How People Think About the Economy

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S O C I A L

E C O N O M I C S

L A B

Method: Large-scale Social Economics Surveys and Experiments

Social Economics Lab http://socialeconomicslab.org

Surveys are a key tool:

Some things are invisible in other data (even great data!): Perceptions, attitudes, knowledge, views.

Can also be very useful to estimate parameters that are otherwise difficult to obtain (that require variation we do not have).

Unlike old-style surveys (that measure variables now better captured in admin data).

Revealed preference with observational data has limits (requires assumptions, variation that may not exist & lots of data)

New generation surveys: Customizable, interactive, able to control frame, sample, and information.

Three Illustrations of the Application of Surveys to Macro Questions

(1) How do people understand economic policies.

Project: "Understanding Tax Policy: How Do People Reason?" (but also: trade, health, climate change..)

(2) People's perceptions of their own income and position

"Social Position and Fairness Views" (joint with Kristoffer Hvidberg and Claus Kreiner)

(3) Estimating key macro parameters

Project: "Heterogeneous spending and saving behaviors: Estimates from survey experiments" (joint with Pierfrancesco Mei)

(Many thanks to Beatrice Ferrario, Roberto Colarieti, and Daniele Goffi!)

Understanding of Policies

Survey Outline

Background of respondent:
Gender, age, income, education, family situation, political views, media exposure.

Open-ended questions:
Main considerations?; Goals of 'good' system?; Shortcomings?
Goal: identify first order concerns.

Knowledge
Factual, quantitative questions (top tax rate, concentration of wealth...)
Goal: get an idea of how much the respondent knows about tax system

Short Econ Video Courses

Redistribution	Efficiency	Economist	No Video

| **Reasoning about Taxes**: |
| :---: |
| Efficiency effects; distributional impacts; fairness considerations. |
| Two different formulations for the respondents who did not see the video: "Me" vs. Neutral |

Policy Views

| **Views of Government** |
| :---: |

5123

Income Tax: Redistribution Treatment (I)

The top 1% richest agents, just one person in 100, earn around 22% or almost one quarter of all income in the U.S.

TOTAL U.S. INCOME

Bottom 10% 20% 30% 40% 50% 60% 70% 80% 90% 99% Top 1%
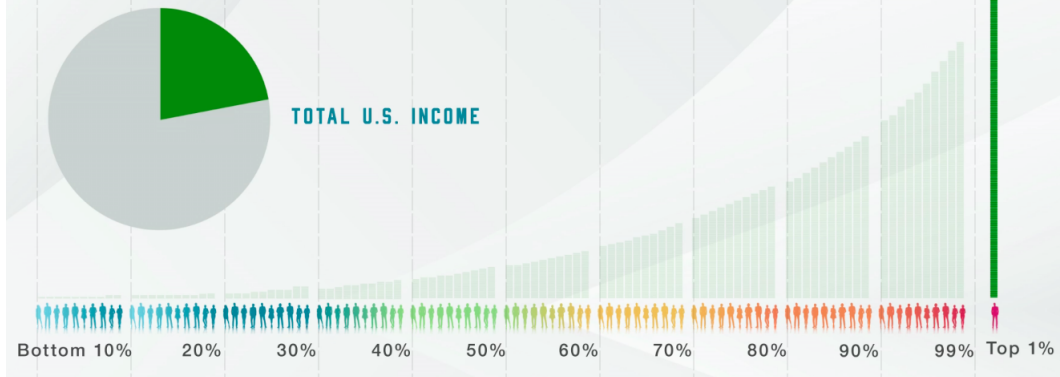
Income Tax: Redistribution Treatment (II)

A progressive income tax system means that higher income households pay a higher share of their income in taxes.

TAXES

Bottom 10%   20%   30%   40%   50%   60%   70%   80%   90%   99%   Top 1%
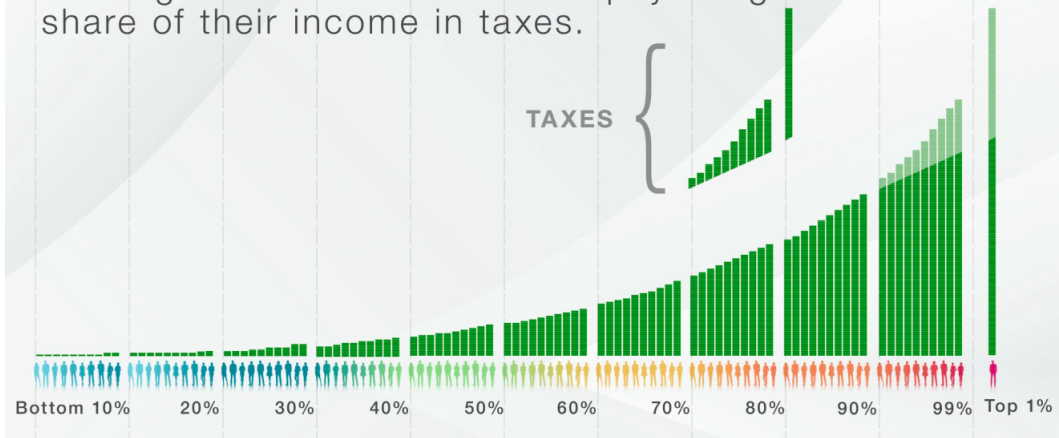
Income Tax: Redistribution Treatment (III)

Revenues from the income tax go to fund tax cuts or transfers for lower income families.

TRANSFERS

Bottom 10%   20%   30%   40%   50%   60%   70%   80%   90%   99%   Top 1%
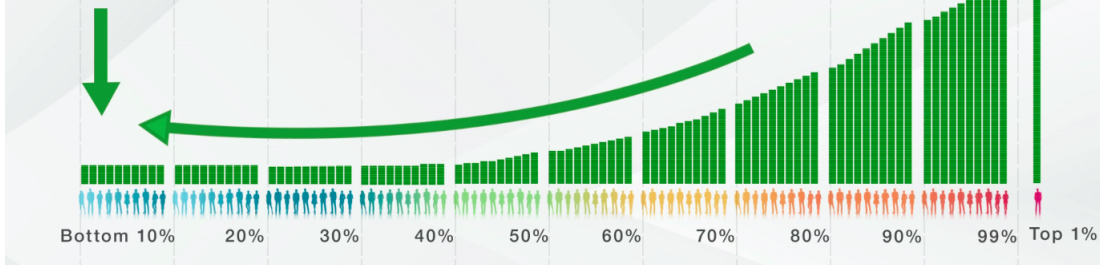
Income Tax: Efficiency Treatment (I)

However, raising taxes has some **economic costs.** These costs arise from **people reacting to higher taxes** by changing their behaviors.

Bottom 10%   20%   30%   40%   50%   60%   70%   80%   90%   99%   Top 1%
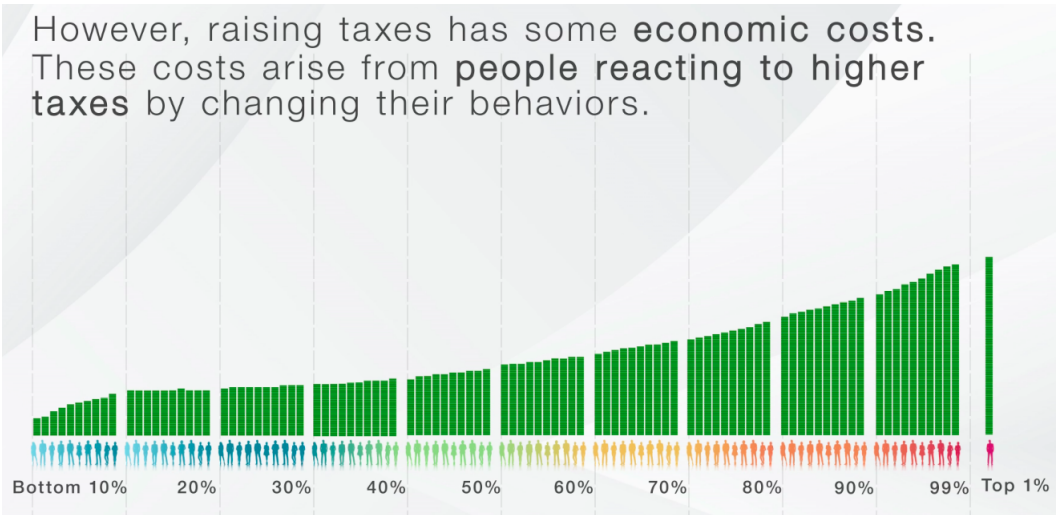
Income Tax: Efficiency Treatment (II)

Higher taxes could thus **reduce overall economic activity** and incomes.

U.S. economic activity

Bottom 10%　20%　30%　40%　50%　60%　70%　80%　90%　99%　Top 1%
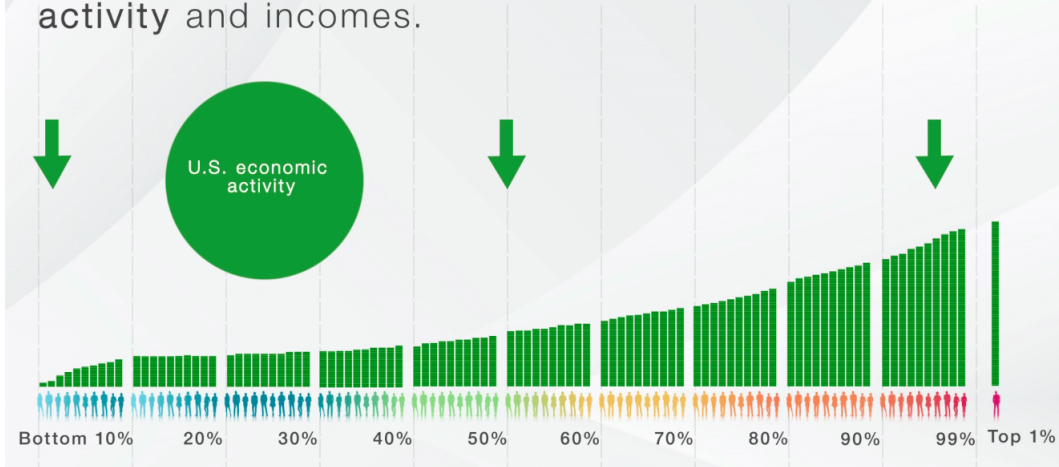
Income Tax: Efficiency Treatment (III)

When the tax rate rises, Martha may decide to **not look for a job anymore**, since the cost of searching and working **may no longer be worth** the lower post-tax income.

Bottom 10%   20%   30%   40%   50%   60%   70%   80%   90%   99%   Top 1%
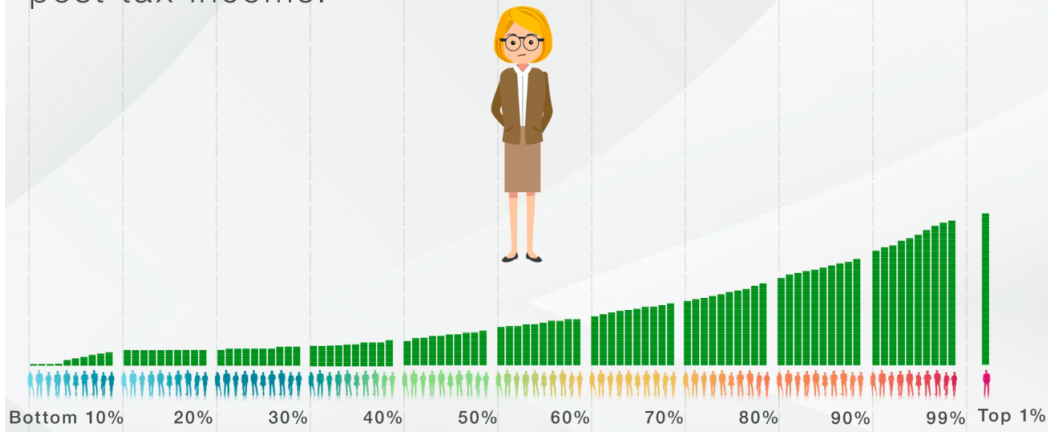
Income Tax: Economist Treatment (I)

All taxes have an **economic cost** and too high taxes can discourage economic activity.

But there are also **benefits**. Progressive taxes make the income distribution **more equal and fair** by redistributing some income from richer to poorer people. The ideal income tax system will be the one that balances these costs and benefits.
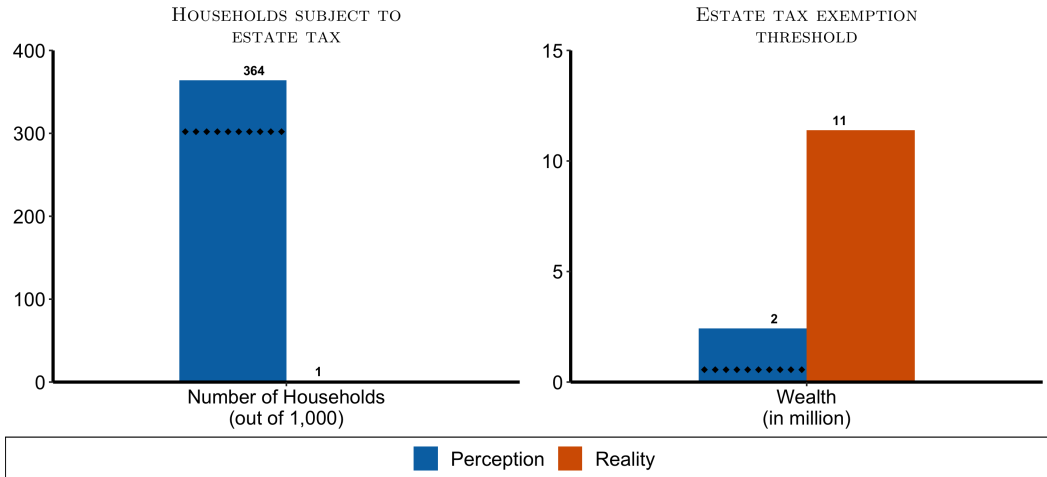
RAISE TAXES

LOWER TAXES

INCOME
INEQUALITY

ECONOMIC
COST

People believe top bracket starts much lower and top tax rate used to be same as today

TOP FEDERAL INCOME TAX RATE

Income threshold top income tax rate

Perception   Reality
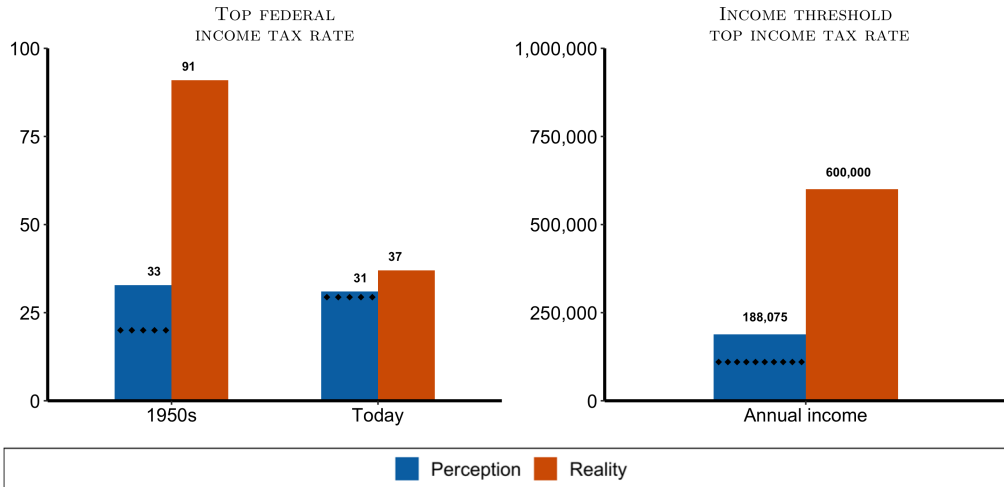
People greatly overestimate share of households who pay the estate tax & underestimate exemption threshold

HOUSEHOLDS SUBJECT TO ESTATE TAX

364

1

Number of Households (out of 1,000)

ESTATE TAX EXEMPTION THRESHOLD

11

2

Wealth (in million)

Perception   Reality

Who Knows More?

Higher-income respondents more aware of what's going on at the top.

College-educated respondents generally more accurate (except tend to over-inflate inequality).

"Polarization of Reality:" Republicans tend to view taxes as higher and more progressive than Democrats; inequality as lower and not having increased as much.

> Importantly: no group is systematically more accurate on these.

Those who know more (and self-report knowing more too) also more willing to pay for information.

Efficiency and Distributional Effects of Income & Estate Taxes

Republicans believe both middle class and high earners will respond more to taxes than Democrats do: will work less, move states, stop working, have spouse stop working, be less entrepreneurial (exception: tax evasion!)

If taxes cut for high incomes: Republicans believe more than Democrats that lower-incomes will also gain.

If overall taxes are raised, Republicans believe more than Democrats that everyone will lose.

Republicans perceive their own gains and losses from tax cuts (income or estate tax) as more similar to those of high incomes than Democrats do.

Consistent with Republicans perceiving their own social class as higher, even conditional on income.

Fairness Concerns for Income and Estate Taxes

Fundamental disagreement on whether income inequality is a serious issue (25% of Republicans; 75% of Democrats) or whether high-incomes entitled to keep large share of their income (8% of Democrats; 55% of Republicans), whether wealth inequality is a serious issue (18% of Republicans; 65% of Democrats).

Estate tax poses very thorny fairness issues depending on whether take children or parents' perspective.

If take point of view of children: Many agree unfair children have access to better amenities if born in rich families and, to a lesser extent, that unfair children born in wealthier families inherit more.

  Still, partisan gap is large.

But if we focus on trade-off between parents being entitled to pass on their wealth versus children being entitled to start with equal opportunities, views quite split even within political views.

  50% of Democrats think fair to allow parents to pass on wealth; 70% of Republicans.

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Main Findings: Fairness and Partisanship

Fairness & the benefits of redistribution, followed by views on the government are key factors driving support for taxes:

> Efficiency concerns (as we understand them) play more minor role in people's minds.

> Causal effect confirmed with experiment.

> But Fairness is in the eye of the beholder!

Partisan divergences are large: in policy views, but also in reasoning about underlying mechanisms.

> Democrats: more likely to believe that taxes have less economic costs, that tax cuts almost never "pay for themselves" & that people will not starkly change behaviors in response to tax increases...

> that "trickle-down" doesn't happen, that distributions of income, wealth & inheritances are unfair & that taxing away parts of them is fair.

> **"Polarization of Reality"** even in tax knowledge/perceptions (facts).

Understanding of One's Position in Various Reference Groups

CHALLENGING TO STUDY SOCIAL POSITIONS GIVEN DATA REQUIREMENTS

- Need data on people's perceptions *and* reality...
- Knowing people's true position requires knowing incomes of all other people in the reference group...
  - ▶ There are many relevant reference groups: sector, education, cohort, gender, neighbors...
- Need detailed perceptions: to be able to pinpoint where errors lie. Own income (not trivial)? Misperceived income distribution?
- Need to know people's income histories (and those of all their reference groups) if want to track changes in position...
- Need to be able to shift people's perceived position experimentally...

NEW DATASET & METHODOLOGY

Link Survey & Administrative data for a large sample of people in Denmark

- **Subjective**: Survey & information experiment, eliciting perceptions about income positions and views on inequality.
- **Objective**: Admin records with detailed info about income, income histories, shocks (unemployment, disability, health, promotion) for all reference groups

Benefits:

1. Measurement: Perceived & actual incomes of respondents and everyone in their reference groups

2. Position within reference groups: Percentile position in income distribution within cohort + same gender, education, sector, municipality, (+ neighbors, co-workers, former schoolmates, family).

3. Impact analysis: Effects of changes in social position on fairness views (current vs past positions; shocks to position due to unemployment, health, promotions; info treatment).

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

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
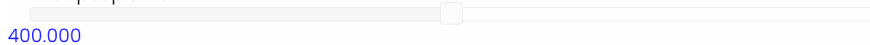
P50 for **men** born in 1970

20.000
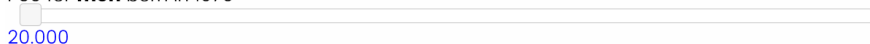
P50 for people who also lived in **Københavns municipality**

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

Eliciting Perceived Own Position

You previously reported that you had a yearly income in 2017 of 400000 DKK before tax. We will now ask you to report where you think this income placed you on the income ladder in 2017 for people who were born in 1970. Use the slider to select your position. Later, we will inform you about your true position.
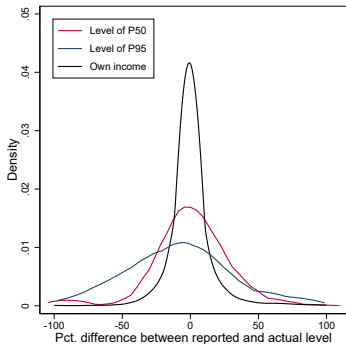
P95

P50

Place yourself:
P70
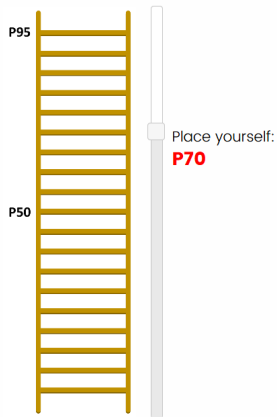
Systematic Misperception of Own Position: "Center Bias"

Average / Median Perceptions
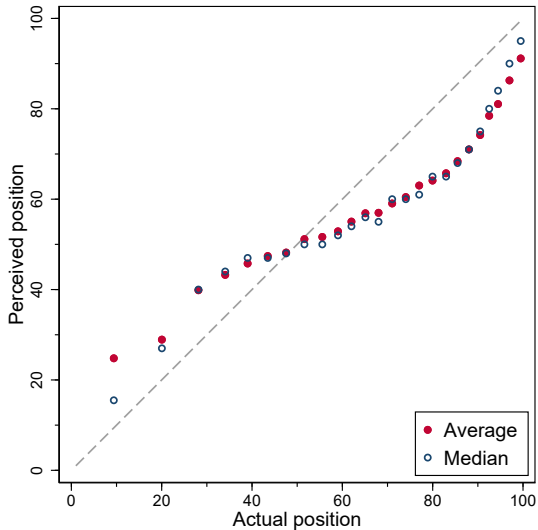
Misperception of Cohort P50 and P95

Size of Misperceptions
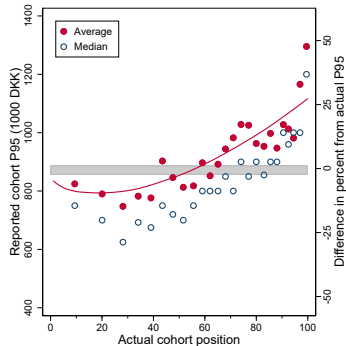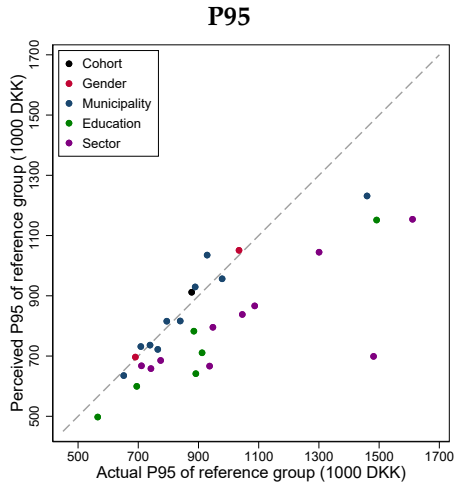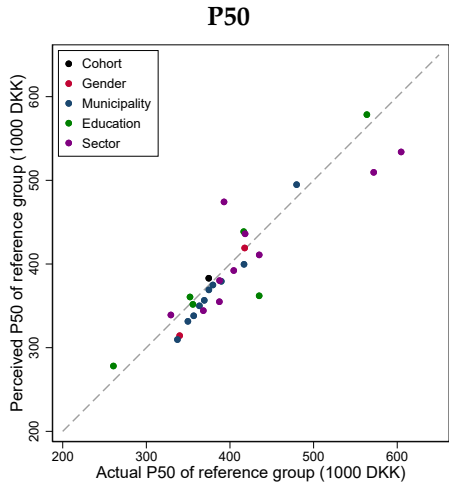
P50 Misperception
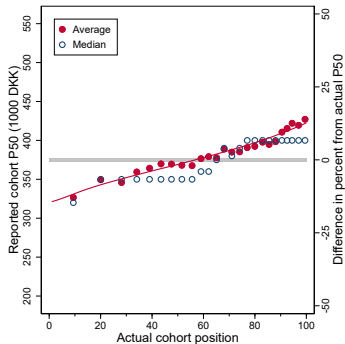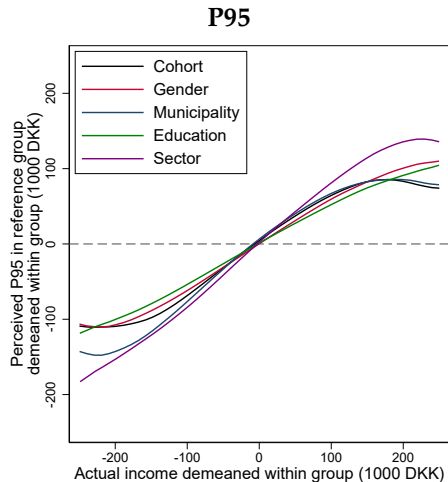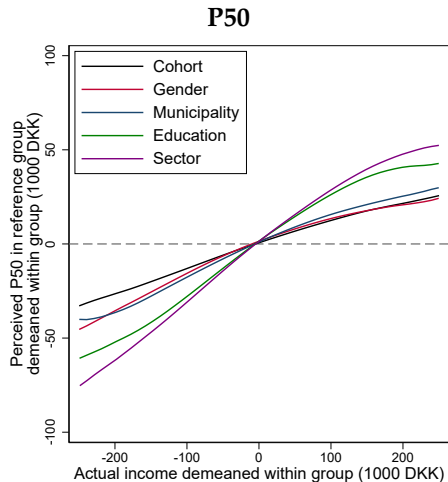
P95 Misperception

Perceived P50 and P95 by Reference Groups

Respondents are better at estimating medians than the top of the distribution and their perceptions of "reality" are shaped by their own positon
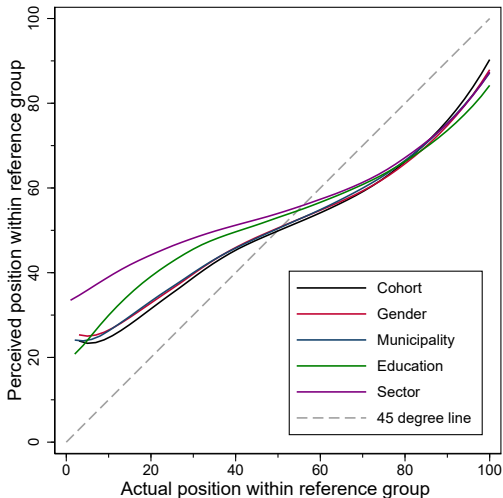
Perceived P50 and P95 by income within reference groups
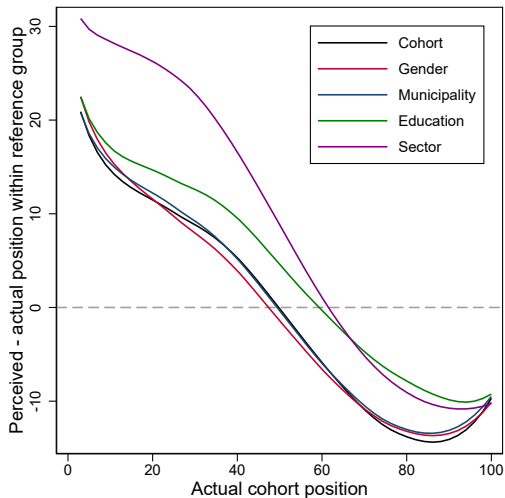

P50

P95

Systematic Misperception of Own Position Across Reference Groups

... of varying magnitudes. Largest misperceptions: education and sector groups.

By reference group position

By cohort position

19|32

Small Reference Groups: Size and Position

Think about your co-workers in the beginning of 2017. By co-workers we mean the people who had the same workplace as you in the begging of 2017. A workplace usually has the same address so if you for instance worked in a chain store then your co-workers are those who worked in the same store as you and **not** all the people who were employed in the same firm.

How many people worked in your workplace at the beginning of 2017 incl. you? If you do not remember the exact number then report your best guess.

50

Imagine that we rank you and your co-workers by your incomes in 2017 such that the person with the lowest income is number 1 and the person with the highest income is number 50. What do you think your position was in this rank in 2017?
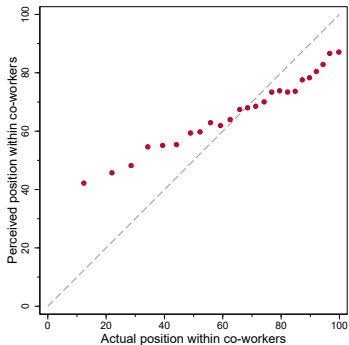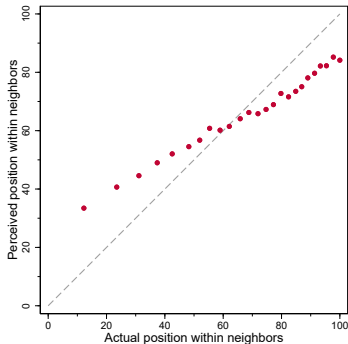
50

Place yourself:
Number 1 out of 50 in my workplace.
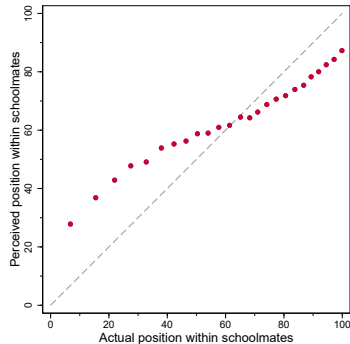
1

Perceived Position in Small Reference Groups

Perceived Position of Parents

Father

Mother

22|32
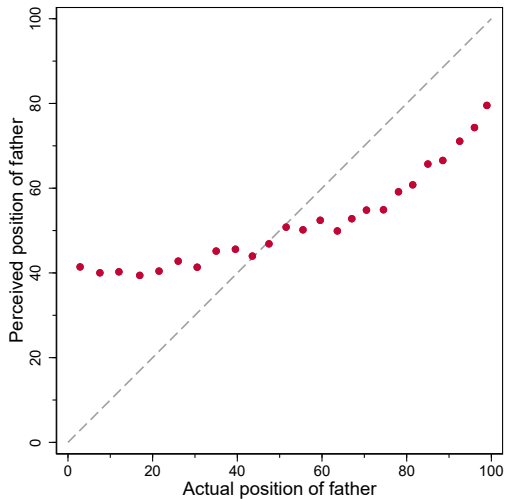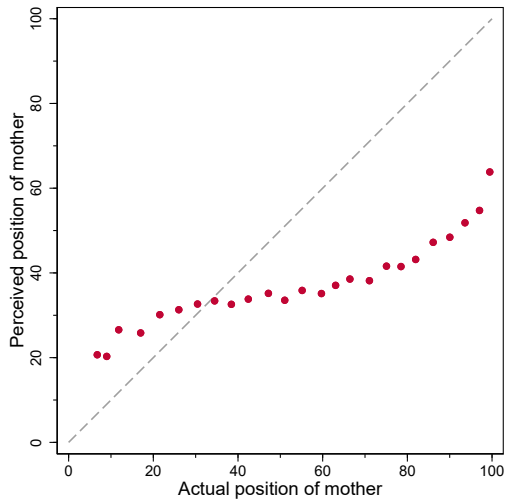
Implications for Macro Models

Which inequalities do people consider most unfair? .. the ones that they underestimate most!

Inequality within sector and within education group considered to be most unfair.

Yet it is within these groups that people underestimate top earnings the most; and lower-ranked people over-estimate their position the most.

Info seems to circulate least well within sector and among co-workers in the same firm.

Implications for wage setting dynamics? For search? For within vs. between firm inequality?

> May help explain labor market behaviors (as well as acceptability of different wage setting policies/government policies).

Estimating Key Macro Parameters

Using Surveys to Estimate Macro Parameters

- **Estimate parameters**. Recover estimates that are hard to obtain using revealed behavior.

  ▶ Dynamic responses to future anticipated shocks, Intertemporal MPCs and MPDs out of hypothetical income changes.

- **Heterogeneity**. Ask detailed questions about economic and financial circumstances, past salient events, perceptions, expectations.

- **Higher-order beliefs.** How will others react in similar scenarios? Relevant for policy support

- **Experiments**: Provide information or framing randomly. E.g.: Shift perceived macro environment.

- **Methodology**. When can we trust survey estimates? Cross-validation of survey estimates and accuracy checks.

Estimating iMPCs from Survey Data

- Auclert et al. (2018, 2020): a limited set of moments - iMPCs - are key sufficient statistics to study the GE propagation of shocks and policies.

- Matrix $\mathbf{M}$ of iMPCs:

$$\mathbf{M} = \begin{bmatrix} \frac{\partial \mathcal{C}_0}{\partial Z_0} & \frac{\partial \mathcal{C}_0}{\partial Z_1} & \frac{\partial \mathcal{C}_0}{\partial Z_2} & .. \\ \frac{\partial \mathcal{C}_1}{\partial Z_0} & \frac{\partial \mathcal{C}_1}{\partial Z_1} & \frac{\partial \mathcal{C}_1}{\partial Z_2} & .. \\ \frac{\partial \mathcal{C}_2}{\partial Z_0} & .. & .. & .. \\ .. & .. & .. & .. \end{bmatrix}$$

- Available data allow to estimate the first rows of the first column.
  - ▶ Solution: match available estimates, then use models to extrapolate to other columns.

- Survey estimates allow to study the planned spending response to future anticipated income shocks $dZ_1, dZ_2, ...$
  - ▶ Use these estimates to parametrize the infinite-dimensional matrix $\mathbf{M}$.

Survey Structure I

- **Respondent's Background**
  - *General*: standard demographic questions.
  - *Assets and liabilities*: detailed questions on the household's finances.
  - *Technical questions*:
    - ★ Spending commitments
    - ★ Perceived income uncertainty and cyclicality.
    - ★ Time and risk preferences

- **Economic Experience**
  - *Pre-COVID19 (2015-19)*: unemployment spells, credit access and debt obligations, changes in income and assets, business bankruptcies, foreclosures/evictions, health-related events.
  - *COVID19: (2020-21)*: as above, plus targeted questions on sectoral exposure and receipt of Federal/State support.

- **Expectations**
  - Planned housing- and education-related investments, concerns for unemployment, income and assets changes, credit access and debt obligations, retirement and saving plans.

Survey Structure II

- **Experimental information**
  - Randomized videos on the US economic outlook and the spillover to local economic conditions (scenarios: uncertain, positive, and negative).
  - *First-stage questions*: perceived economic outlook for the US and the respondent's HH.

- **Elicitation of iMPCs and iMPDs using hypothetical scenarios**, randomizing:
  - Shock size: fixed or proportional to income ($1,000 and 10% of net annual HH income).
  - Timing: current or future anticipated income changes.
  - Horizon: 4-8 quarters.
  - Source: government and non-government (bonus, gift, win, inheritance).
  - Perception of other income groups' responses.

- **Regular spending and saving plans**
  - 12-month ahead planned spending, debt repayments and savings.

- **Cross-validations**, randomizing:
  - Economic Impact Payments use.
  - Specifically-designed validations to replicate estimates from other works and datasets.

iMPC and iMPD elicitation: survey format

Could you provide an estimate of your **total household income**, <u>after transfers and taxes</u>, in 2020?

- ○ $0 - $14,999
- ○ $15,000 - $19,999
- ○ $20,000 - $24,999
- ○ $25,000 - $29,999
- ○ $30,000 - $39,999
- ● $40,000 - $49,999
- ○ $50,000 - $59,999
- ○ $60,000 - $69,999
- ○ $70,000 - $79,999
- ○ $80,000 - $99,999
- ○ $100,000 - $149,999
- ○ $150,000 - $249,999
- ○ $250,000 or more

iMPC and iMPD elicitation: survey format

Let us suppose that today you learn the news that you and your household will receive a **one-time payment worth approximately 10 percent of your total household annual income** (after transfers and taxes). You can think of this payment as a bonus, inheritance, gift, or win. This one-time payment (which will not be taxed) will be available on your bank account or as a check in your mailbox within a few days.

Now, consider ways in which you and your household can use this additional income:

1. **Additional spending:** purchases of durable goods (e.g., cars, furniture, jewelry, etc.) or non-durable goods and services that do not last for a long time (e.g., food, clothes, vacation, etc.) on top of those you have already planned.
2. **Additional debt repayments:** principal and interest payments to reimburse outstanding debts (e.g., credit card debts, mortgages, student and consumer loans, etc.) on top of those you have already planned.
3. **Savings:** amount of additional income that is neither spent nor used to repay debt. It is left for future use, for instance by depositing it in checking, savings, or pension accounts, or by purchasing financial assets.

We would like to understand how you and your household would allocate this one-time payment to additional spending and debt repayments in the **next few quarters**.

iMPC and iMPD elicitation: survey format

Suppose that **today you and your household receive a one-time payment** of the following amount:

$ 4500

Please enter how you would **allocate this one-time payment to additional spending and debt repayments** in different periods of time. Note that what you will not use for additional spending or debt repayments during these periods, will be **saved for future use**.

	Additional spending	Additional debt repayments
Between today and 3 months from now		
Between 4 and 6 months from now		
Between 7 and 9 months from now		
Between 10 and 12 months from now		

Savings : $ 4500

iMPC and iMPD elicitation: survey format

Suppose that **__today__ you and your household receive a one-time payment** of the following amount:

$ 4500

Please enter how you would **allocate this one-time payment to additional spending and debt repayments** in different periods of time. Note that what you will not use for additional spending or debt repayments during these periods, will be **saved for future use**.

	Additional spending	Additional debt repayments
Between today and 3 months from now	500	300
Between 4 and 6 months from now	200	200
Between 7 and 9 months from now	100	
Between 10 and 12 months from now		

Savings : $ 3200

iMPC and iMPD elicitation: survey format

Let us now consider a hypothetical scenario identical to the question above, except that **today** you learn the news that you and your household will receive a **future one-time payment** worth approximately 10 percent of your total household annual income (after transfers and taxes). You can think of this payment as a bonus, inheritance, gift, or win.

This one-time payment will be available on your bank account or as a check in your mailbox **3 months from now**.

Will you and your household be able to increase spending and debt repayments over the next 3 months **in anticipation** of the one-time payment?

Yes	No
○	○

Data Quality and Cross-Validations

Paper	Estimate	Sample	Value	Our estimate	
Karger and Rajan (2021)	**MPC** out of the <u>first</u> EIP	Facteus bank-account data	.46	.51 (.022)	
Coibion et al. (2020)		Nielsen Homescan panel	.42		
Karger and Rajan (2021)	**MPD** out of the <u>first</u> EIP	Facteus bank-account data	.10	.3 (.021)	
Coibion et al. (2020)		Nielsen Homescan panel	.31		
Karger and Rajan (2021)	**MPC** out of the <u>second</u> EIP	Facteus bank-account data	.39	.49 (.024)	
Karger and Rajan (2021)	**MPD** out of the <u>second</u> EIP	Facteus bank-account data	.14	.29 (.022)	
Patterson (2021)	MPC out of income loss due to unemp.	CEX, PSID	.53	.58 (.023) *all*	.58 (.042) *concern unemp.*
Ganong and Noel (2019)	Δ spending in first month of unemp.	JPMCI bank-account data	-.07	-.24 (.02) *all*	-.18 (.051) *concern unemp.*
Kaplan et al. (2014)	Share of HtM households	SCF	.31	.29 (.012)	
	Share of wealthy HtM out of total HtM	SCF	.62	.63 (.035)	
Chetty and Szeidl (2007)	Share of committed expenditures	CEX, PSID	0.5 (update: 0.6)	.62 (.005)	

Notes: Robust version, i.e., removing the 5% more inaccurate observations. Standard errors in parentheses.

Quarterly iMPCs: survey estimates
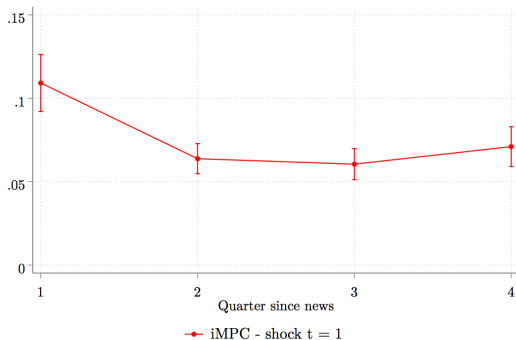
Average reported iMPCs out of a current positive income shock worth $\approx 10\%$ of the annual household net income.

Annual MPC ≈ 0.3-0.35 for 10% shock, unweighted (net income weights in aggregation).

MPCs decrease in size of the transfer. For $1,000 (fixed) shock, annual average MPC ≈ 0.35-0.4.

Auclert (2019) Italy annual MPC ≈ 0.45;
Fagereng et al. (2021) Norway annual MPC ≈ 0.5;
Fuster et al. (2021) quarterly MPC ≈ 0.1;
Kaplan and Violante (2014) quarterly MPC ≈ 0.14

Annual MPD ≈ 0.35 for 10% shock and ≈ 0.4 for fixed shock.

Covid-related attenuation: keep running survey over several months.

Framing effects at 1 and 2 year horizons: interesting to keep exploring.

# Quarterly iMPCs: survey estimates for anticipated income shocks
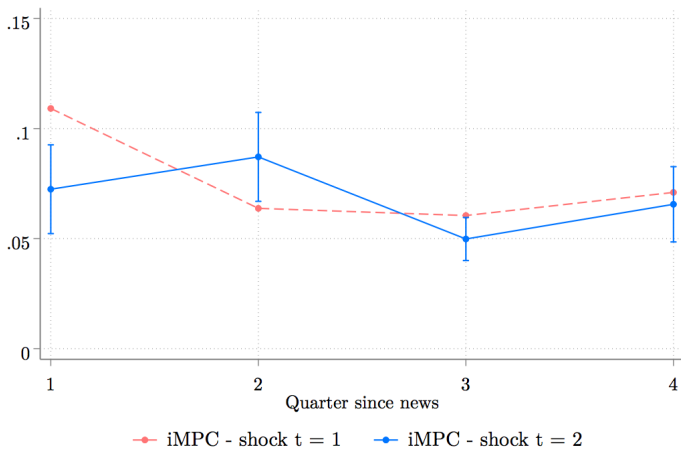
Average reported iMPCs out of a future (one-quarter ahead) income shock worth $\approx 10\%$ of the annual household net income.

Quarterly iMPCs: survey estimates for anticipated income shocks
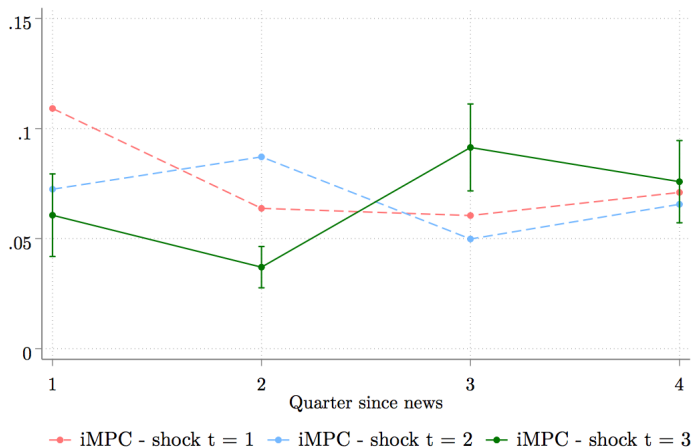
Average reported iMPCs out of a future (two-quarter ahead) income shock worth $\approx$ 10% of the annual household net income.

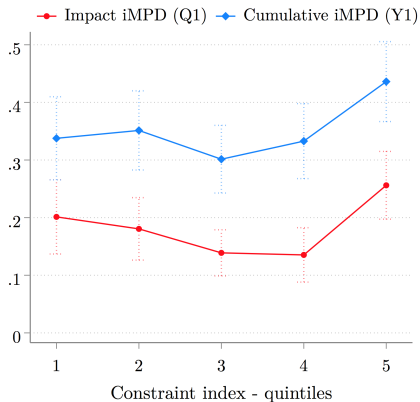# The dynamic response of constrained and unconstrained households
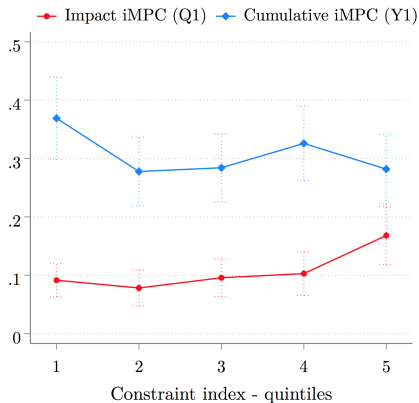
Constraint index: low liquid assets and various measures of credit restrictions (no CC, high use of CC limit or rolling CC balances, low FICO score, self-reported difficulty in getting credit or repaying debt, inability to anticipate future income changes).

Constrained HHs consume significantly more in the first quarter, but not when we look at the cumulative 1-year response.

Average reported impact and cumulative MPCs out of a current positive income shock worth ≈ 10% of the annual household net income, by constraint index.

The dynamic response of constrained and unconstrained households

Average reported impact and cumulative MPDs out of a current positive income shock worth ≈ 10% of the annual household net income, by constraint index.

Constraint index: low liquid assets and various measures of credit restrictions (no CC, high use of CC limit or rolling CC balances, low FICO score, self-reported difficulty in getting credit or repaying debt, inability to anticipate future income changes).

Constrained HHs consume significantly more in the first quarter, but less when we look at the cumulative 1-year response.

In later quarters, constrained HHs focus on deleveraging.

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