Reality vs. Ideology: An Alternative Explanation of Individual Preferences for Redistribution

Cong Huang

[1]Hobby Center for Public Policy
[2]Department of Political Science
University of Houston

OUTLINE

- Introduction
- The EITM Framework
- Applying the EITM Framework
- Data and Measurement
- Empirical Results
- Conclusions

INTRODUCTION - PUZZLE

The ***PUZZLE*** of inequality and redistribution

- Meltzer and Richard model (1981)

  Individual preferences for redistribution depend on individual income positions:
  2 implications (micro & macro)

- Mixed results from empirical tests (Persson and Tabellini 2000)

- My answer (micro level)

➢ Utilizing **EITM framework**

➢ Not only individual's own income level but also her **evaluation of justice** with respect to the income distribution of the **whole society** matter in redistributive preferences

➢ Justice evaluation is about the **difference** between what an individual **actually observes** regarding the income inequality of the society and the just level that she **perceives**

INTRODUCTION – LIT REVIEW

Static trend

Purely materialist and selfish individual

+

Social-interest

This study introduces Jasso' s model of justice to explain

Most Recent studies

Income positions

Meltzer and Richard (1981)

POUM hypothesis

Benabou and Ok (2001)

Dynamic trend

Self-interest as driving force

Perceived inequality

Cruces et al. (2013) and Niehues (2014)

Indirect inequality

Galor and Zeira (1993)

Economic efficiency

Direct inequality

Alesina and Giuliano (2008)

Ideological Preferences

INTRODUCTION – LIT REVIEW

- Most recent studies: it is not actual income inequality, but rather how it is perceived that matters

  Actual: officially-reported national income inequality

  Perceived: individual view of the income distribution

- Three problems of this alternative viewpoint:

  (1) How should "actual" and "perceived" be defined at the micro level?

  (2) Theory underlying: how does the effect of perceived part come about?

  (3) How does the difference between actual and perceived inequality matter?

INTRODUCTION – RESEARCH QUESTION

- **Why does individual-specific perceived income inequality matter in understanding individual preferences for redistribution?**

- **How does the difference between what an individual actually observes and perceives about income inequality affect her preferences for redistribution?**

THE EITM FRAMEWORK

- **Three-Step EITM Framework**

  (Granato et al., 2010)

- ***Step 1***: Identify a theoretical concept of human behavior of interest and relate it to a statistical concept.
- ***Step 2***: Develop behavioral (formal) and statistical analogues.
- ***Step 3***: Unify the theoretical and statistical analogues in testable theory.

APPLYING THE EITM FRAMEWORK

***Step 1*: relating decision making to discrete choice**

- Theoretical Concept

  Decision making

  => Maximize the utility of supporting redistribution

- Applied Statistical Concept

  Discrete choice

  => Preferences on redistribution

APPLYING THE EITM FRAMEWORK

***Step 2*: develop behavioral (formal) and applied statistical analogues**

- Based on **MR** (1981) model: let each individual *i* is purely self-interested under a laissez-faire condition

$$\boldsymbol{U_i = (\frac{C_i}{Y_i})^{\alpha}} \quad (1)$$

where C represents the consumption and Y represents the income, and α is a preference parameter ($\alpha \in (0, 1]$). Also, $\boldsymbol{C_i = (1 - t)Y_i + T_i}$, where *T* is government transfers and $\boldsymbol{T_i = r(Y^* - Y_i)}$. $\boldsymbol{C_i = Y_i = (1 - t)Y_i + r(Y^* - Y_i)}$Thus, the average income $\overline{Y_i} = (\frac{r}{t+r})Y^*$. We can directly see that $\overline{Y_i}$ is actually constant in the model since it is a function of Y^*. In this case, $U_i = (\frac{Y_i}{\overline{Y_i}})^{\alpha}$, after log transformation:

$$\boldsymbol{u_i = \alpha y_i - \alpha y_i} \quad (2)$$

where $\boldsymbol{u_i} \equiv \ln \boldsymbol{U_i}$, $\boldsymbol{y_i} \equiv \ln \boldsymbol{Y_i}$, and $\overline{y_i} \equiv \ln \overline{Y_i}$. Since $\overline{Y_i}$ is constant across *i*, thus

$$\boldsymbol{u_i = \theta_0 + \theta y_i} \quad (3)$$

APPLYING THE EITM FRAMEWORK

***Step 2*: develop behavioral (formal) and applied statistical analogues**

- What if *i* cares about social-interest, whether the society is just?
- **Incorporate Jasso's (1999) justice evaluation function**

$$J = \ln\left(\frac{A}{C}\right) \qquad (4)$$

where A represents personal *actual* earnings and C represents personal *perceived* just earnings.

- $A > C \Rightarrow J > 0$, over-rewarded;
  $A = C \Rightarrow J = 0$, perfectly just;
  $A < C \Rightarrow J < 0$, under-rewarded.

APPLYING THE EITM FRAMEWORK

***Step 2*: develop behavioral (formal) and applied statistical analogues**

- **Justice index of the society**

$$\boldsymbol{JI = E(J) = E\left[\ln\left(\frac{A}{C}\right)\right] = \ln\left[\frac{G(A)}{G(C)}\right]} \qquad (5)$$

where $E(X) = (\sum_{n=1}^{N} x_n)/N$ and $G(.)\, G(X) = (\prod_{n=1}^{N} x_n)^{1/N}$

- $\boldsymbol{JI > 0}$, over-burdened society;
  $\boldsymbol{JI = 0}$, perfectly just society;
  $\boldsymbol{JI < 0}$, under-benefited society.

APPLYING THE EITM FRAMEWORK

***Step 2*: develop behavioral (formal) and applied statistical analogues**

- **Income inequality in justice index**

  Atkinson's (1975) measure

$$I(X) = 1 - \left[\frac{G(X)}{E(X)}\right] \tag{6}$$

- $I(X) = 0$, no inequality;

  $I(X)$ increases as the inequality increases.

$$G(X) = E(X)[1 - I(X)] \tag{7}$$

$$JI = \ln\left[\frac{G(A)}{G(C)}\right] = \ln\left(\frac{E(A)[1 - I(A)]}{E(C)[1 - I(C)]}\right) \tag{8}$$

APPLYING THE EITM FRAMEWORK

***Step* 2:** develop behavioral (formal) and applied statistical analogues

- **Reality vs. ideology in justice index**

$$JI = [\ln(E(A)) - \ln(E(C))] + [\ln(1 - I(A)) - \ln(1 - I(C))] \quad (9)$$

$$JI = JI_{mean} + JI_{inequality} = (Observed - Perceived)_{mean} + (Observed - Perceived)_{inequality}$$

- *Observed* inequality: income inequality of the society based on actual income distribution an individual observes.

  Perceived inequality: income inequality of the society based on just income distribution an individual perceives.

***Note**: $\ln(1 - I(.))$ increases, inequality decreases;

$\ln(1 - I(A)) - \ln(1 - I(C)) > 0$, observed inequality is lower than perceived inequality.

APPLYING THE EITM FRAMEWORK

Step 2: develop behavioral (formal) and applied statistical analogues

- **Discrete choice and logistic regression**

  (Incorporate self- and social-interest)

$$R_i = \underbrace{(\theta_0 + \theta y_i)}_{\text{(Self-interest based on MR)}} + \underbrace{\{\beta[\ln(E(A))_i - \ln(E(C))_i] + \gamma[\ln(1 - I(A))_i - \ln(1 - I(C))_i]\}}_{\text{(Social-interest from Jasso's justice index of the society)}} \quad (10)$$

$$\text{i.e., } P_i = f(R_i) = \theta_0 + \theta Income_i + \beta DiffMean_i + \underbrace{\gamma DiffInequality_i}_{\text{My interest}} + \epsilon_i$$

where P_i = preferences for redistribution – probability of supporting redistribution;
$\ln(E(A)) - \ln(E(C))$ = the difference between observed and perceived mean income;
$\ln(1 - I(A)) - \ln(1 - I(C))$ = the difference between observed and perceived income inequality.

APPLYING THE EITM FRAMEWORK

Step 3: unify and evaluate the analogues

$$\boldsymbol{P_i = \alpha_0 + \theta Income_i + \beta DiffMean_i + \gamma DiffInequality_i + \epsilon_i} \quad (11)$$

- $\boldsymbol{\theta}$ is the effect of individual income on individual preferences for redistribution;
- $\boldsymbol{\beta}$ is the effect of the difference between observed and perceived mean income of the society on individual preferences for redistribution;
- $\boldsymbol{\gamma}$ is the effect of the difference between observed and perceived income inequality of the society on individual preferences for redistribution.

APPLYING THE EITM FRAMEWORK

Step 3: unify and evaluate the analogues

- **Hypothesis** (based on equation (11))

  $\gamma < 0$, P_i decreases as $\ln\big(1 - I(A)\big) - \ln\big(1 - I(C)\big)$ increases.

Motivated by social-interest, individual evaluates the whole society as either over-burdened or under-benefited. This is based on the difference between the income inequality that she actually observes and the just level that she perceives and is less likely to support redistribution if the real society is more just than perceived.

DATA AND MEASUREMENT

- Cross-sectional data set
- ISSP (International Social Survey Programme) 2009
- Asks each respondent about actual vs. just pay for different occupations:

"How much does a (particular occupation) in general practice actually earn and should earn?"

DATA AND MEASUREMENT

DV: Individual Preferences	Description	Mean	Standard Deviation	Min	Max
Redist_Poor	support for redistribution regarding the benefits to the poor (1, support; 0, otherwise)	0.799	0.401	0	1
Redist_Tax	regarding the tax on the rich (1, support; 0, otherwise)	0.680	0.467	0	1
IV: Self Interest					
Income	log income	28.511	34.802	0	160
Key IV: Social Interest					
$Observed_{inequality}$	Calculated based on $I(A) = 1 - \left[\frac{G(A)}{E(A)}\right]$ *and* $\ln(1 - I(A))$	-1.154	0.946	-5.397	-.015
$Perceived_{inequality}$	Calculated based on $I(C) = 1 - \left[\frac{G(C)}{E(C)}\right]$ *and* $\ln(1 - I(C))$	-0.537	0.573	-3.781	0
$Diff_{inequality}$	$Observed_{inequality}$ - $Perceived_{inequality}$	-0.617	0.855	-4.537	2.339

EMPIRICAL RESULTS – U.S.

Table 1: Individual Support for the Benefits to the Poor

	(1) Difference	(2) Observed	(3) Perceived
	Redist_Poor	*Redist_Poor*	*Redist_Poor*
Income	- 0.25***	- 0.24***	- 0.24***
	(0.056)	(0.056)	(0.056)
$Diff_{mean}$	- 0.35**		
	(0.162)		
$Diff_{inequality}$	- 0.62***		
	(0.239)		
$Observed_{mean}$		- 0.15	
		(0.129)	
$Observed_{inequality}$		- 0.21	
		(0.210)	
$Perceived_{mean}$			0.02
			(0.094)
$Perceived_{inequality}$			0.36*
			(0.198)
Constant	1.94***	3.58**	1.89
	(0.192)	(1.438)	(1.035)
Observations	701	701	701

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

- Only the difference between the observed and the perceived inequality is statistically significant.
- The likelihood for an individual to support more benefits for the poor **decreases** by about **60%** if the observed income inequality becomes most just from least just compared to her perceived level (i.e., from extremely under-benefited to over-benefited society).

EMPIRICAL RESULTS – U.S.

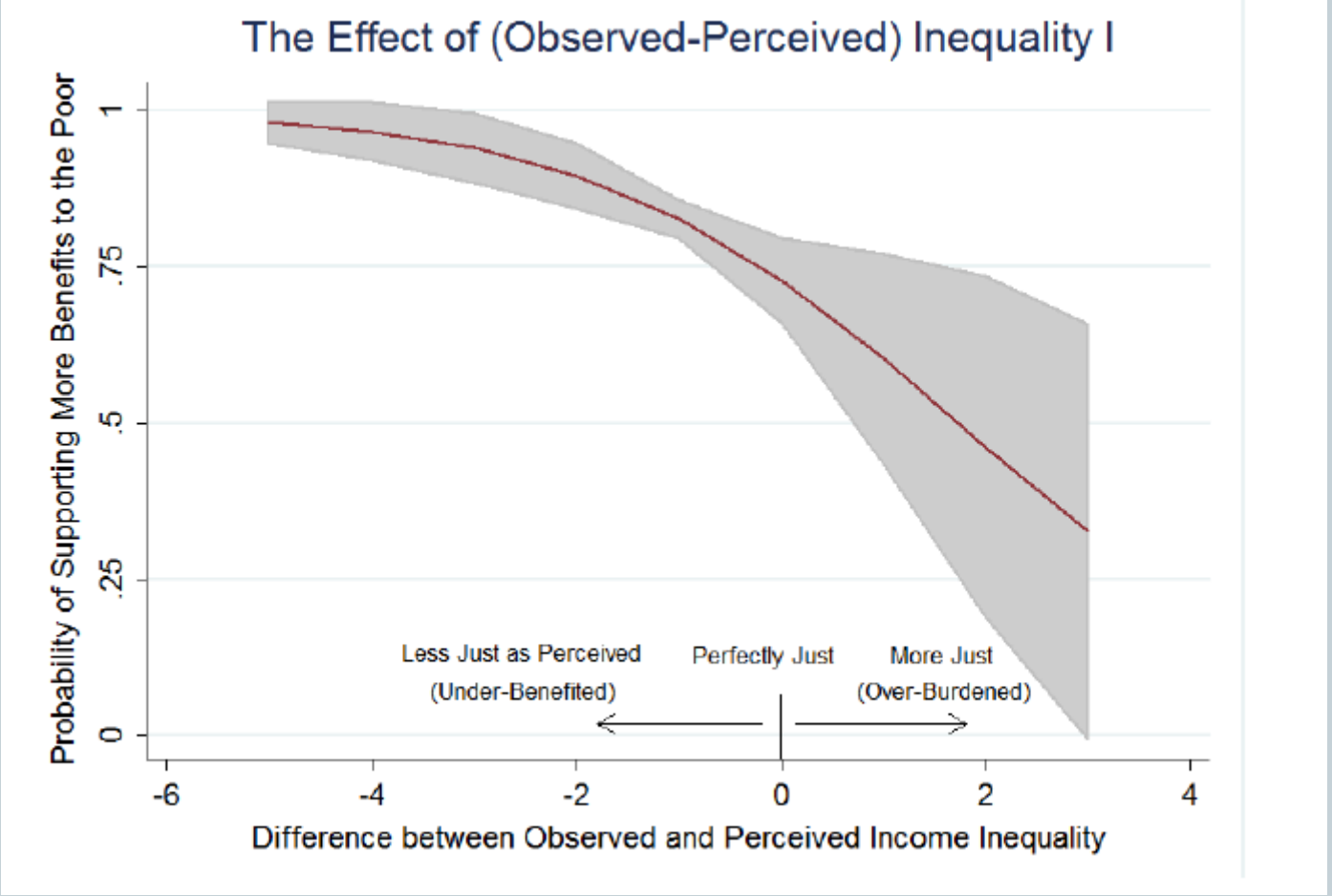
Table 2: Individual Support for the Tax on the Rich

	(1) Difference	(2) Observed	(3) Perceived
	Redist_Tax	*Redist_Tax*	*Redist_Tax*
Income	- 0.08	- 0.08*	- 0.08*
	(0.046)	(0.046)	(0.046)
$Diff_{mean}$	- 0.08		
	(0.161)		
$Diff_{inequality}$	- 0.81***		
	(0.242)		
$Observed_{mean}$		0.32***	
		(0.098)	
$Observed_{inequality}$		0.12	
		(0.161)	
$Perceived_{mean}$			0.34***
			(0.093)
$Perceived_{inequality}$			0.92***
			(0.196)
Constant	0.57***	-2.89**	-2.558
	(0.143)	(1.088)	(1.018)
Observations	701	701	701

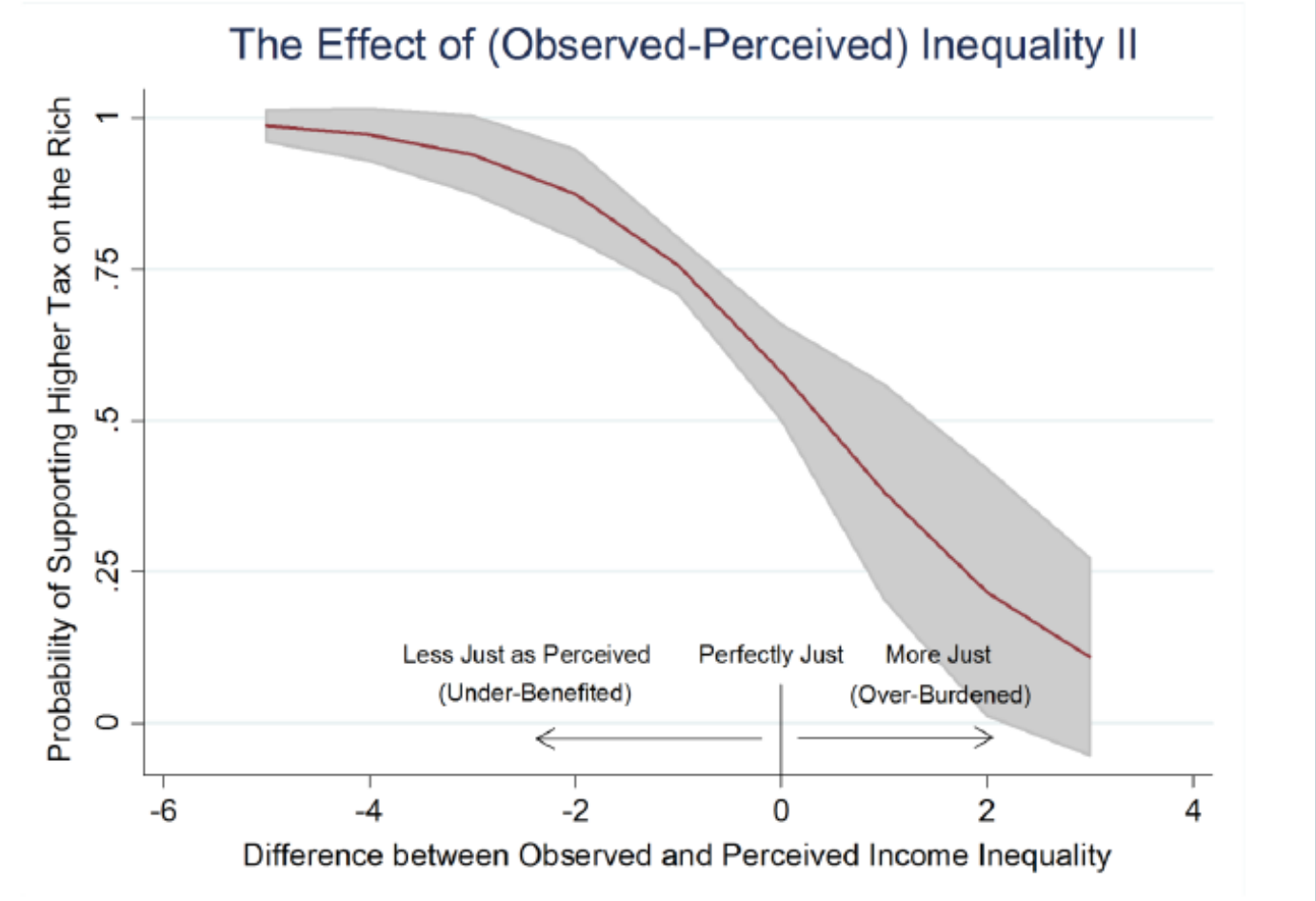
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

- Both the difference and the perceived inequality are statistically significant. But the directions are opposite.
- An individual is **40% less likely** to support more progressive taxation when her observed income inequality moves from the greatest level to the lowest degree compared to her perceived level.

EMPIRICAL RESULTS – U.S.



EMPIRICAL RESULTS – U.S.



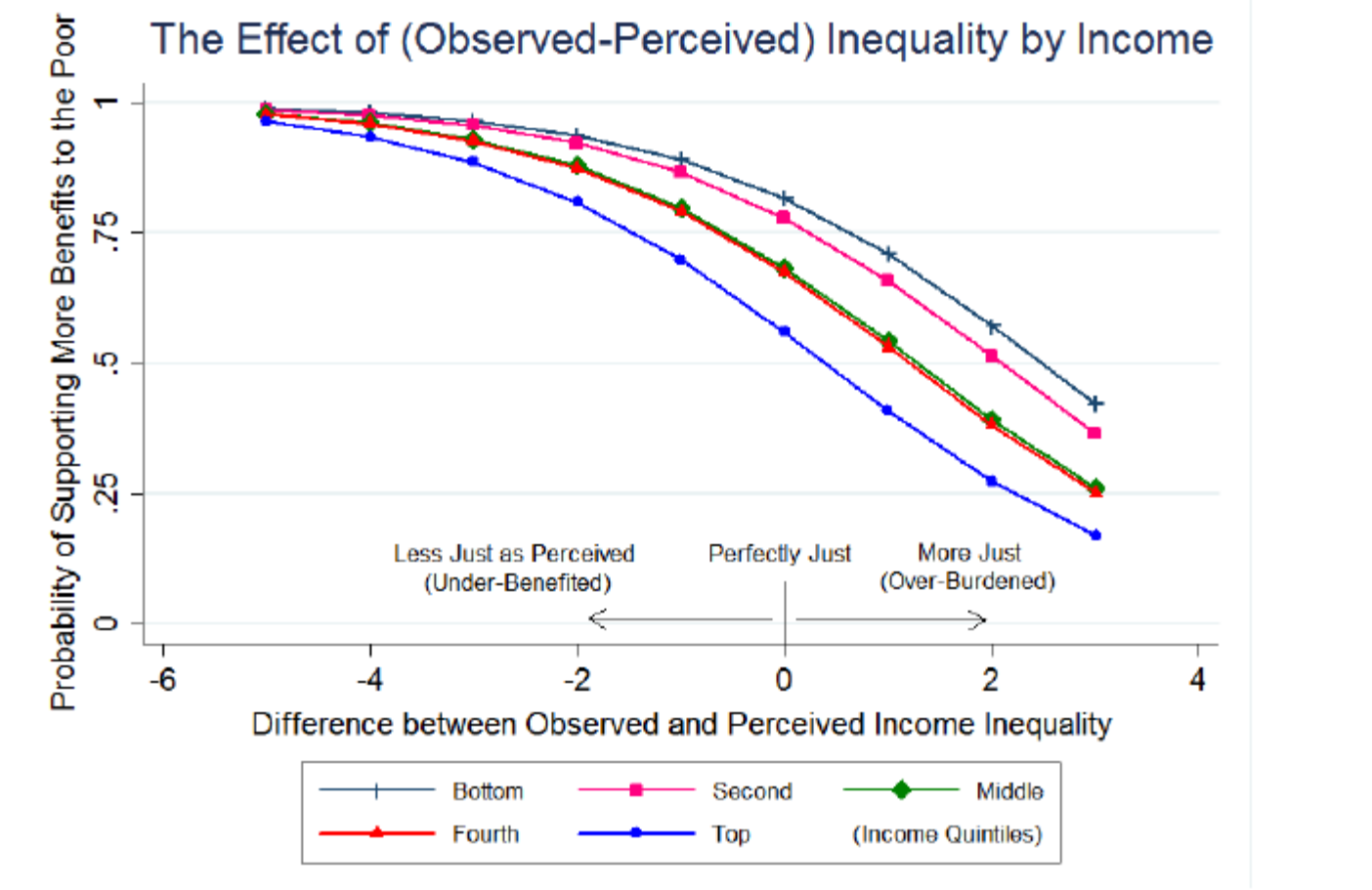
EMPIRICAL RESULTS – U.S.

Table 3: Difference between Observed and Perceived Income Inequality (at mean) from Individuals at the Top, Middle, and Bottom Income Quintile

	Difference between Observed and Perceived Inequality	Number of Observations
Top Quintile	**-0.832**	71
Middle Quintile	**-0.493**	113
Bottom Quintile	**-0.623**	277

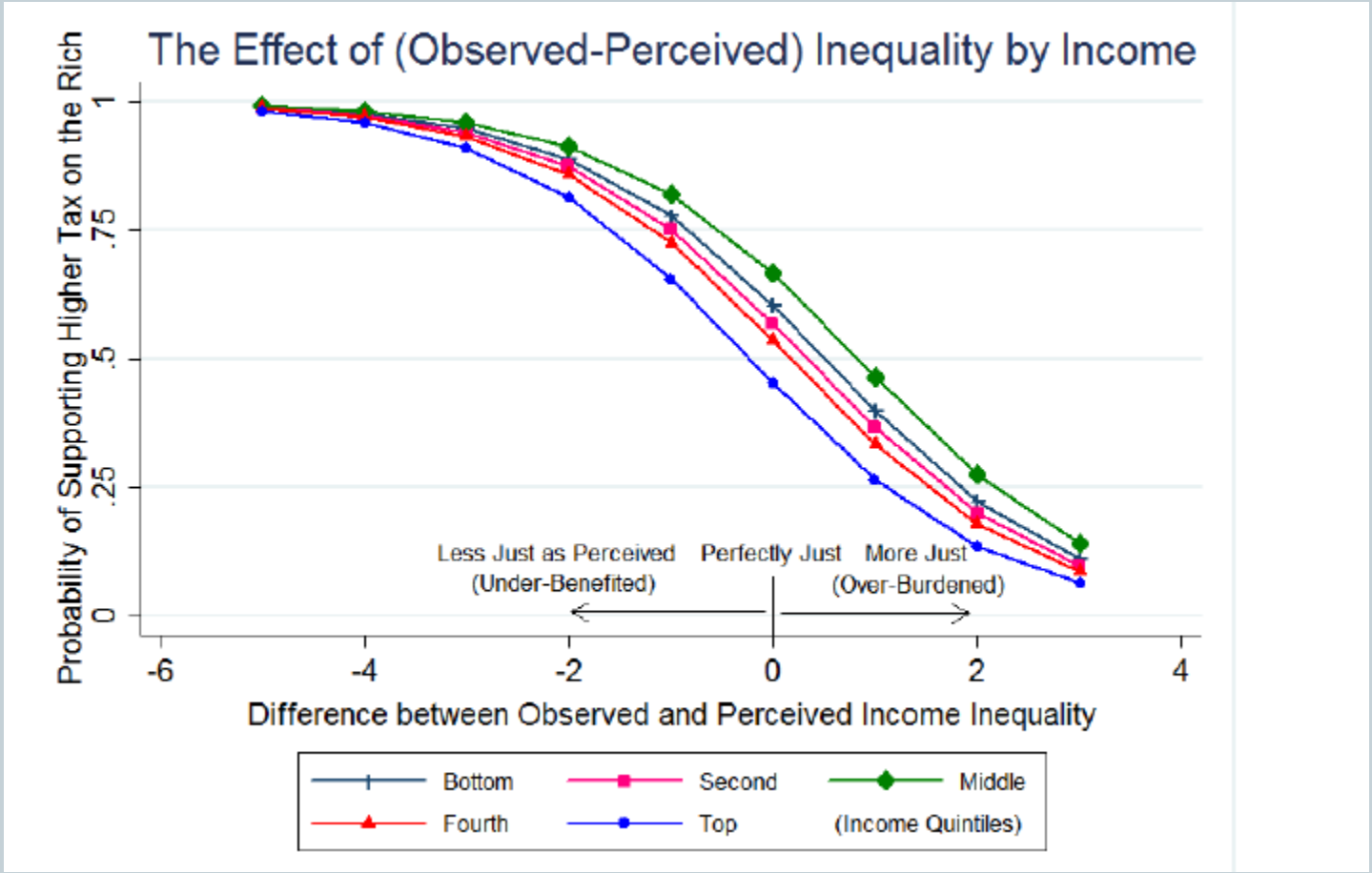
***Note:** (1) the smaller the value of the difference between observed and perceived inequality represents a less just (or under-benefited) society, i.e., observed inequality is greater than perceived inequality*
(2) the income quintile is set based on the 25 categories of income range in the original question from ISSP 2009

EMPIRICAL RESULTS – U.S.



***Note:** the bottom quintile is the baseline; all are statistically significant except for the second quintile*

EMPIRICAL RESULTS – U.S.



***Note:** the bottom quintile is the baseline; only the highest quintile is statistically significant*

EMPIRICAL RESULTS – COMPARATIVE

Table 4: The Effect of Difference between Observed and Perceived Income Inequality in 2009 OECD Countries (by Electoral Systems)

2009 OECD	% change of the probability in response to one standard-deviation increase of the difference between observed and perceived inequality	Obs	% change of the probability in response to one standard-deviation increase of the difference between observed and perceived inequality	Obs
	More Benefits for the Poor		**Higher Tax on the Rich**	
(PR System)				
Switzerland	-85.0*	419	-65.7	419
Austria	-78.9***	425	-47.8**	425
Finland	-58.4**	409	-80.4***	411
Turkey	35.7**	584	-41.7***	511
Portugal	89.1**	248	-44.1**	248
(Majoritarian System)				
Japan	-65.4	200	66.5	199
U.K.	-49.8**	353	-7.3	352
Australia	-46.8**	624	-37.3**	623
France	-43.4***	1168	11.0	1174
U.S.	-41.2***	701	-50.0***	701
New Zealand	-33.4	352	-22.9	356

*** p<0.01, ** p<0.05, * p<0.1

- The size of the effects is generally more noticeable whereas the direction of the effect is less consistent for the countries in PR systems compared to the ones in majoritarian systems.

***Note:** this is only part of the result in Table 4*

CONCLUSIONS

(1) Individual preferences for redistribution are motivated by both self- and social-interest.

(2) The effect of perceived income inequality by an individual comes from social interest in evaluating social justice with respect to the income distribution.

(3) It is the difference between observed (actual) and perceived income inequality of an individual that accounts for her preferences for redistribution: individuals are less likely to support redistribution when the observed level is closer to the perceived just level.

(4) Individuals seek balance between self- and social-interest in redistribution.

Thank You!

Questions and Comments?