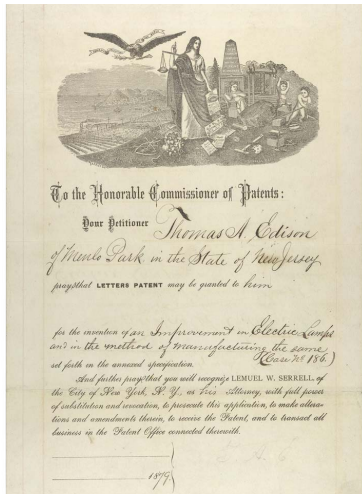
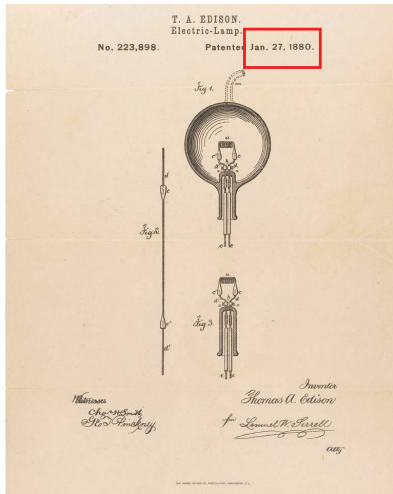
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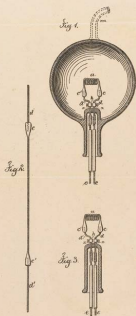


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**3004. Polaroid Corp., 730 Main St., Cambridge
39, Mass. (Cp)**

Research staff: Edwin H. Land, President and Director of Research; Robert M. Palmer, Manager, College Personnel Relations; 50 chemists, 5 engineers, 1 mathematician, 9 physicists, 90 technicians, 18 auxiliaries.

Research on: One-step, three-dimensional, and color photography; color vision; chemistry of photographic processes; polarized light; polymers; absorption of light; organic chemistry; physics and crystallography, especially as related to phenomena involving radiation; spectroscopy; electronics.

Empirical Strategies and Identification

$$\text{Innovation Outcome} = \beta_1 \times \text{Income tax} + \beta_2 \times \text{Corporate tax} + \text{Controls}.$$

Macro level (state) and micro level (individual inventor and firm).

Fixed effects: 1) within-state tax changes: state + year FE + inventor FE + time-varying controls specification.

2) within-state-year tax differences: state \times year FE using different personal income tax brackets within state-year.

IV strategy: at macro and micro levels: exploit only federal level tax changes in personal and corporate income taxes.

Border Counties strategy: Neighboring counties in different states.

Event Studies and Case Studies: Episodes with sharp tax changes.

Main Results

Personal income and corporate income taxes– negatively influence:

- 1 Quantity of innovation,
- 2 Quality of innovation,
- 3 Location of innovation.

At the macro level, cross-state spillovers and business-stealing are important, but not the full story.

Corporate inventors more elastic to personal, but especially to corporate taxes (to net returns in general?).

Agglomeration appears to matter: inventors are less sensitive to taxation where there is already more innovation in their own field.

Taxation and the International Mobility of Superstar Inventors

Akcigit, Baslandze, and Stantcheva (2016)

Taxes and International Migration: Anecdotes but Little Evidence

- Is the “brain drain” in response to taxes real? Lots of anecdotes:
 - ▶ NYT, 2013: ‘The Myth of the Rich Who Flee From Taxes’
 - ▶ Forbes, 2 days later: “Sorry New York Times, Tax Flight of the Rich Is Not a Myth.”
 - ▶ Famous people migrating for tax reasons? Rolling Stones to France (!), David Bowie to Switzerland, Rod Stewart to California, Sting to Ireland, Gerard Depardieu’s Russian citizenship, Edoardo Saverin (facebook co-founder) to Singapore, ...
- Scarcity of rigorous evidence due to a lack of **international panel data**.
 - ▶ Exceptions: Kleven, Landais and Saez (2013) on football players.
- This paper: study the effect of taxes on the **international mobility of inventors**.

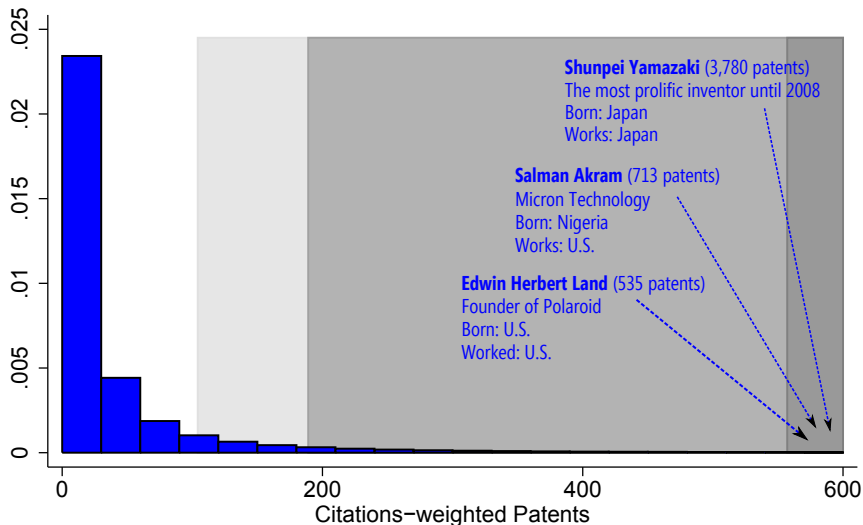
Study the Effects of Taxes on Migration using Patent Data

- Use a **unique international panel data** to overcome challenges:
 - ▶ **Patent data** from the USPTO and EPO, 1977-2000.
 - ▶ Track inventors in 8 big patenting countries: CA, CH, DE, FR, IT, JP, UK, US through residential addresses.
- Study effects of **top tax rates** on “**superstar**” inventors’ locations.
- Patent data gives direct measures of inventor quality.
- Detailed controls for *counterfactual* earnings in each potential location.

Three levels of analysis:

- ① Macro country-year level migration flows (country-by-year variation).
- ② Country case studies (quasi-experimental variation from reforms).
- ③ Micro inventor level location choice model
(differential impact of top MTR within country-year.
Inventor quality → ↑ propensity to be treated).

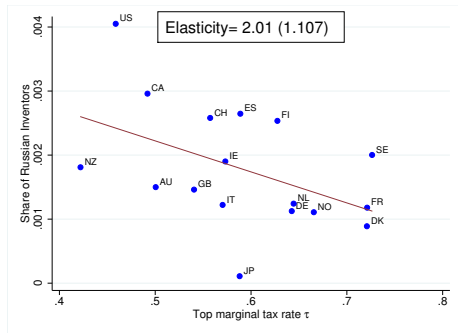
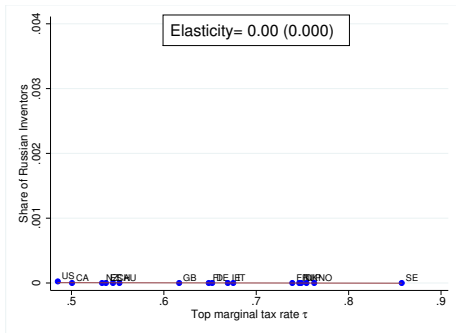
Superstar Inventors in a Highly Skewed Quality Distribution



Preview of Findings

- Superstar top 1% inventors' location choice significantly affected by top tax rates.
- If have worked for multinationals more sensitive to tax differentials.
- If company has localized research activity, less sensitive.

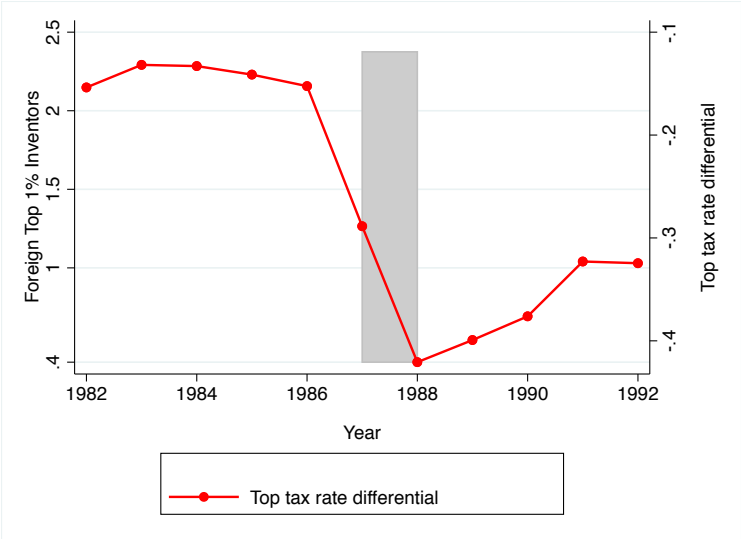
Russian Inventors' Migration and Top Tax Rates Pre and Post Soviet Union Collapse



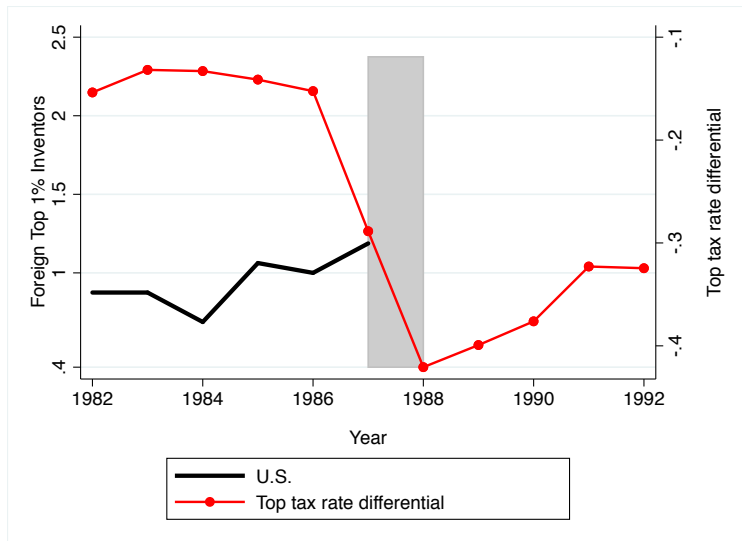
(a) Pre Soviet Union Collapse: No possible migration

(b) Post Soviet Union Collapse: Migration negatively correlated with top τ .

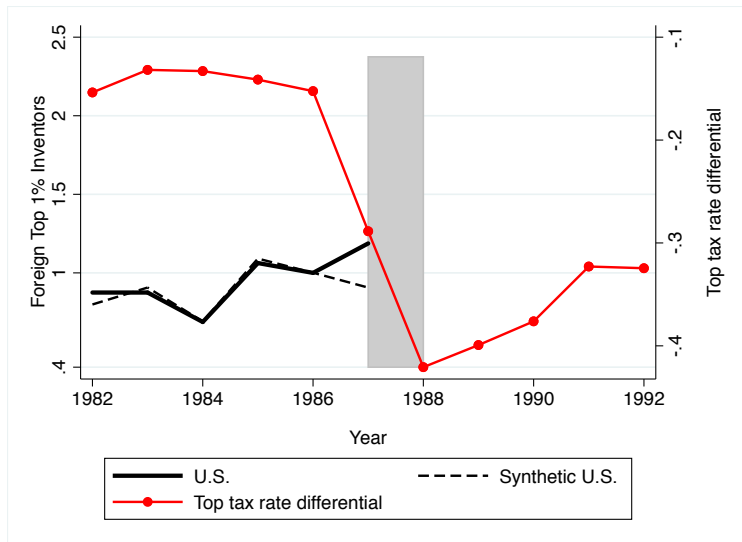
Case Study: U.S. TRA 1986



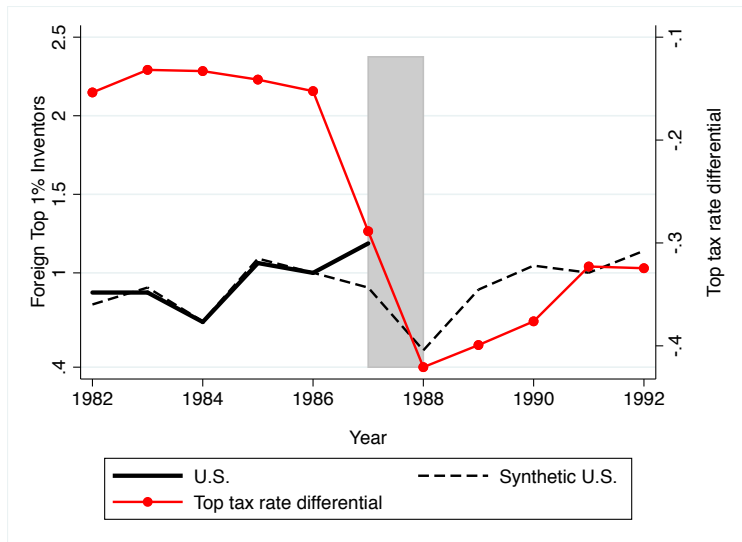
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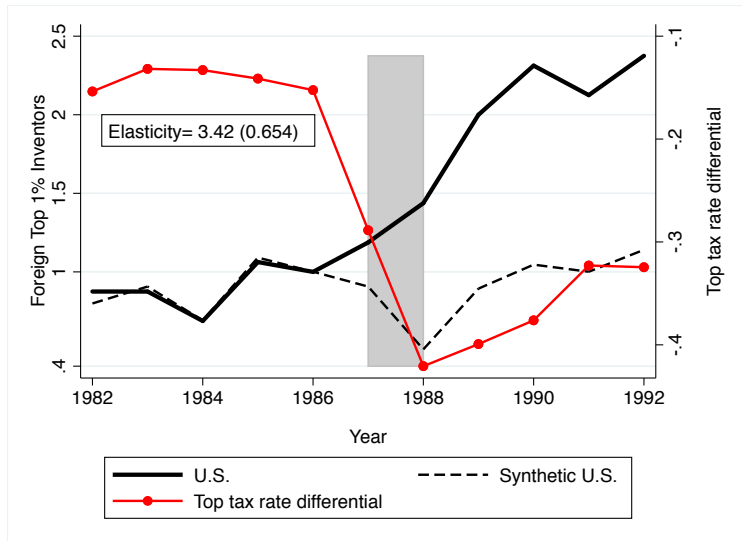
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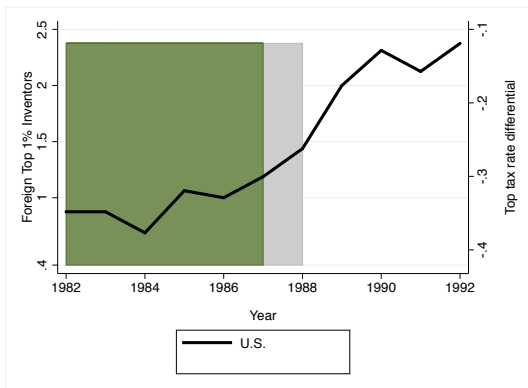
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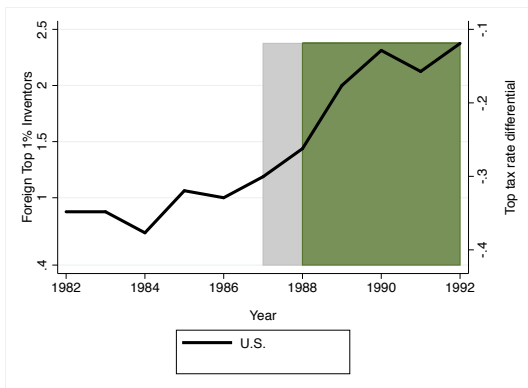
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Structural break in growth of foreign top 1% relative to lower quality inventors.

Inventor quality	Pre T.R.A 1986	Post T.R.A 1986
Top 1%	6.8%	16.4%
Top 10-25%	13%	11.4%

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What shapes people's views on
redistribution?

Theory: Generalized Social Welfare Weights

Saez and Stantcheva, 2016:

Rather than assuming standard social welfare function:

$$SWF = \int_i G(u_i) \quad \text{or} \quad SWF = \int_i \lambda_i u_i$$

Use “generalized social welfare weights” (GSWW)

g_i = how much society values \$ 1 to person i . $g_i = g(x_i, x^s)$.

x_i : Things that enter utility which we *also* care about as a society: laziness vs. bad health? which types of consumption? Do we redistribute across that dimension?

x^s : Things we care about as a society, even if don't affect utility directly (conditional on consumption, labor, etc.): Family background?

Empirics: Online Experiments and Surveys

- Use large-scale online surveys and experiments to examine how info affects redistributive demand.
 - ▶ Top income tax rates, transfer policies, and inheritance taxes.
- Compare people's perceptions to reality: are people's perceptions accurate?
- Provide randomized information on topic of interest to redistribution (here; inequality, next: intergenerational mobility).
- Test for (causal) effect of perception on redistributive demand.

“Intergenerational Mobility and Support for Redistribution”

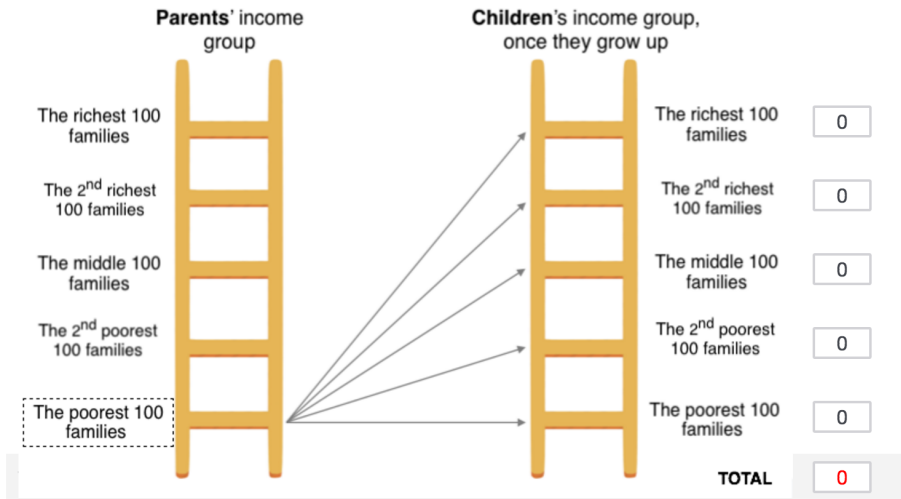
Alesina, Stantcheva, and Teso (2018)

Research Questions

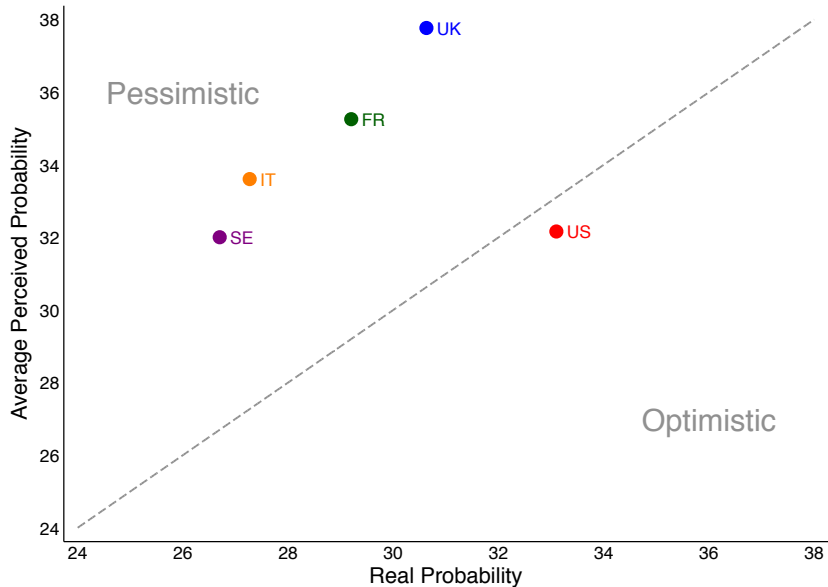
- Do people have realistic views about intergenerational mobility?
- What are their views on fairness, such as the role of effort vs. luck?
- Link between perceived intergenerational mobility and preferred redistribution policies?
 - ▶ **Equality of opportunities** policies (education, bequest taxes)
 - ▶ **Equality of outcome** policies (social insurance, progressive income taxation)?
- Correlation and Causality (experimental).
- Heterogeneity by socio-economic background, political views, own mobility experience?
- Online surveys and experiments on representative large ($N \geq 12,000$) samples in the US, UK, France, Italy, and Sweden.

Eliciting respondent's beliefs on upward mobility

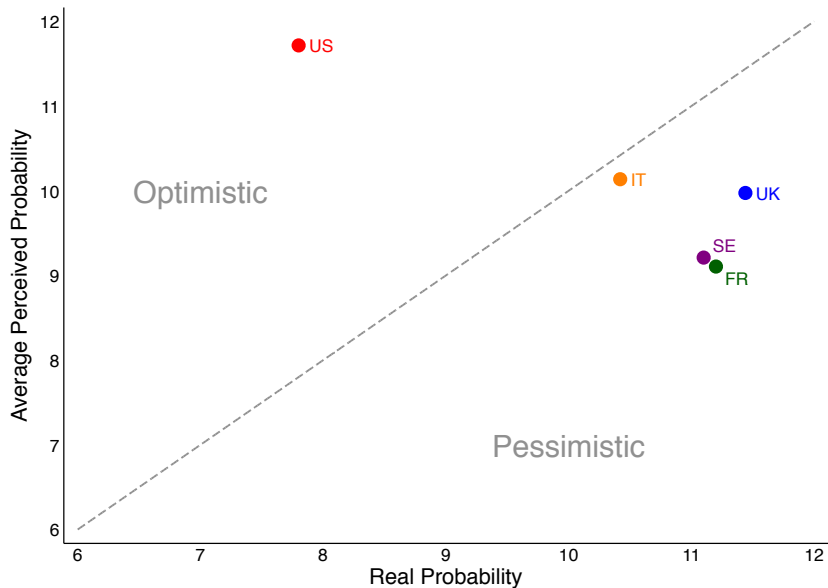
Here are **500 families** that represent the US population:



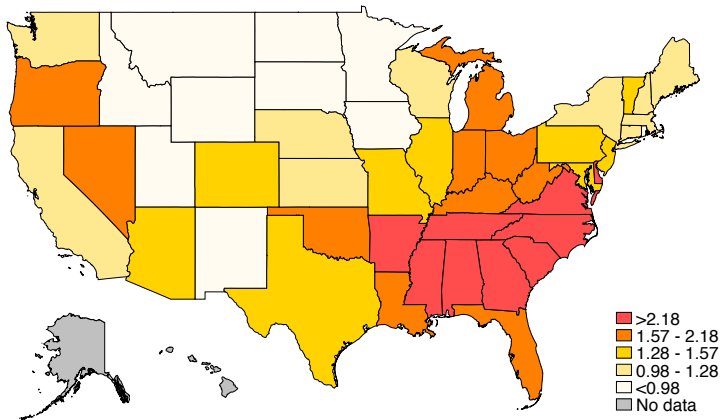
Probability of Staying in Bottom Quintile (Actual vs. Perceived)



Probability of Moving to Top Quintile (Actual vs. Perceived)

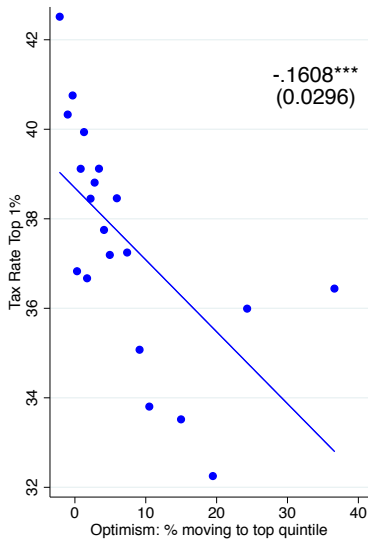
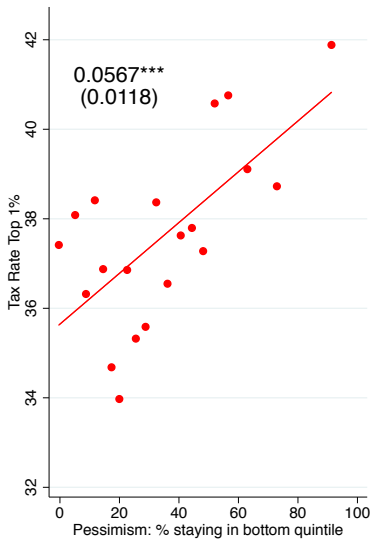


Ratio of actual local and perceived probability of moving from bottom to top

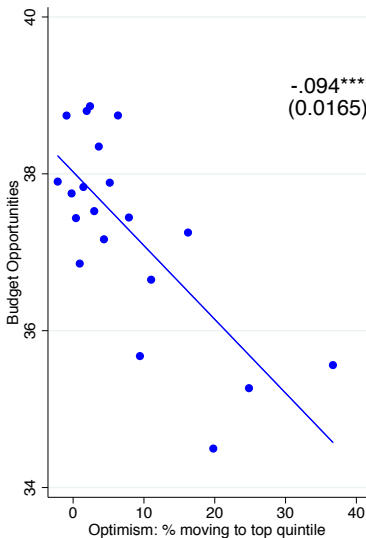
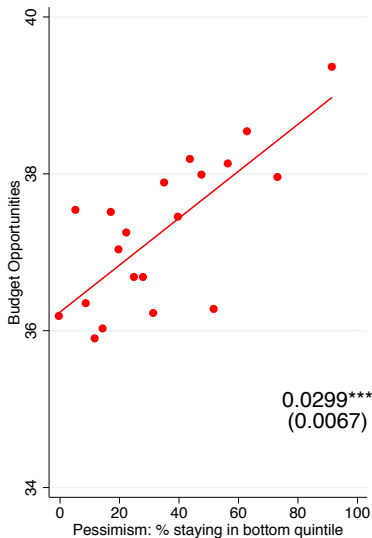


Strongest predictors of optimism: 1) high racial segregation 2) low income segregation (controlling for both at same time).

Pessimism, Optimism, and Top Tax Rate



Strong Correlation with Equality of Opportunity Policies: Education and Health



Main Findings

- Americans are more optimistic than Europeans, but:
 - ▶ Americans too optimistic, especially about “American dream.”
 - ▶ Europeans too pessimistic, especially about staying stuck in poverty.
- People believe effort matters, but not for making it to the very top.
- Pessimism on mobility ↔ support for redistribution (especially “equality of opportunity policies.”)
- Experiment: more pessimistic → increases support for redistribution... but only among left-wing respondents.
- Strong polarization between left and right wing on government, redistribution: same information, very different effects.

“Immigration and Redistribution”

Alesina, Miano, and Stantcheva (2018)

We Study Two Broad Questions

How do people (mis)perceive immigration?

Are perceptions of immigration, about the number, origin, religion, unemployment, education, poverty, correct amongst natives of the host countries?

What are natives' views on immigration policies?

What are perceptions of and views on immigration correlated with?

What is the link between immigration and redistribution?

Are perceptions of immigration and views about redistribution correlated? And do perceptions of immigrants "cause" preferences for redistribution?

Method and Setting

Large-scale surveys in 6 countries: France, Germany, Italy, Sweden, UK, and US, total of \approx 22,500 respondents.

Done through commercial survey companies in Nov 2017-Feb 2018.

Sample sizes: 4,500 in US, 4,000 in FR, DE, IT, and UK, 2,000 in SE;

Survey components:

Background info, perception of immigrants (number, origin, religion, hard work, economic conditions, support), policy preferences (redistribution + immigration).

Randomized treatments:

Priming: “Order” treatment asks about immigration before redistributive policies.

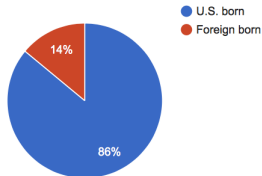
Information (Facts) on 1) number, 2) origins of immigrants.

Anecdote on “hard-working” immigrant.

Eliciting Perceptions on Number of Immigrants

The pie chart below represents all the people currently living in the U.S. Out of all these people currently living in the U.S., how many do you think are legal immigrants? Move the slider to indicate how many out of every 100 people you think are legal immigrants.

U.S. population by country of birth

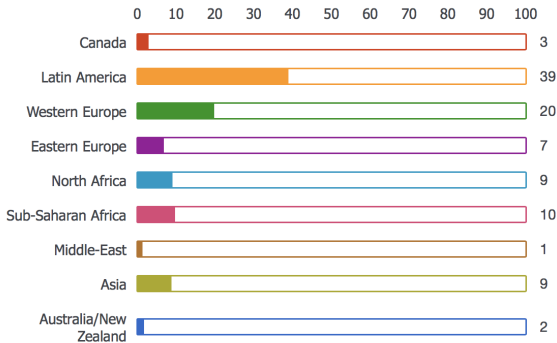
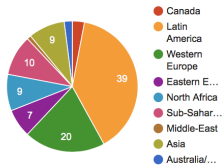


0 10 20 30 40 50 60 70 80 90 100

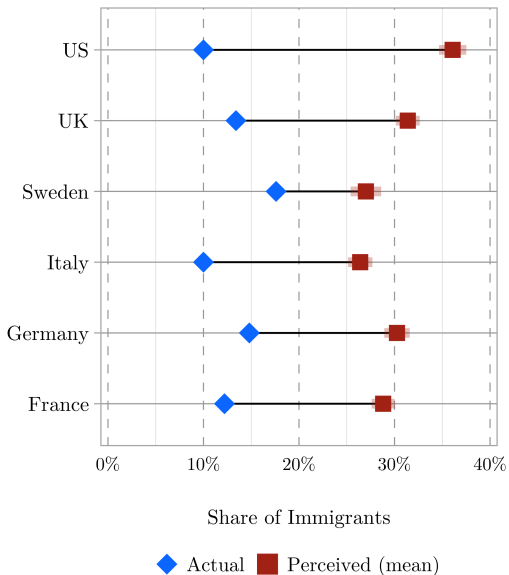


Eliciting perceptions on Origin of Immigrants

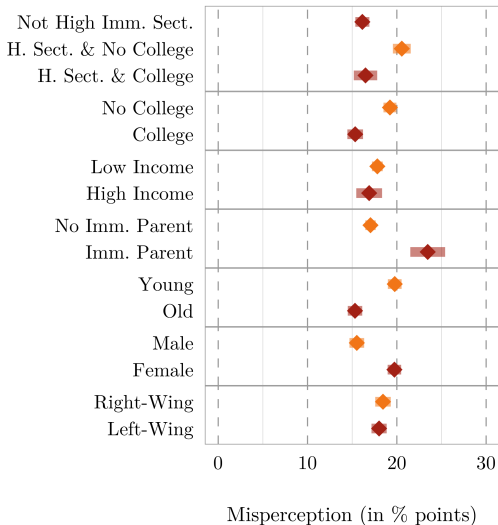
U.S. immigrant population by origin



Perceived vs. Actual Number of Immigrants (By Country)

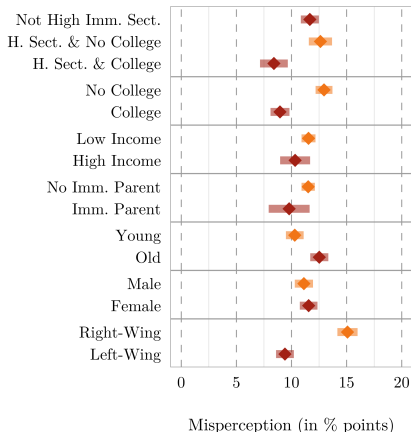
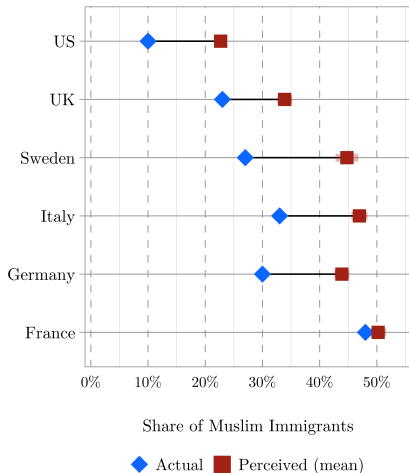


Misperception of Number of Immigrants



Who misperceives more? Those 1) in high immigration sectors with low education, 2) without college, 3) who are young, 4) who have an immigrant parent, 5) women. [▶ US Sectors](#)

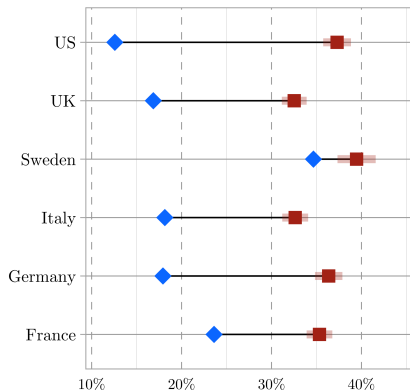
Perceived vs. Actual Share of Muslim Immigrants



► Middle East

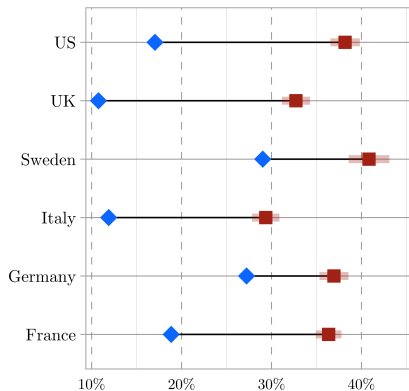
► North Africa

Perceived vs Actual Representation of Immigrants among Poor and Low-Educated



% of Poor who are Immigrants

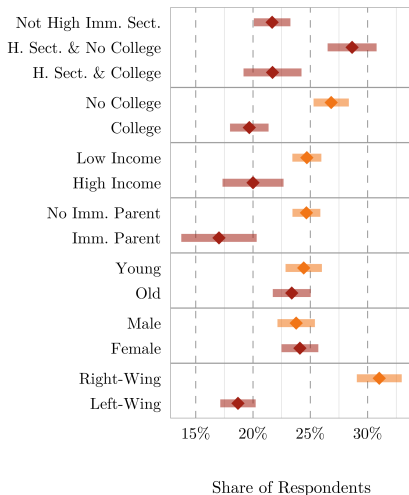
◆ Actual ■ Perceived (mean)



% of Low Educated who are Immigrants

◆ Actual ■ Perceived (mean)

“Bias”: Does Mohammad Get More Transfers and Pay Less Taxes all Else Equal?



Across all countries, and respondent characteristics, a non trivial share think all else equal Mohammad gets more transfers and pays less taxes. France and Italy are most “biased.” Low educated in high immigrant sectors, non college educated, the poor, and right wing are most biased.

Main Findings: Effects of Information, Anecdotes and Priming

Factual information on share and origins has no effect.

Just making people think about immigrants (“order treatment”) generates a strongly negative reaction in terms of redistribution.

Recall negative baseline perceptions about immigrants.

Anecdotes work somewhat too: “Hard work” on its own can generate some more support for redistribution.

However, if people are also prompted to think in detail about immigrants’ characteristics (which they are wrong about), priming effect dominates.

Thank you!