Social Preferences: Theory and Empirical Evidence

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May 2022

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GOALS OF THIS LECTURE

(1) Theory of social preferences: a new, tractable way to capture fairness and justice principles. Applicable to way more than taxation (e.g.: IO problems, trade problems, macro problems).

(2) Empirical evidence on social preferences.

(3) Methodological tool: Online experiments.

The Mental Models We Use to Think about Redistribution Policy

from *Understanding Tax Policy: How do People Reason?*

- 1. Perceived efficiency costs: Impacts on economic activity, on people's behaviors (labor supply, evasion, entrepreneurship, savings etc.). May or may not be in line with reality.
- 2. Perceived distributional impacts: Who wins? Who loses?
- 3. Fairness concerns: How fair is inequality, are people entitled to keep their income, is income "deserved" (i.e., the result of luck vs. effort?) etc.
- 4. Views of Government: Trustworthiness, competence, scope & benevolence.

People Reason very Differently about Tax Policy

On the left:

Efficiency: taxes have small econ. costs.

Distribution: Raising taxes to increase revenues helps many; no "trickle down"

Fairness: Inequality is mostly unfair; "luck" important for being rich or poor.

Government: should have broad scope, more trusted as an institution.

"Reality": taxes are lower & less progressive, inequality is higher

On the right:

Efficiency: taxes have larger econ. costs.

Distribution: Raising taxes hurts most; believe in trickle-down.

Fairness: Inequality is fair; people rich or poor because of "effort"

Government: should have narrow scope, less trusted as an institution.

"Reality:" taxes are higher & more progressive, inequality is lower.

People Care Most about Who Wins and Loses and about "Fairness"

But fairness is in the eye of the beholder and perceived winners and losers vary across people.

How can we model fairness views in a way that is tractable and allows us to build on existing models (but allowing for more general fairness views?)

Part 1: Theory

How can we empirically study people's fairness views and social preferences?

Part 2: Empirics, using surveys and experiments.

Theory

This paper: "Generalized Social Welfare Weights for Optimal Tax Theory" Saez and Stantcheva (2016).

How Can We Model "Social Preferences"

In many economic normative analyses (welfare analyses), we need to put values on the gains and losses of different agents, so as to be able to aggregate them.

Typical weights are quite restrictive and do not capture well important social justice and fairness views.

How can we do better?

Generalized social marginal welfare weights.

g_i measures social value of \$1 transfer to person i.

Specified directly to capture justice and fairness criteria, not necessarily derived from a SWF.

Generalized social welfare weights approach

Definition

The generalized social marginal welfare weight on individual i is:

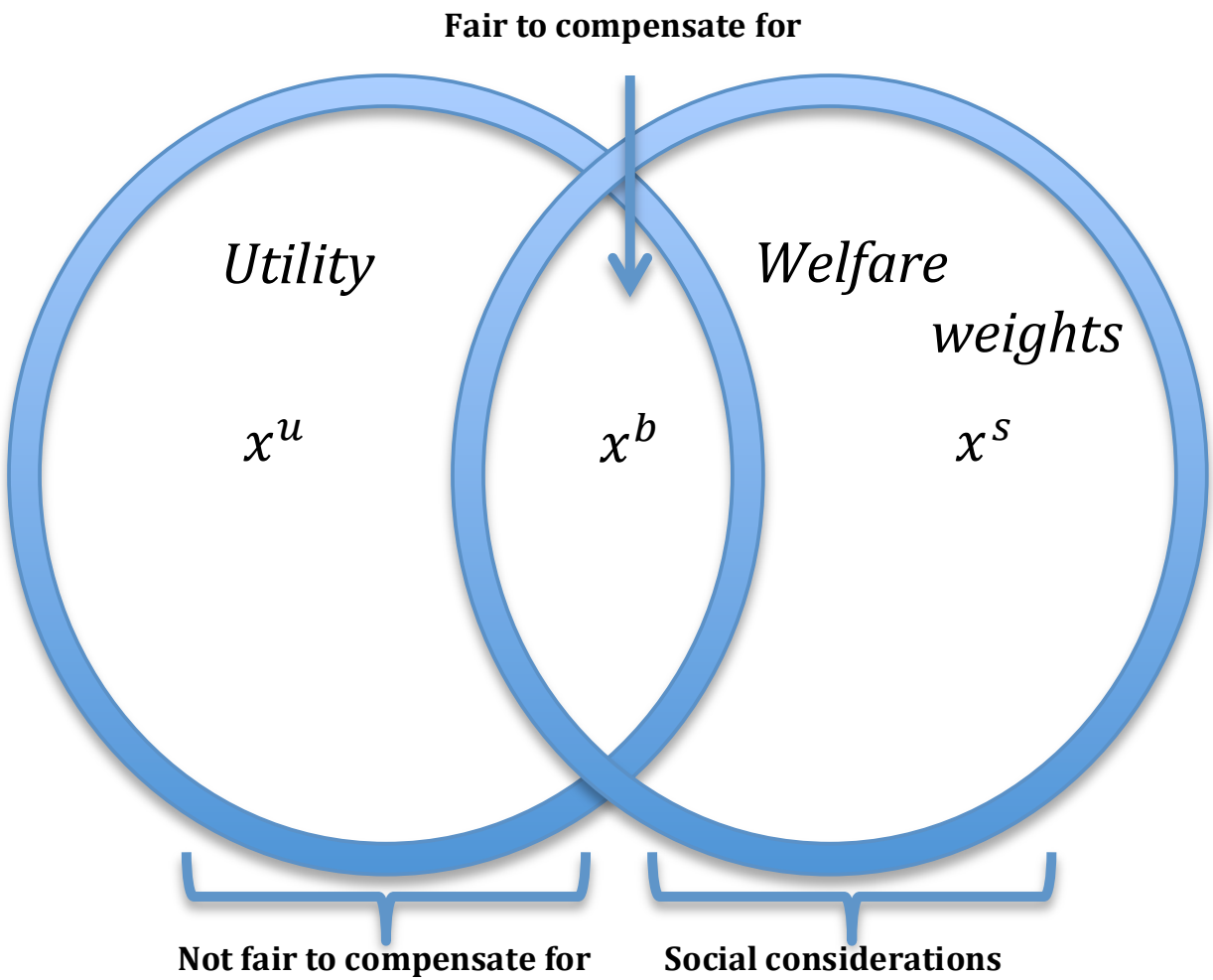
$$g_i = g(c_i, z_i; x_i^s, x_i^b)$$

g is a function, x_i^s is a vector of characteristics which only affect the social welfare weight, while x_i^b is a vector of characteristics which also affect utility.

- Recall utility is: $u_i = u(c_i - v(z_i; x_i^u, x_i^b))$
- Characteristics x^s, x^u, x^b may be unobservable to the government.
  - x^b: fair to redistribute, enters utility – e.g. ability to earn
  - x^s: fair to redistribute, not in utility – e.g. family background
  - x^u: unfair to redistribute, enters utility – e.g. taste for work

Generalized social welfare weights approach

$$u_i = u(c_i - v(z_i; x_i^u, x_i^b)) \qquad g_i = g(c_i, z_i; x_i^s, x_i^b)$$



General Model

- Mass 1 of individuals indexed by i.
- Utility from consumption c_i and income z_i (no income effects):

$$u_i = u(c_i - v(z_i; x_i^u, x_i^b))$$

  where x_i^u and x_i^b are vectors of characteristics

- $u(.)$ increasing, v decreasing in z_i.
- Typical income tax: $T(z)$, hence $c_i = z_i - T(z_i)$.
  - More general tax systems, with conditioning variables possible, depending on what is observable and politically feasible.

Aggregating Standard Weights at Each Income Level

Taxes depend on z only: express everything in terms of observable z.
$H(z)$: CDF of earnings, $h(z)$: PDF of earnings [both depend on $T(.)$]

Definition

$\bar{G}(z)$ is the (relative) average social marginal welfare weight for individuals earning at least z:

$$\bar{G}(z) \equiv \frac{\int_{\{i:z_i \geq z\}} g_i}{Prob(z_i \geq z) \cdot \int_i g_i}$$

$\bar{g}(z)$ is the average social marginal welfare weight at z defined so that

$$\int_z^{\infty} \bar{g}(z')dH(z') = \bar{G}(z)[1 - H(z)]$$

Nonlinear Tax Formula Expressed with Welfare Weights

Proposition

The optimal marginal tax at z:

$$T'(z) = \frac{1 - \bar{G}(z)}{1 - \bar{G}(z) + \alpha(z) \cdot e(z)}$$

$e(z)$: average elasticity of z_i w.r.t $1 - T'$ at $z_i = z$
$\alpha(z)$: local Pareto parameter $zh(z)/[1 - H(z)]$.

Proof follows the same "small reform" approach of Saez (2001): increase T' in a small band $[z, z + dz]$ and work out effect on budget and weighted welfare

Proof

- Reform $\delta T(z)$ increases marginal tax by $\delta\tau$ in small band $[z, z+dz]$.
- Mechanical revenue effect: extra taxes $dz\delta\tau$ from each taxpayer above z: $dz\delta\tau[1-H(z)]$ is collected.
- Behavioral response: those in $[z, dz]$, reduce income by $\delta z = -ez\delta\tau/(1-T'(z))$ where e is the elasticity of earnings z w.r.t $1-T'$. Total tax loss $-dz\delta\tau \cdot h(z)e(z)zT'(z)/(1-T'(z))$ with $e(z)$ the average elasticity in the small band.
- Net revenue collected by the reform and rebated lump sum is: $dR = dz\delta\tau \cdot \left[1 - H(z) - h(z) \cdot e(z) \cdot z \cdot \frac{T'(z)}{1-T'(z)}\right]$.
- Welfare effect of reform: $-\int_i g_i \delta T(z_i)$ with $\delta T(z_i) = -dR$ for $z_i \leq z$ and $\delta T(z_i) = \delta\tau dz - dR$ for $z_i > z$. Net effect on welfare is $dR \cdot \int_i g_i - \delta\tau dz \int_{\{i:z_i \geq z\}} g_i$.
- Setting net welfare effect to zero, using $(1-H(z))\bar{G}(z) = \int_{\{i:z_i \geq z\}} g_i / \int_i g_i$ and $\alpha(z) = zh(z)/(1-H(z))$, we obtain the tax formula.

Linear Tax Formula Expressed with Welfare Weights

The optimal linear tax rate, such that $c_i = z_i \cdot (1 - \tau) + \tau \cdot \int_i z_i$ can also be expressed as a function of an income weighted average marginal welfare weight (Piketty and Saez, 2013).

Proposition

The optimal linear income tax is:

$$\tau = \frac{1 - \bar{g}}{1 - \bar{g} + e} \quad \text{with} \quad \bar{g} \equiv \frac{\int_i g_i \cdot z_i}{\int_i g_i \cdot \int_i z_i}$$

e: elasticity of $\int_i z_i$ w.r.t $(1 - \tau)$.

1. Libertarianism and Rawlsianism

Libertarianism:

- Principle: "Individual fully entitled to his pre-tax income."
- Morally defensible if no difference in productivity, but different preferences for work.
- $g_i = g(c_i, z_i) = \tilde{g}(c_i - z_i)$, increasing ($x_i^s$ and x_i^b empty).
- Optimal formula yields: $T'(z_i) \equiv 0$.

Rawlsianism:

- Principle: "Care only about the most disadvantaged."
- $g_i = g(u_i - \min_j u_j) = 1(u_i - \min_j u_j = 0)$, with $x_i^s = u_i - \min_j u_j$ and x^b is empty.
- If least advantaged people have zero earnings independently of taxes, $\bar{G}(z) = 0$ for all $z > 0$.
- Optimal formula yields: $T'(z) = 1/[1 + \alpha(z) \cdot e(z)]$ (maximize demogrant $-T(0)$).

3. Transfers and Free Loaders: Setting

- Behavioral responses closely tied to social weights: biggest complaint against redistribution is "free loaders."
- Generalized welfare weights can capture "counterfactuals."
- Consider linear tax model where τ funds demogrant transfer.
- $u_i = u(c_i - v(z_i; \theta_i)) = u(c_{z_i} - \theta_i \cdot z_i)$ with $z_i \in \{0, 1\}$.
- Individuals can choose to not work, $z = 0$, $c_i = c_0$.
- If they work, earn $z = \$1$, consume $c_1 = (1 - \tau) + c_0$.
- Cost of work θ, with cdf $P(\theta)$, is private information.
- Individual: work iff $\theta \leq c_1 - c_0 = (1 - \tau)$.
- Fraction working: $P(1 - \tau)$.
- e: elasticity of aggregate earnings $P\,(1 - \tau\ )$ w.r.t $(1 - \tau)$.

3. Transfers and Free Loaders: Optimal Taxation

Apply linear tax formula:

- $\tau = (1 - \bar{g})/(1 - \bar{g} + e)$
- In this model, $\bar{g} = \int_i g_i z_i / (\int_i g_i \cdot \int_i z_i) = \bar{g}_1 / [P \cdot \bar{g}_1 + (1 - P) \cdot \bar{g}_0]$ with: $\bar{g}_1$ the average g_i on workers, and $\bar{g}_0$ the average g_i on non-workers.

Standard Approach:

- $g_i = u'(c_0)$ **for all non-workers** so that $\bar{g}_0 = u'(c_0)$.
- Hence, approach does not allow to distinguish between the deserving poor and free loaders.
- We can only look at actual situation: work or not, not "why" one does not work.
- Contrasts with public debate and historical evolution of welfare

3. Transfers and Free Loaders: Generalized Welfare Weights

- Distinguish people according to what would have done absent transfer.
- **Workers**: Fraction $P(1-\tau)$. Set $g_i = u'(c_1 - \theta_i)$.
- **Deserving poor**: would not work even absent any transfer: $\theta > 1$. Fraction $1 - P(1)$. Set $g_i = u'(c_0)$.
- **Free Loaders**: do not work because of transfer: $1 \geq \theta > (1-\tau)$. Fraction $P(1) - P(1-\tau)$. Set $g_i = 0$.
- Cost of work enters weights – fair to compensate for (i.e., not laziness).
- Average weight on non-workers $\bar{g}_0 = u'(c_0) \cdot (1 - P(1))/(1 - P(1-\tau)) < u'(c_0)$ lower than in utilitarian case.
- Reduces optimal tax rate not just through e but also through $\bar{g}_0$.

3. Transfers and Free Loaders: Remarks and Applications

- Ex post, possible to find suitable Pareto weights $\omega(\theta)$ that rationalize same tax.
  - $\omega(\theta) = 1$ for $\theta \leq (1 - \tau^*)$ (workers)
  - $\omega(\theta) = 1$ for $\theta \geq 1$ (deserving poor)
  - $\omega(\theta) = 0$ for $(1 - \tau^*) < \theta < 1$ (free loaders).
- But: these weights depend on optimum tax rate τ^*.
- Other applications:
  - **Desirability of in-work benefits** if weight on non-workers becomes low enough relative to workers.
  - **Transfers over the business cycle**: composition of those out of work depends on ease of finding job.

2. Equality of Opportunity: Setting

- Standard utility $u(c - v(z/w_i))$ with w_i ability to earn
- w_i is result of i) family background $B_i \in \{0, 1\}$ (which individuals not responsible for) and ii) merit (which individuals are responsible for) = rank r_i conditional on background.
- Advantaged background gives earning ability w advantage: $w(r_i|B_i = 1) > w(r_i|B_i = 0)$
- Society is willing to redistribute across backgrounds, but not across incomes conditional on background.
- $\Rightarrow$ Conditional on earnings, those coming from $B_i = 0$ are more meritorious [because they rank higher in merit]
- $\bar{c}(r) \equiv (\int_{(i:r_i=r)} c_i)/Prob(i : r_i = r)$: average consumption at rank r.
- $g_i = g(c_i; \bar{c}(r_i)) = 1(c_i \leq \bar{c}(r_i))$

2. Equality of Opportunity: Results

- Suppose government cannot condition taxes on background.
- $\bar{G}(z)$: **Representation index**: % from disadvantaged background earning $\geq z$ relative to % from disadvantaged background in population.
- Implied Social Welfare function as in Roemer et al. (2003).
- $\bar{G}(z)$ decreasing since harder for those from disadvantaged background to reach upper incomes.
- If at top incomes, representation is zero, revenue maximizing top tax rate.
- Justification for social welfare weights decreasing with income not due to decreasing marginal utility (utilitarianism).

2. Equality of Opportunity vs. Utilitarian Tax Rates

	Equality of Opportunity			Utilitarian (log-utility)	
	Fraction from low background (=parents below median) above each percentile	Implied social welfare weight G(z) above each percentile	Implied optimal marginal tax rate at each percentile	Utilitarian social welfare weight G(z) above each percentile	Utilitarian optimal marginal tax rate at each percentile
	(1)	(2)	(3)	(4)	(5)
Income percentile					
z= 25th percentile	44.3%	0.886	53%	0.793	67%
z= 50th percentile	37.3%	0.746	45%	0.574	58%
z= 75th percentile	30.3%	0.606	40%	0.385	51%
z= 90th percentile	23.6%	0.472	34%	0.255	42%
z= 99th percentile	17.0%	0.340	46%	0.077	54%
z= 99.9th percentile	16.5%	0.330	47%	0.016	56%

Chetty *et al.* (2013) intergenerational mobility data for the U.S.
Above 99^{th} percentile, stable representation, hence stable tax rates.
Optimal tax rate lower than in utilitarian case.

Empirics

Social Economics Surveys and Experiments as a Key Research Tool

Large scale surveys that go in-depth into people's minds and "listen to them."

Surveys have been used for a long time for statistics. Some variables are now better measured in administrative high-quality data (like income, family situation, employment, etc.)

Yet, some things are invisible in data other than survey data (even great data!): perceptions, attitudes, knowledge, and views.

For the results to be reliable, it is critical that these surveys are well-designed, carefully calibrated, and deployed on appropriate samples.

Outline for Empirics Part

Toy illustration of how to "estimate" social preferences.

Factors that shape how fair people perceive redistribution to be and how much they support it, which we will cover in this lecture:

1. Perceptions of social mobility and equality of opportunity
2. Views about immigrants
3. Racial attitudes [Skip today..]
4. Perceptions of one's own ranking relative to others

Calibrating Social Welfare Weights

- Calibrate $\tilde{g}(c, T) = \tilde{g}(c - \alpha T)$
- 35 fictitious families, w/ different net incomes and taxes
- Respondents rank them pair-wise (5 random pairs each)

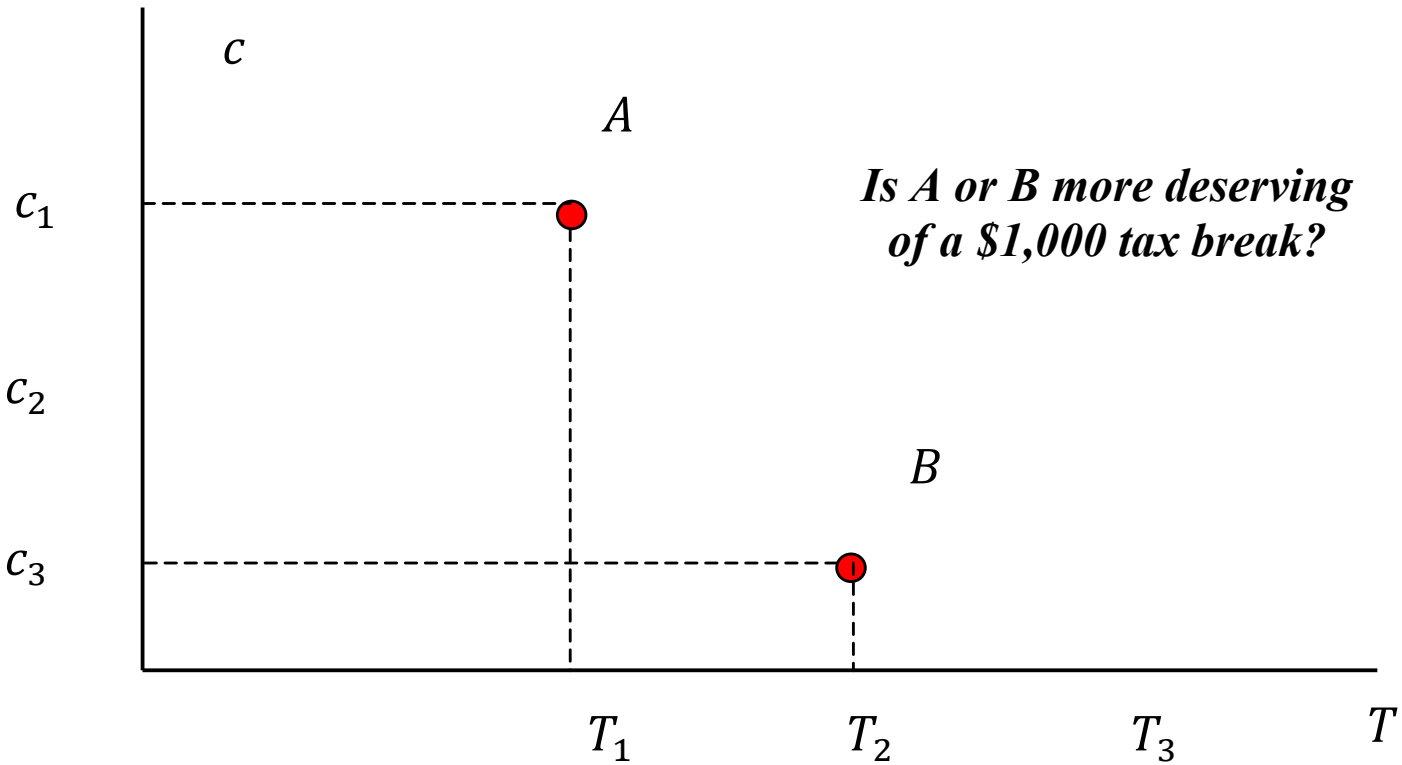
Which of these two families is most deserving of the $1,000 tax break?

- Family earns $100,000 per year, pays $50,000 in taxes, and hence nets out $50,000
- Family earns $25,000 per year, pays $1,250 in taxes, and hence nets out $23,750

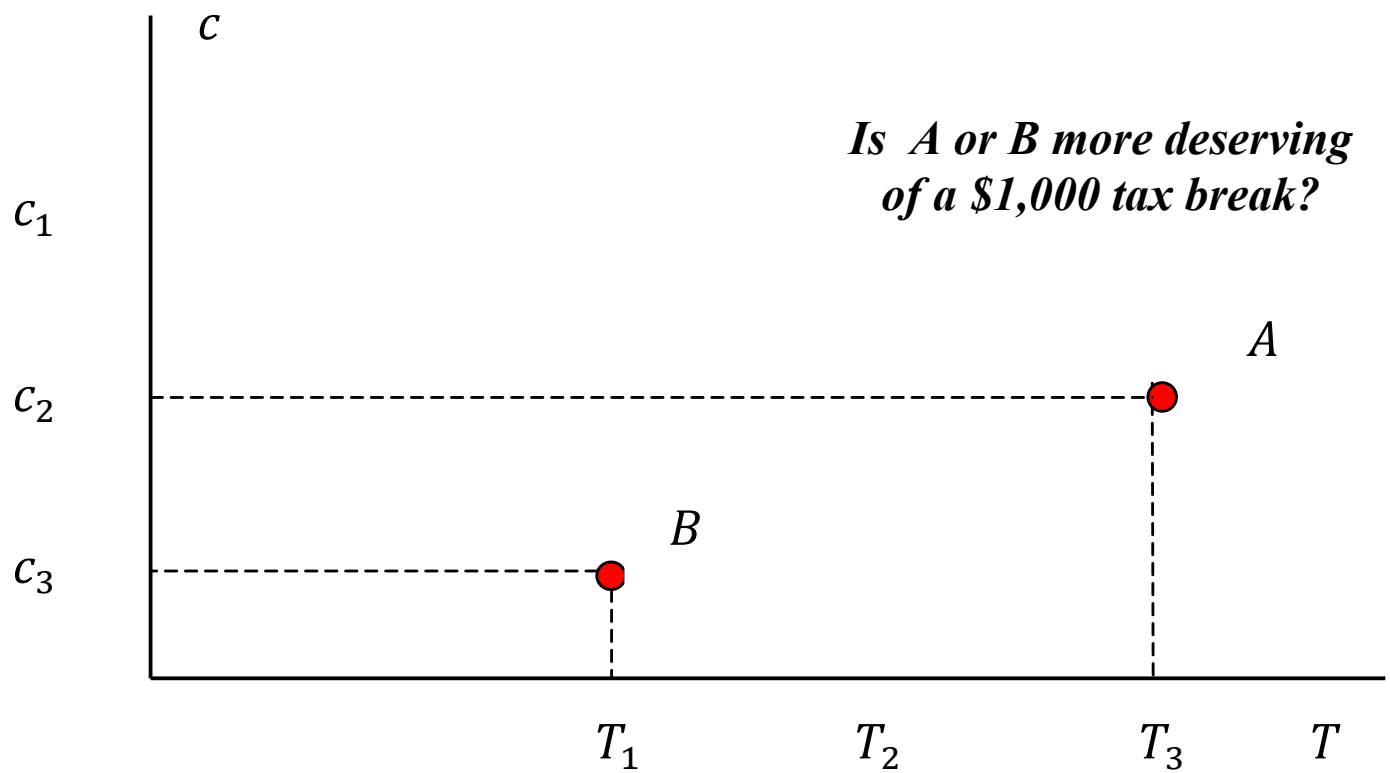
Which of these two families is most deserving of the $1,000 tax break?

- Family earns $50,000 per year, pays $2,500 in taxes, and hence nets out $47,500
- Family earns $500,000 per year, pays $170,000 in taxes, and hence nets out $330,000

Eliciting Social Preferences



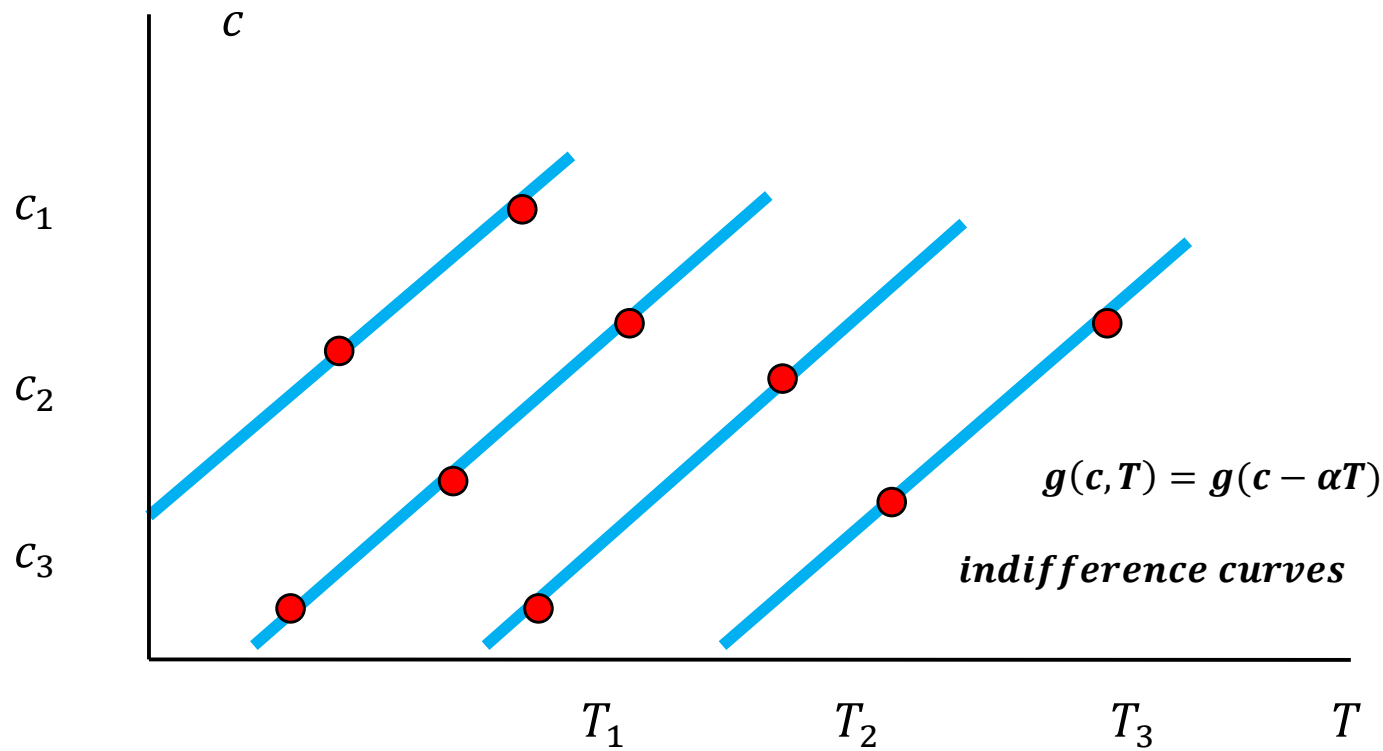
Eliciting Social Preferences



Eliciting Social Preferences

$S_{ijt} = 1$ if i ranked 1st in display t for respondent j, δT_{ijt} is difference in taxes, δc_{ijt} difference in net income for families in pair shown.

$$S_{ijt} = \beta_0 + \beta_T \delta T_{ijt} + \beta_c \delta c_{ijt} \qquad \alpha = \frac{\delta c}{\delta T}|_S = -\frac{\beta_T}{\beta_c} = -slope$$

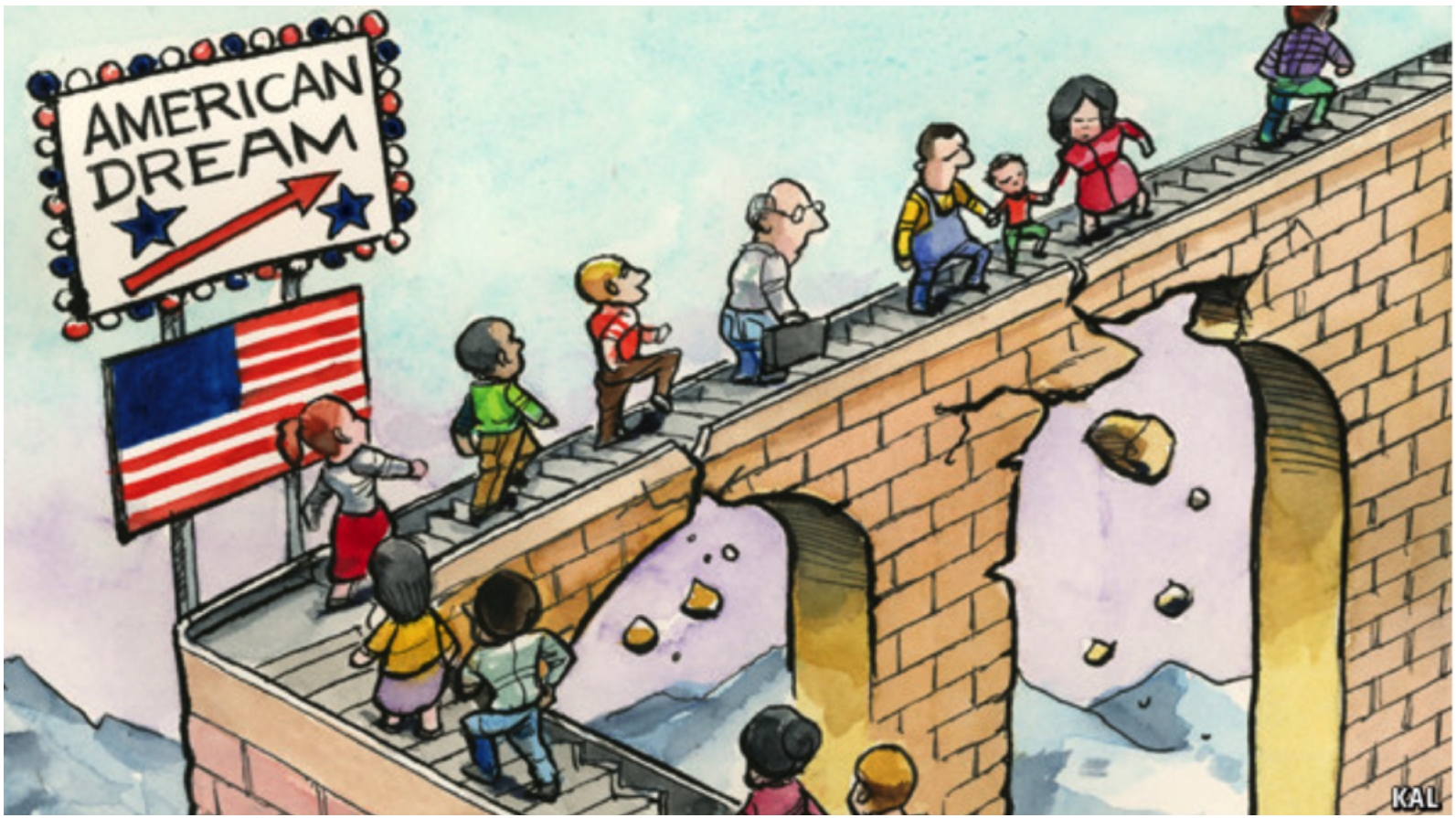


Eliciting Social Preferences

	Probability of being deemed more deserving in pairwise comparison					
Sample	Full	Excludes cases with income of $1m	Excludes cases with income of $500K+	Excludes cases with income $500K+ and $10K or less	Liberal subjects only	Conservative subjects only
	(1)	(2)	(3)	(4)	(5)	(6)
d(Tax)	0.0017***	0.0052***	0.016***	0.015***	0.00082***	0.0032***
	(0.0003)	(0.0019)	(0.0019)	(0.0022)	(0.00046)	(0.00068)
d(Net Income)	-0.0046***	-0.0091***	-0.024***	-0.024***	-0.0048***	-0.0042***
	(0.00012)	(0.00028)	(0.00078)	(0.00094)	(0.00018)	(0.00027)
Number of observations	11,450	8,368	5,816	3,702	5,250	2,540
Implied α	0.37	0.58	0.65	0.64	0.17	0.77
	(0.06)	(0.06)	(0.07)	(0.09)	(0.12)	(0.16)
Implied marginal tax rate	73%	63%	61%	61%	85%	57%

1. Social Mobility and Equality of Opportunity

Based on *"Intergenerational Mobility and Preferences for Redistribution"*
by Alberto Alesina, Stefanie Stantcheva, and Edoardo Teso



Survey Structure

- **Background** socio-economic questions, own social mobility experience, political experience.
- **Fairness**: Fair system, reasons poor, reasons rich. Detail
- **Randomized "information"** experiment to shift views on extent of social mobility. Randomization
- **Perceptions of intergenerational mobility** in own country.
- **Policies:** Overall intervention, overall support for equality of opportunity, income taxes, estate tax, budget.
- **Government:** views on role and capacities of government (order randomized, pre or post info treatment).

Eliciting Beliefs on Upward Mobility

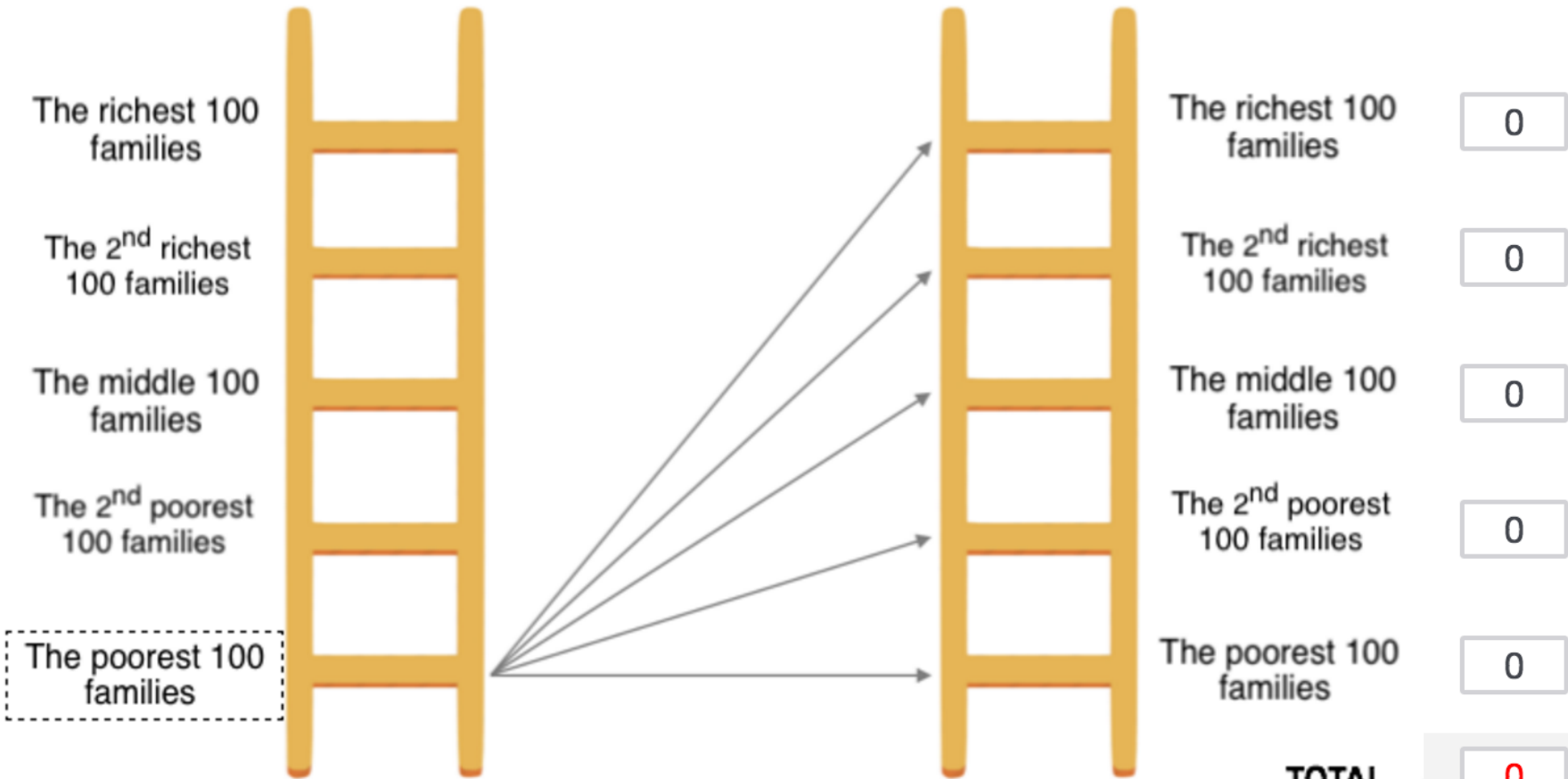
For the following questions, we focus on 500 families that represent the U.S. population. We divide them into five groups on the basis of their income, with each group containing 100 families. These groups are: the poorest 100 families, the second poorest 100 families, the middle 100 families, the second richest 100 families, and the richest 100 families.

In the following questions, we will ask you to evaluate the chances that children born in one of the poorest 100 families, once they grow up, will belong to any of these income groups.

Please fill out the entries to the right of the figure below to tell us, in your opinion, how many out of 100 children coming from the poorest 100 families will grow up to be in each income group.

Eliciting respondent's beliefs on upward mobility

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



Questions on Policies

Logic: Split desired policies into components

i) overall government involvement and intervention,

ii) how to share a given tax burden,

iii) how to allocate a given budget.

Income taxes on top 1%, next 9%, next 40%, bottom 50%. Detail

Budget allocation on 1) Defense/ Security, 2) Infrastructure, 3) Education, 4) SS, Medicare, DI, and SSI, 5) Social Insurance and Income Support Programs, 6) Health. Detail

Estate tax: Rate support. Detail

Support for equality of opportunity policies: subject to other policies being reduced (qualitative, robust, no free lunch). Detail

Questions on Role and Capacities of Government

Randomized block (outcomes/ pre-existing characteristics):

Trust in government

Tools of the government

Are unequal opportunities a problem?

Scope of government: to reduce unequal opportunities for children from rich and poor backgrounds, from 1 to 7.

Is lowering or raising taxes better for reducing unequal opportunities? Detail

Ensuring reasonable answers

Appeal to people's social responsibility. Detail

Warn that "careless answers" will be flagged.

Constrain answers to add up to 100. Tabulating answers – few strange patterns. Detail

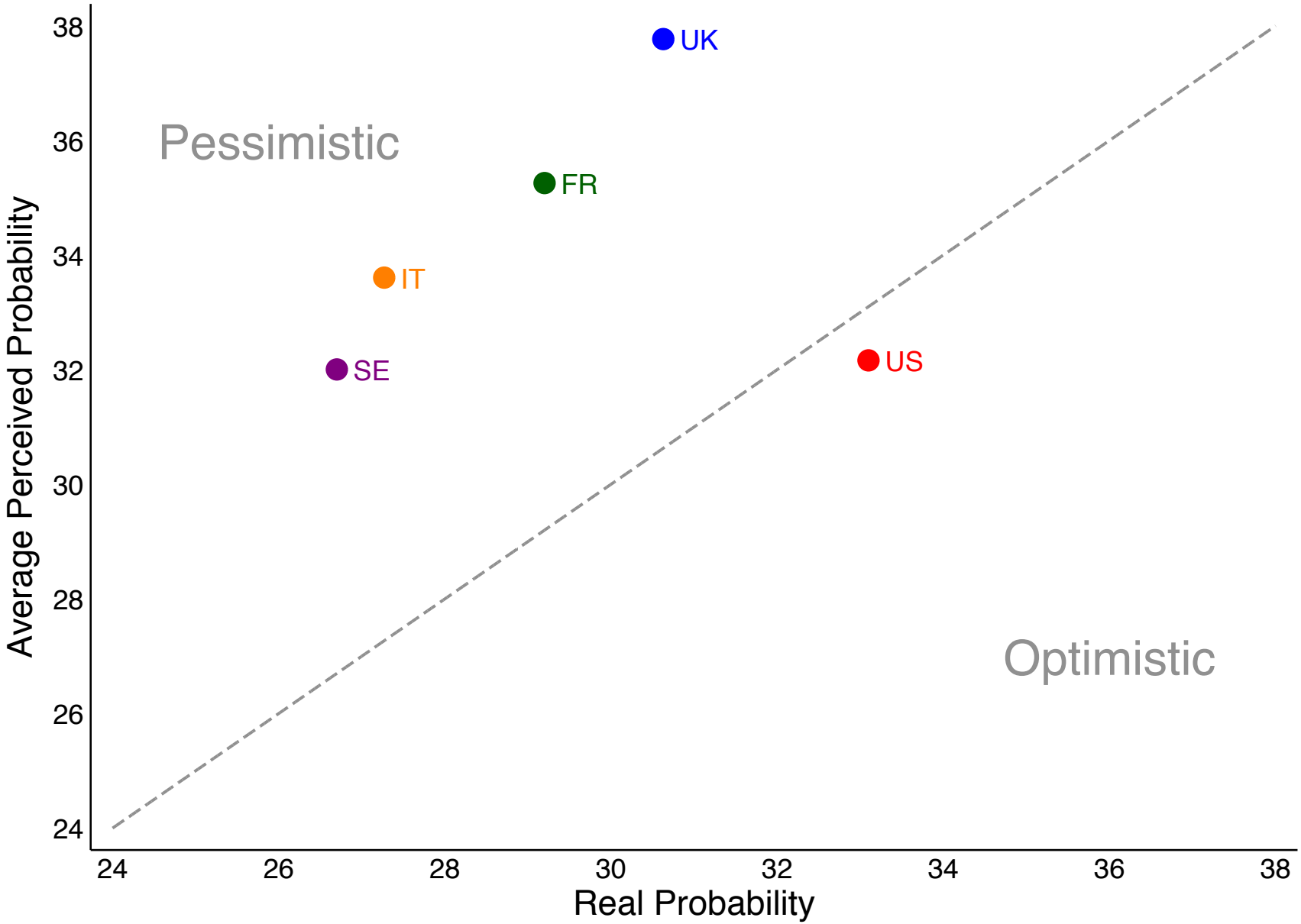
Attention check question (0.88%), Meade and Craig (2012).

Time spent on separate questions' pages and overall survey time.

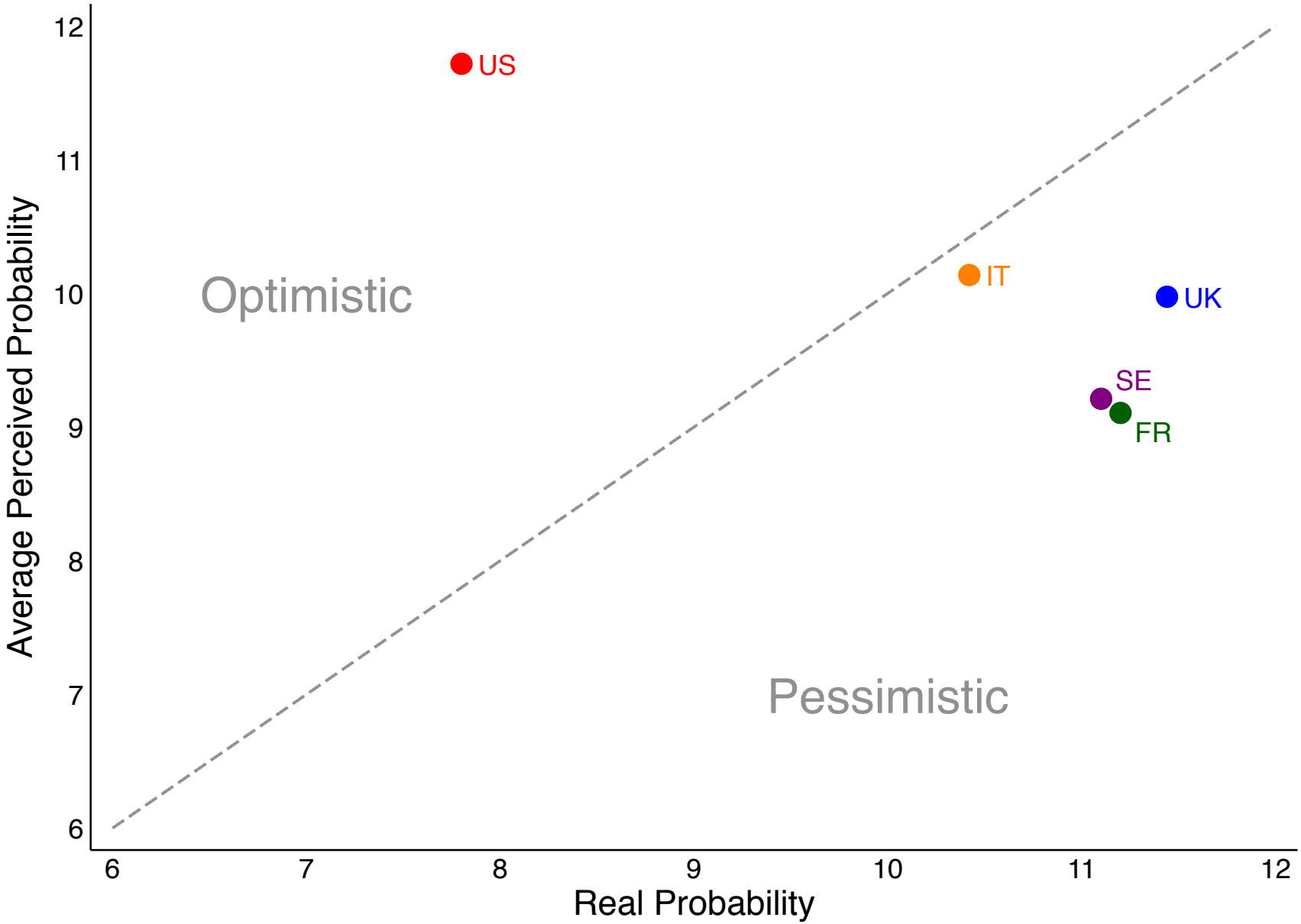
Ask for feedback post survey, whether felt survey was biased (18%).

Asked for questions in different orders (ascending vs. descending) and on different pages.

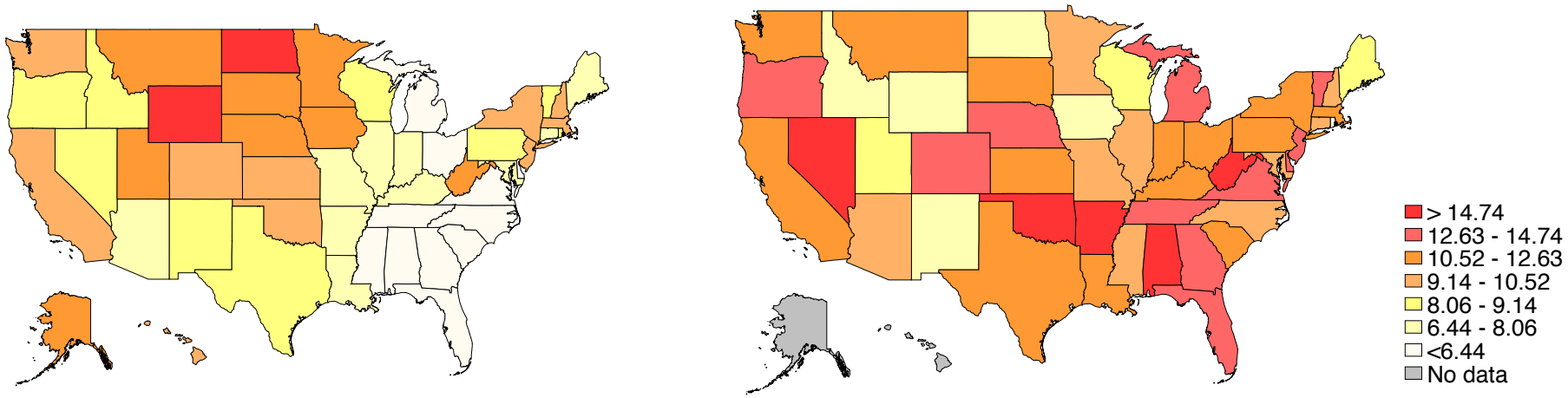
Probability of Staying in Bottom Quintile (Actual vs. Perceived)



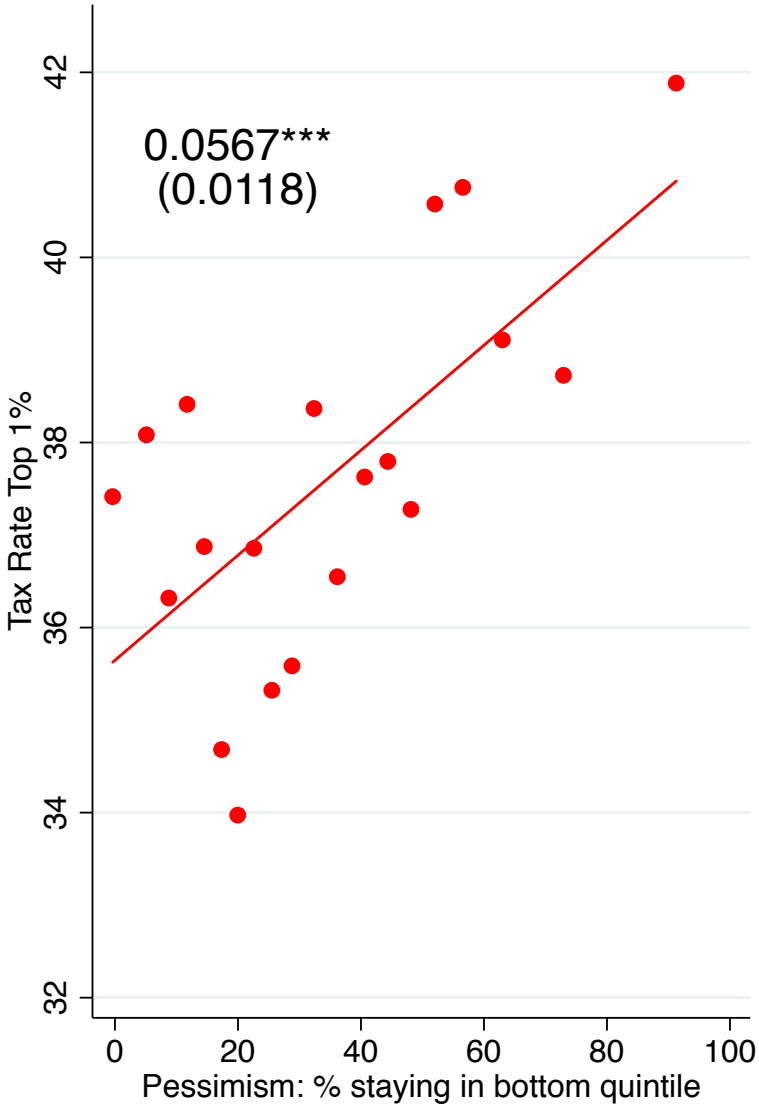
Probability of Moving to Top Quintile (Actual vs. Perceived)

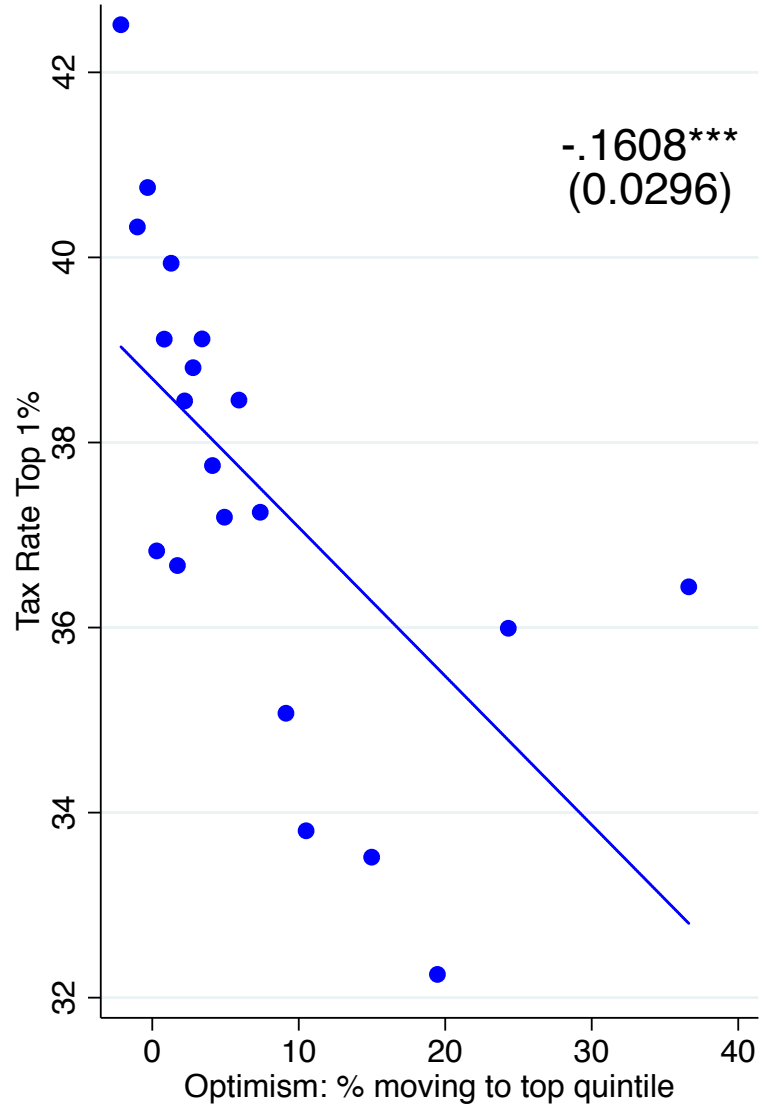


Actual and perceived probability of moving from bottom to top quintile



Pessimism, Optimism, and Top Tax Rate





Randomized Perception Experiment

Causal relationship views on mobility $\rightarrow$ policy preferences?

Or simply individual characteristics (e.g.: political affiliation).

Cannot exogenously shift actual social mobility $\rightarrow$ shift perceptions instead.

Our randomized treatment satisfies four criteria:

1. Shift perceptions towards more pessimism (Treatment here)
2. Homogeneous across countries.
3. Does not allude to any policies or to government at all.
4. Accurate, not misleading.

Link Between Perceptions of Mobility and Support for Redistribution

Most people are worried about lack of social mobility and inequality of opportunity.

But, people's favored solution to the problem looks very different on the left vs. right.

Left-wing respondents who are more pessimistic about mobility want more redistribution.

More social insurance, more progressive taxes, and especially more "equality of opportunity" type policies, such as spending on education and health.

Confirmed by an experiment. Showing a randomly selected subsample of people negative information on mobility increases their support for redistribution.

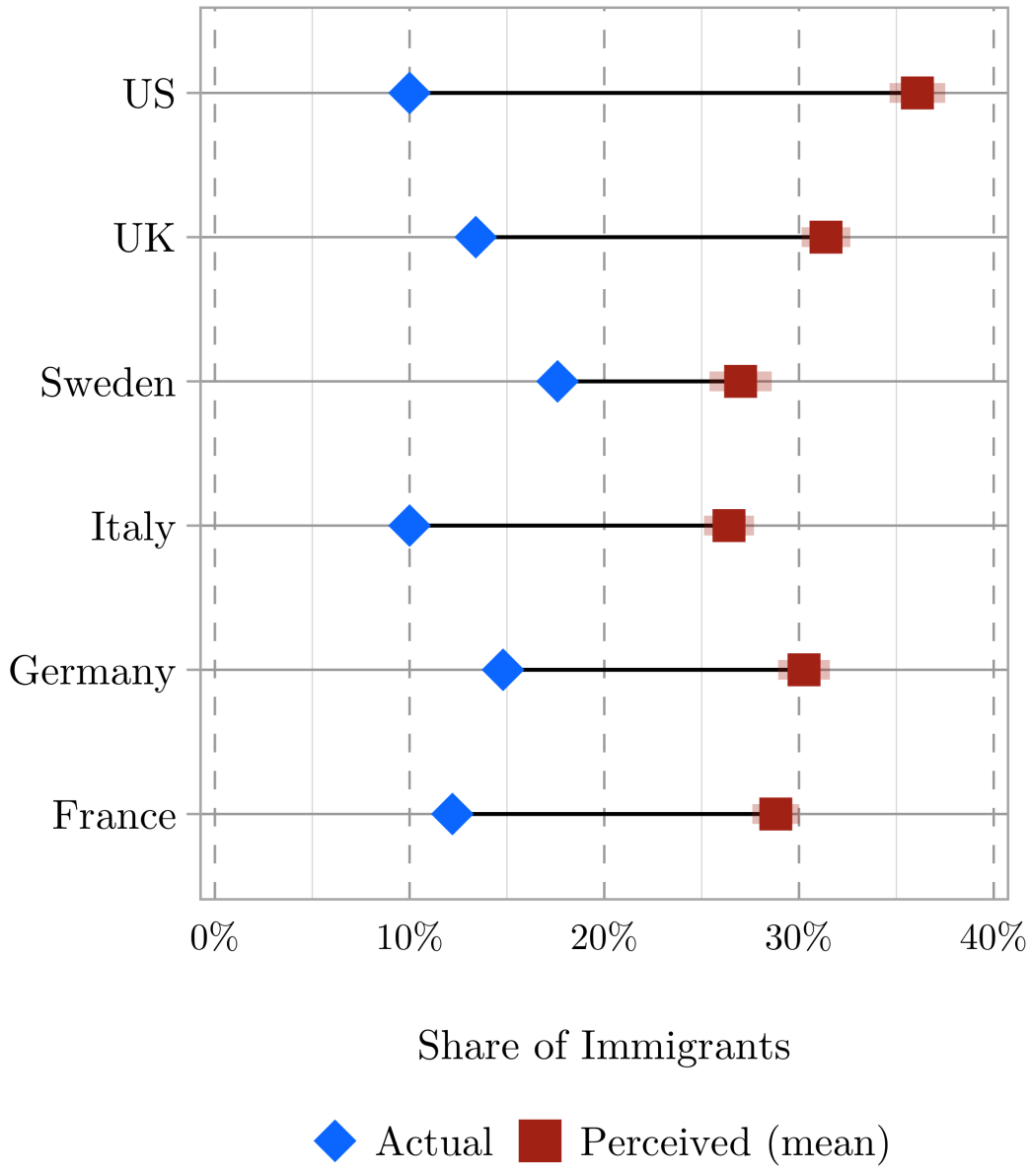
Right-wing respondents view government "as part of the problem, rather than the solution."

Believe better way to improve equality of opportunity is less government intervention.

2. Immigration

"*Immigration and Redistribution*" by A. Alesina, A. Miano, & S. Stantcheva

Perceived vs. Actual Number of Immigrants (By Country)



▸ Including Second Generation Imm.

Misperceptions about Immigrants

Most people within countries have inaccurate perceptions they think that immigrants are

> economically weaker, more unemployed, less educated,
>
> more reliant on government transfers,
>
> more culturally distant from them.

The misperceptions are largest for those without a college education, those working in lower-paid jobs in sectors that employ many immigrants, and right-wing respondents.

Left and right-wing respondents perceive the same share of immigrants, but they think immigrants have different characteristics.

Link between Immigration and Support for Redistribution

We perform an experiment: A random half of the sample is asked questions about immigrants *before* they are asked questions on policies for redistribution. Vice-versa for the other half.

> The group answering policy questions first has not been prompted to think about immigration at all. The other group has thought about immigration before answering policy questions.

Finding: Just making people think about immigrants, before asking them questions on policies for redistribution makes them less likely to support redistribution.

What explains this?

Key predictors of whether people will reduce support for redistribution:

> 1) Perception that immigrants are economically weak
>
> 2) that they "free-ride" on the system and do not work hard.
>
> Not so predictive: perceived cultural distance. Not predictive at all: perceived share of immigrants.

Hard Facts vs. Narratives

Showing information on the share of immigrants and their origins does not shift people's views on redistribution.

Telling people a story about a "day in the life of a very hard-working immigrant" has positive impacts on support for redistribution. Why? Because it counters the "free-rider" narrative which matters a lot for people's views.

"Hard facts" do not work that well on the issue of immigration, "narratives" have a strong hold.

4. Position Relative to Others

Based on *"Social Positions and Fairness Views on Inequality"* by Kristoffer B. Hvidberg, Claus T. Kreiner and Stefanie Stantcheva

Eliciting the Cohort Median Income (P50)

What do you think the income for **P50** was in 2017 for individuals born in 1970?

Remember that P50 is the income, where half have an income that is the same as or lower than this income, and half have an income that is higher than this income.

Remember also that income is before tax for the whole of 2017 and consists of salary, net profit from self-employment, other business income, unemployment benefits, transfers and payments from private and public pensions.

Note: Please state your answer in **entire thousand DKKs**. If you enter 1 it corresponds to 1,000 DKK.

thousand DKK

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Eliciting the Median (P50) in Reference Groups

We will now ask you what you think the before tax income for **P50** was in 2017 for the groups below, which you are a part of. The first slider shows your answer from the previous question. You can use the other sliders to select, what you think the income was for P50 for the different groups of **people who were born the same year as you.**

P50 for people **born in 1970**

400.000

P50 for **men** born in 1970

20.000

P50 for people who also lived in **Københavns municipality**

20.000

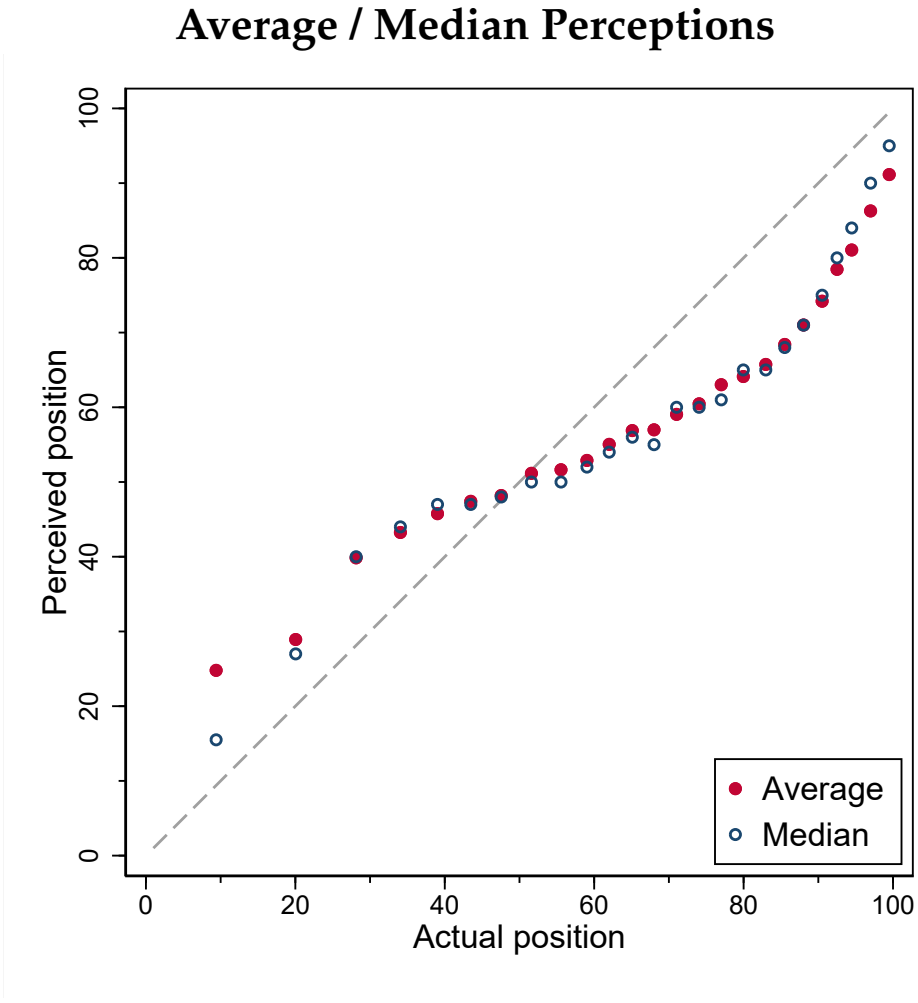
P50 for people who also had the educational level **Master or PhD program**

20.000

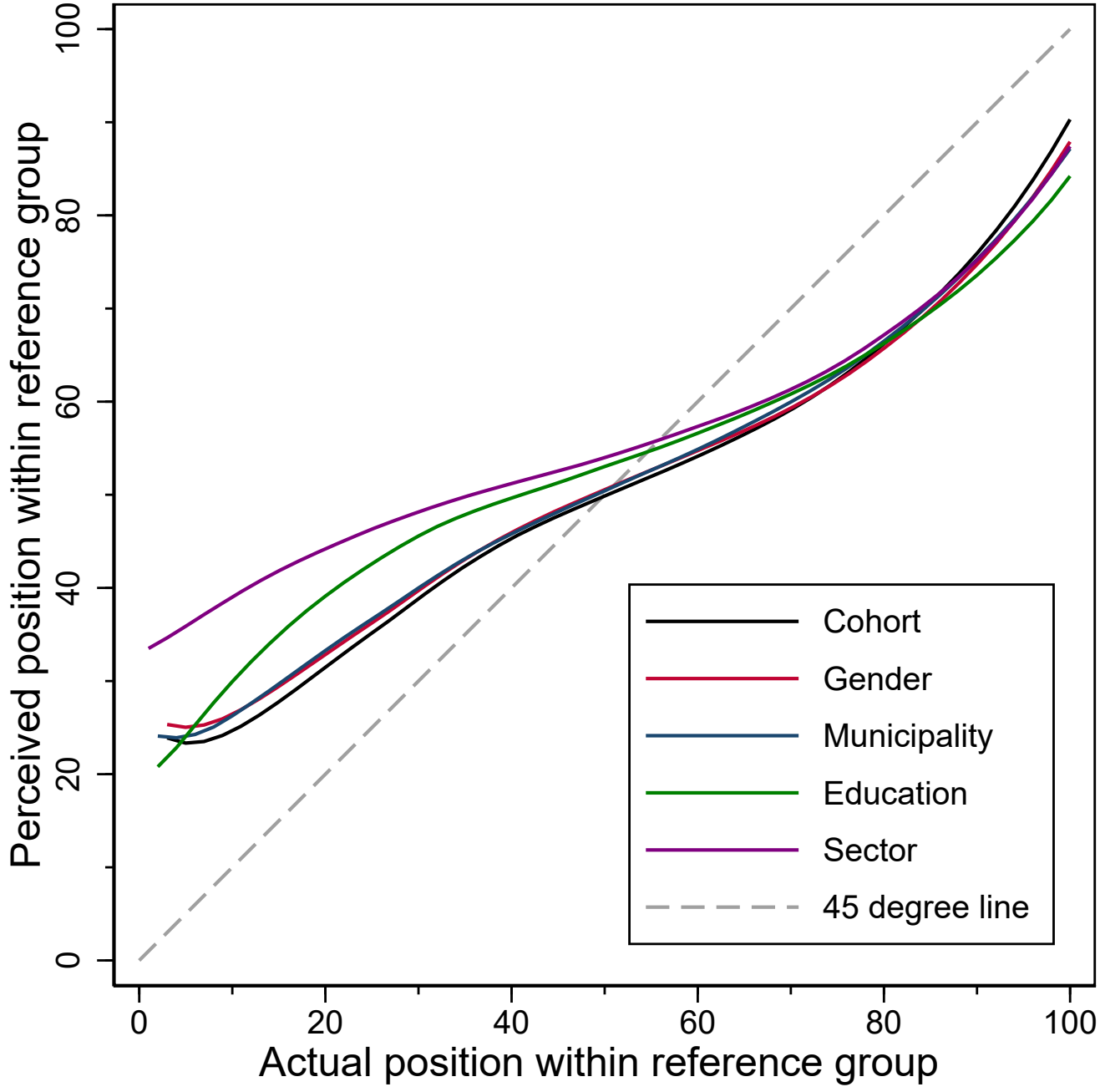
P50 for people who also worked in the sector **Finance and insurance**

20.000

Systematic Misperception of Own Position: “Center Bias”



Perceived vs. Actual Social Position in Different Groups



Which Type of Inequality is Considered to be Most Unfair?

Inequalities between co-workers (in firm or sector) & people with same education are considered most unfair ... and are much bigger than people think!

People are more accepting of inequalities conditional on factors considered less relevant for income (municipality, age, gender) than of inequalities conditional on factors that they think are crucial for shaping income (education, sector, firm).

How Does Social Position Shape Views on Inequality?

People who are ranked higher in each group think that income inequality within that group is fairer.

They also think that income differences in that group are due to differences in effort, rather than in "luck" (different circumstances), believe that their own hard work has paid off, and that high income earners deserve their income.

They are also more likely to vote for right-of-center parties and support less redistribution.

Some of these views are stickier & do not fluctuate with position changes over time (e.g., political views), other views move when your position moves (e.g., perceived fairness of inequality).

Changes in Position and Fairness Views

What happens to people's views after positive events (promotion at work) and negative events (unemployment, disability, hospitalization)?

A negative event make people think inequality is less fair.

A positive event makes them think inequality is fairer.

Information Treatment

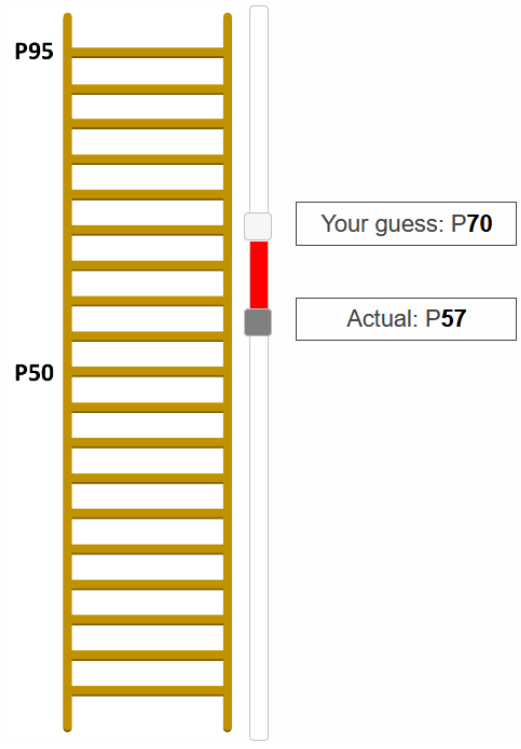
Positive Misperception

Rank among all people born in 1970

You GUESSED that you were on position P**70**.

Based on the income you reported, your TRUE position is P**57**.

You are actually 13 positions lower on the ladder than you thought.



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If interested in these methods and issues..

Social Economics Lab (http://socialeconomicslab.org/)

And lots of references in each of these papers.