# UC Berkeley
# Haas School of Business
# Game Theory
# (EMBA 296 & EWMBA 211)
# Spring 2023

# Supplementary material:
# The social (distributional) preferences of Americans and of elites

## Block II
## Jan 20-21, 2023

THE TOBIN PROJECT


**". . . [one] economic theory is a fascinating intellectual challenge . . . [and two] the obvious relevance of economics to understanding and perhaps overcoming the great depression and all the frightening political developments associated with it throughout the world. . ."**

## Tobin Project on Inequality and Decision Making

- Economic inequality in the United States has reached heights not seen since the Great Depression.

- Lies at the center of a heated national debate:
  - Rise in inequality is one of the most pressing political and economic issues of our time.
  - Relatively harmless (and perhaps unavoidable) side effect of capitalist economic growth.

$\Longrightarrow$ Lack a deep understanding of its effects on the health of our economy and democracy, leaving policymakers and others poorly equipped to evaluate and address this important issue

## The fundamental tradeoffs in life

People's attitudes towards risk, time and other people enter every realm of (financial) decision-making:

$$\begin{aligned} \text{risk} &\iff \text{return} \\ \text{today} &\iff \text{tomorrow} \\ \text{self} &\iff \text{others} \end{aligned}$$

Risk, time and social preferences are thus important inputs into any broader measure of welfare and enter virtually every field of economics.

## Distributional preferences

- Distributional preferences shape individual opinions on a range of issues related to the redistribution of income.

- Examples include government-sponsored healthcare, social security, unemployment benefits, and more.

- These issues are complex and contentious in part because people promote their competing private interests.

- But people also often disagree about what constitutes a just or equitable outcome.

For example:

- We typically associate the Democratic party with the promotion of policies which reduce inequality, and the Republican party with the promotion of efficiency.

- However, whether Democratic voters are more willing to sacrifice efficiency, and even their own income, to reduce inequality is an open question.

Distinguish fair-mindedness from preferences regarding equality-efficiency tradeoffs and accurately measuring both in a large and diverse sample of American voters.

## Fair-mindedness and equality versus efficiency

Distributional preferences may naturally be divided into two qualitatively different components:

- The weight on own income versus the incomes of others (fair-mindedness) .
- The weight on reducing differences in incomes versus increasing total income (equality-efficiency tradeoffs).

Fair-minded people may disagree about the extent to which efficiency should be sacrificed to combat inequality, as a comparison of Harsanyi (1955) and Rawls (1971) would suggest.

## Template for analysis

[1] A generalized dictator game where each subject faces a menu of budget sets representing the feasible monetary payoffs.

[2] An incentivized experiment using the American Life Panel (ALP), a longitudinal survey administered online by the RAND Corporation.

[3] Combine data from the experiments with detailed individual demographic and economic information on panel members.

A choice of the allocation $(\pi_s, \pi_o)$ from the budget set $p_s\pi_s + p_o\pi_o = 1$ represents the payoffs to persons $self$ and $other$, respectively.

The budget line configuration allows to identify the equality-efficiency tradeoffs that subjects make in their distributional preferences:

- *decreasing* $p_s\pi_s$ when $p_s/p_o$ *increases* indicates preferences weighted towards efficiency (increasing total payoffs)
- *increasing* $p_s\pi_s$ when $p_s/p_o$ *increases* indicates preferences weighted towards equality (reducing differences in payoffs).

## A standard model of distributional preferences

We decompose distributional preferences into fair-mindedness and equality-efficiency tradeoffs by employing constant elasticity of substitution (CES) utility functions.

The CES form is commonly employed in demand analysis. In the redistribution context, the CES has the form

$$u_s(\pi_s, \pi_o) = [\alpha(\pi_s)^\rho + (1-\alpha)(\pi_o)^\rho]^{1/\rho}$$

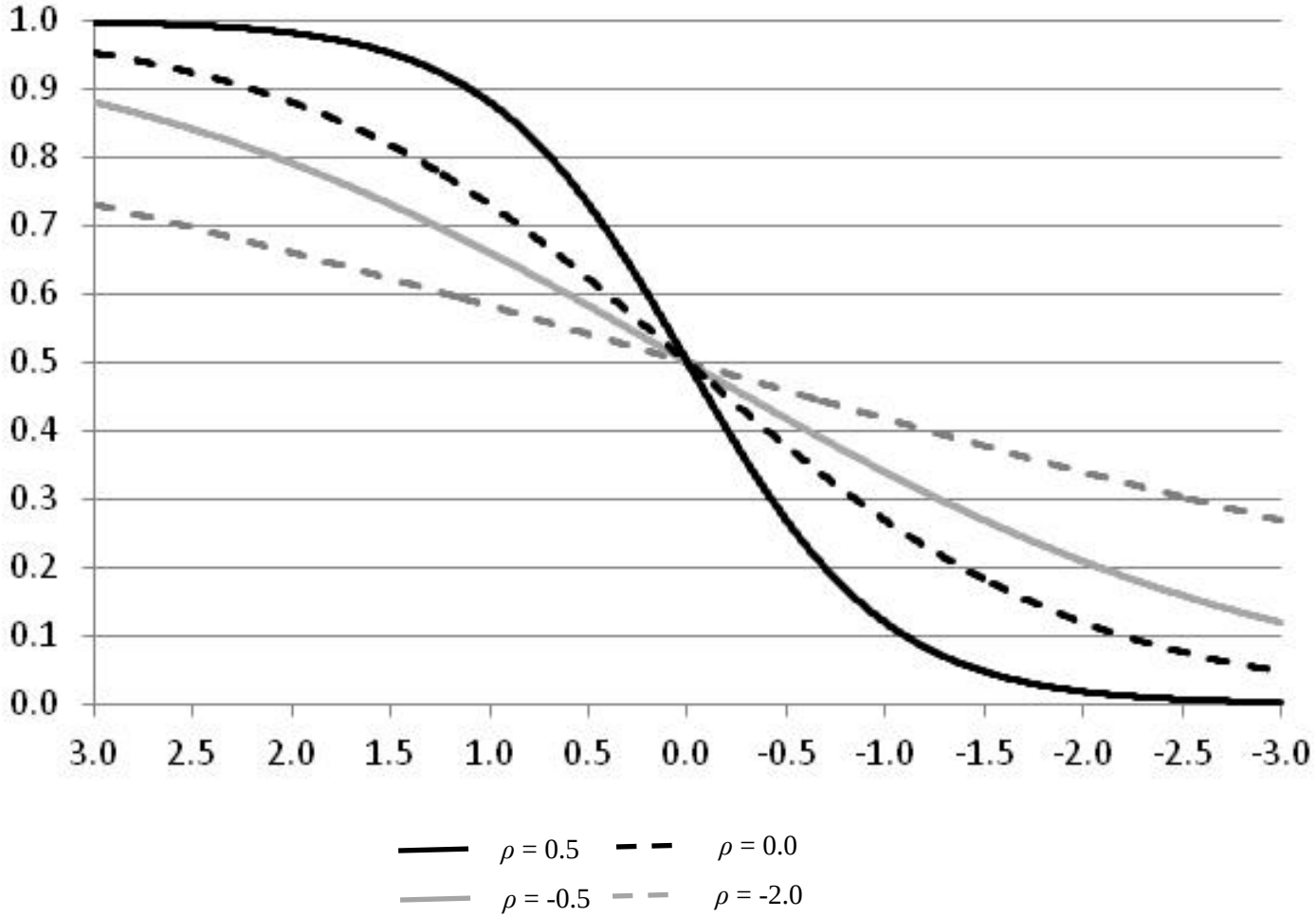
where $\alpha$ measures the indexical weight on payoffs to $self$, whereas $\rho$ measures the willingness to trade off equality and efficiency.

If $\rho > 0$ ($\rho < 0$) a decrease in the relative price giving $p_s/p_o$ lowers (raises) the expenditure on tokens allocated to $self$ $p_s\pi_s$:

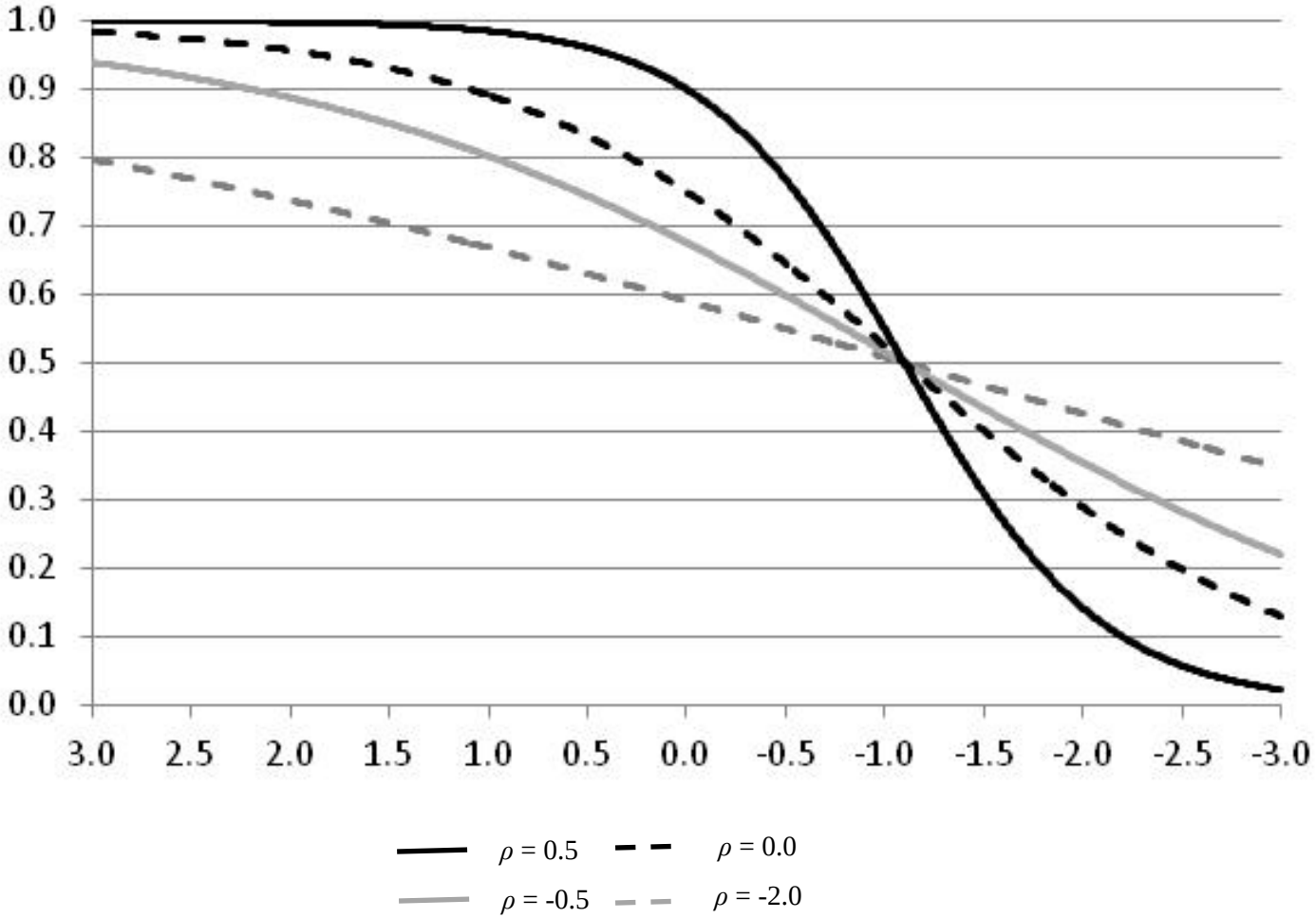
- $\rho > 0$ indicates preferences weighted towards increasing total payoffs.
- $\rho < 0$ indicates preferences weighted towards reducing differences in payoffs.

Our experimental method generates many observations per subject, and we can therefore analyze both types of distributional preferences at the individual level.

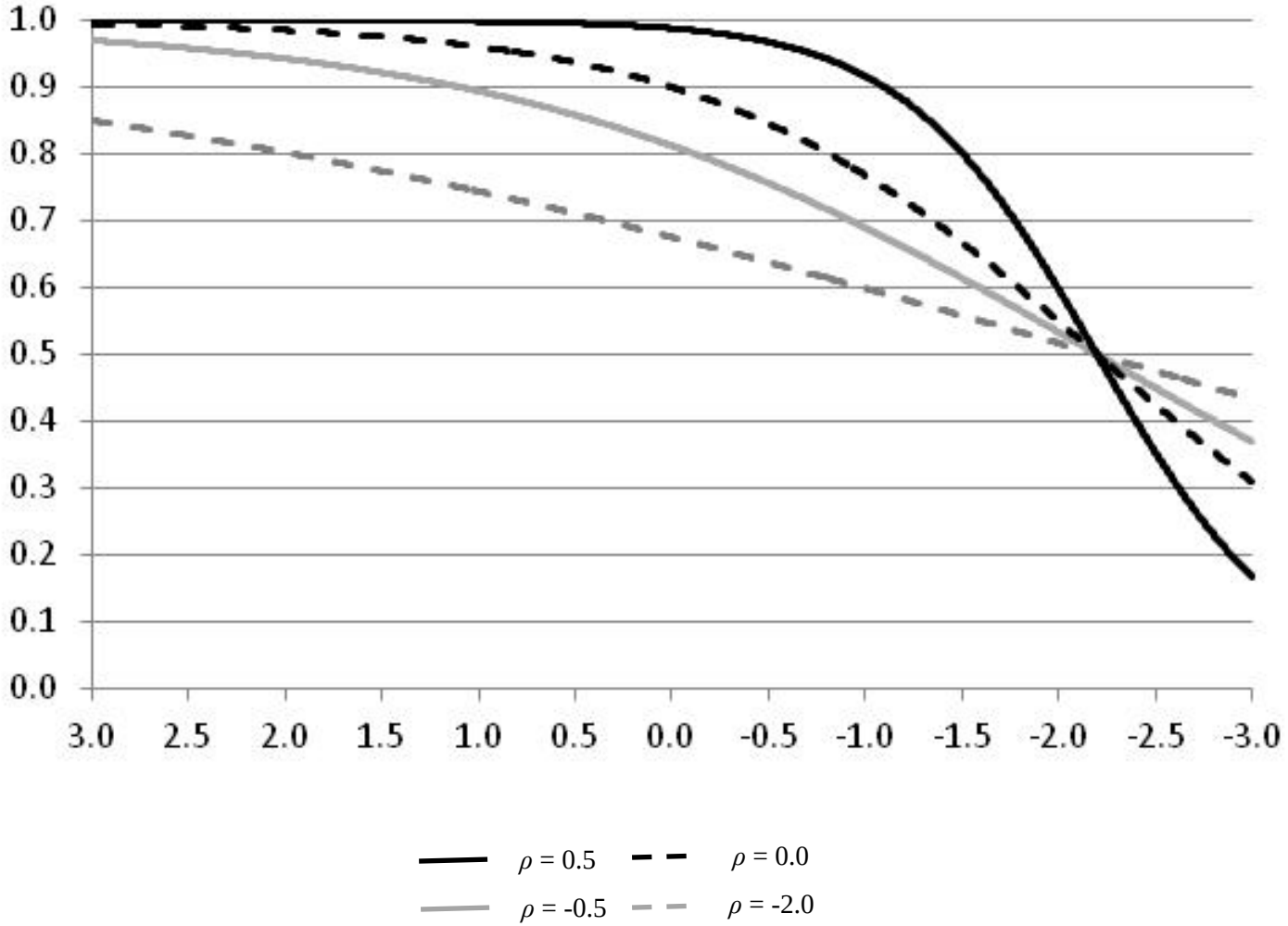
**The relationship between the log-price ratio and optimal token share ($\alpha$=0.5 and different values of $\rho$)**



**The relationship between the log-price ratio and optimal token share ($\alpha$=0.75 and different values of $\rho$)**

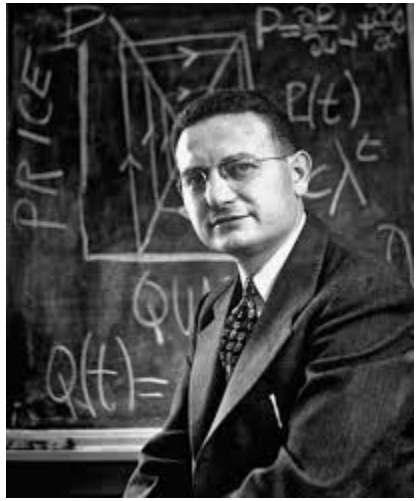


**The relationship between the log-price ratio and optimal token share ($\alpha$=0.9 and different values of $\rho$)**



**Foundations of Economic Analysis (1947)**

**Paul A. Samuelson (1915-2009) – the first American Nobel laureate in economics and the foremost (academic) economist of the 20th century (and the uncle of Larry Summers…).**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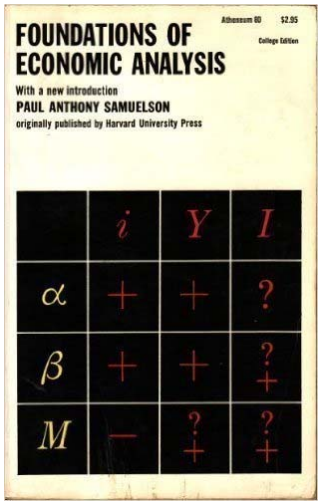
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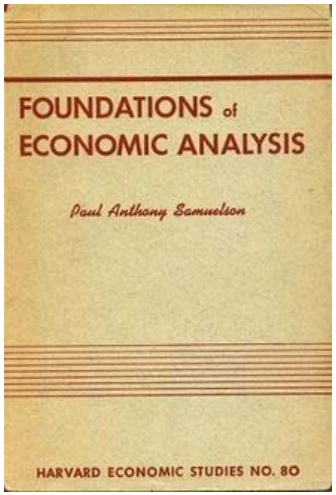

FOUNDATIONS of ECONOMIC ANALYSIS
Paul Anthony Samuelson
HARVARD ECONOMIC STUDIES NO. 80

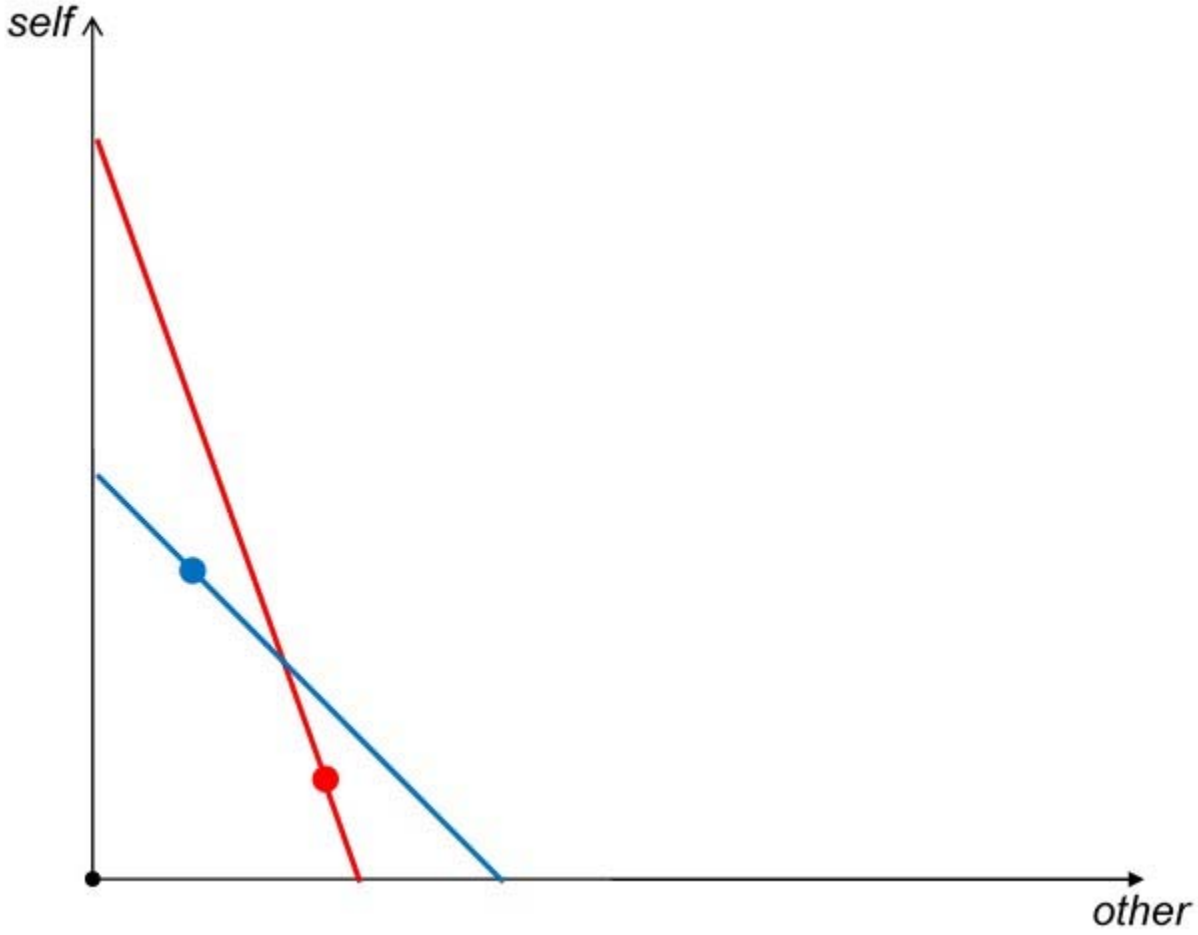
## The Generalized Axiom of Revealed Preference (GARP)

The most basic question to ask about choice data is whether it is consistent with individual utility maximization, and classical revealed preference theory provides a direct test:

- choices are consistent with maximizing a well-behaved (piecewise linear, continuous, increasing, and concave) utility function if and only if they satisfy GARP.

The obvious difficulty: GARP provides an exact test of utility maximization – either the data satisfy GARP or they do not – but individual choices frequently involve at least some errors.

# Testing for GARP



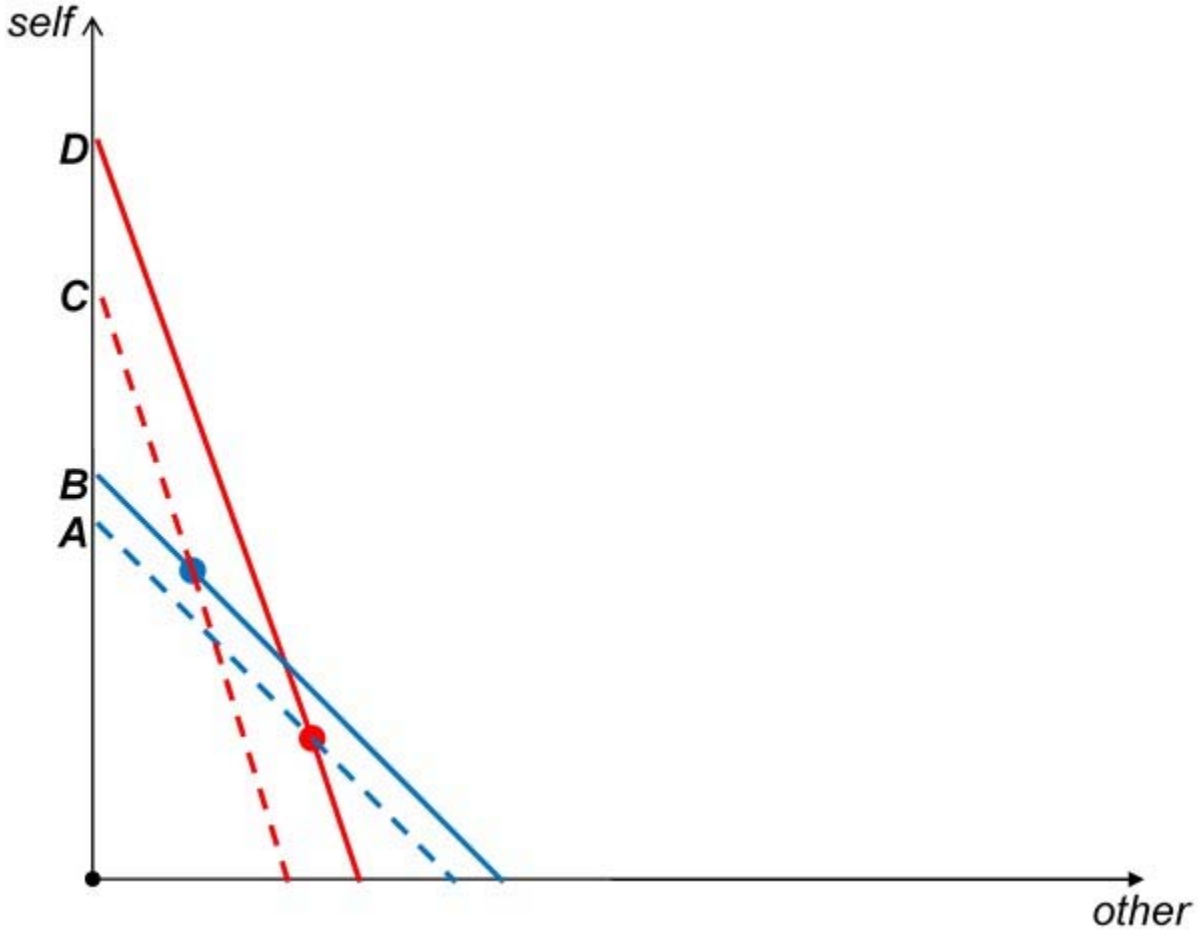
## The critical cost efficiency index (CCEI)

The CCEI measures the fraction by which each budget constraint must be shifted in order to remove all violations of GARP.

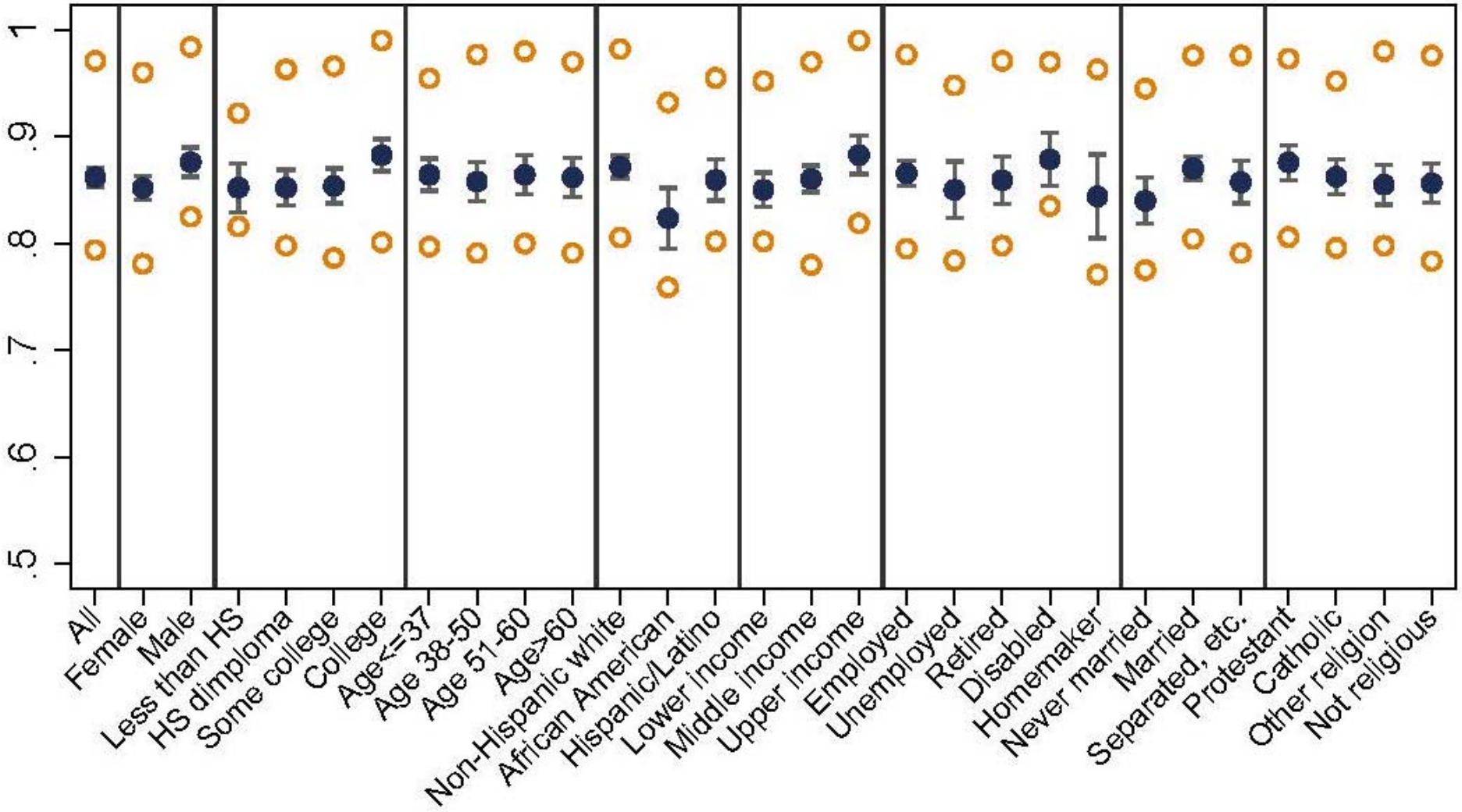
- The CCEI is between 0 and 1 – indices closer to 1 mean the data are closer to perfect consistency with GARP and hence with utility maximization.

Because our subjects make choices in a wide range of budget sets, our data provides a stringent test of utility maximization.

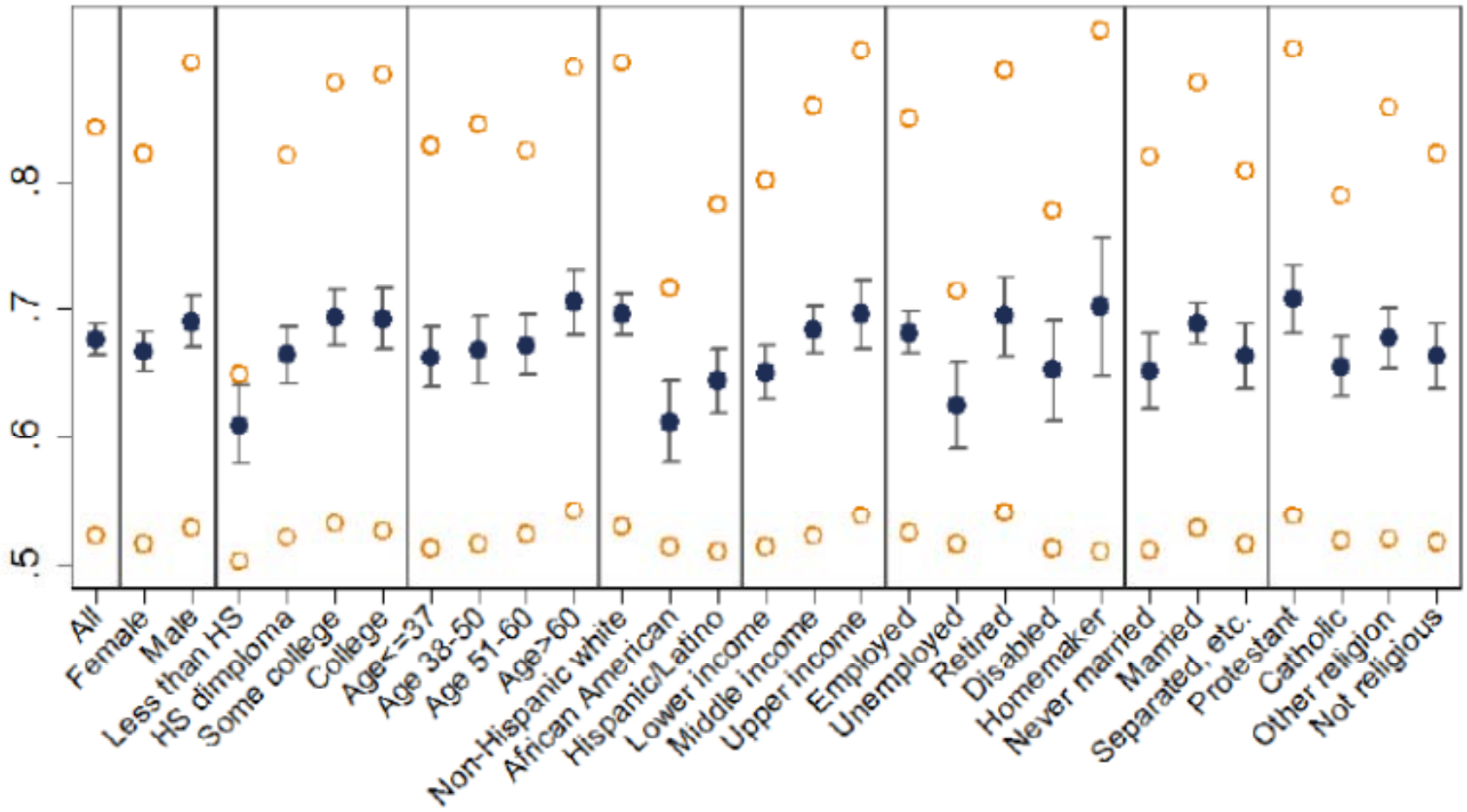
# The construction of the CCEI



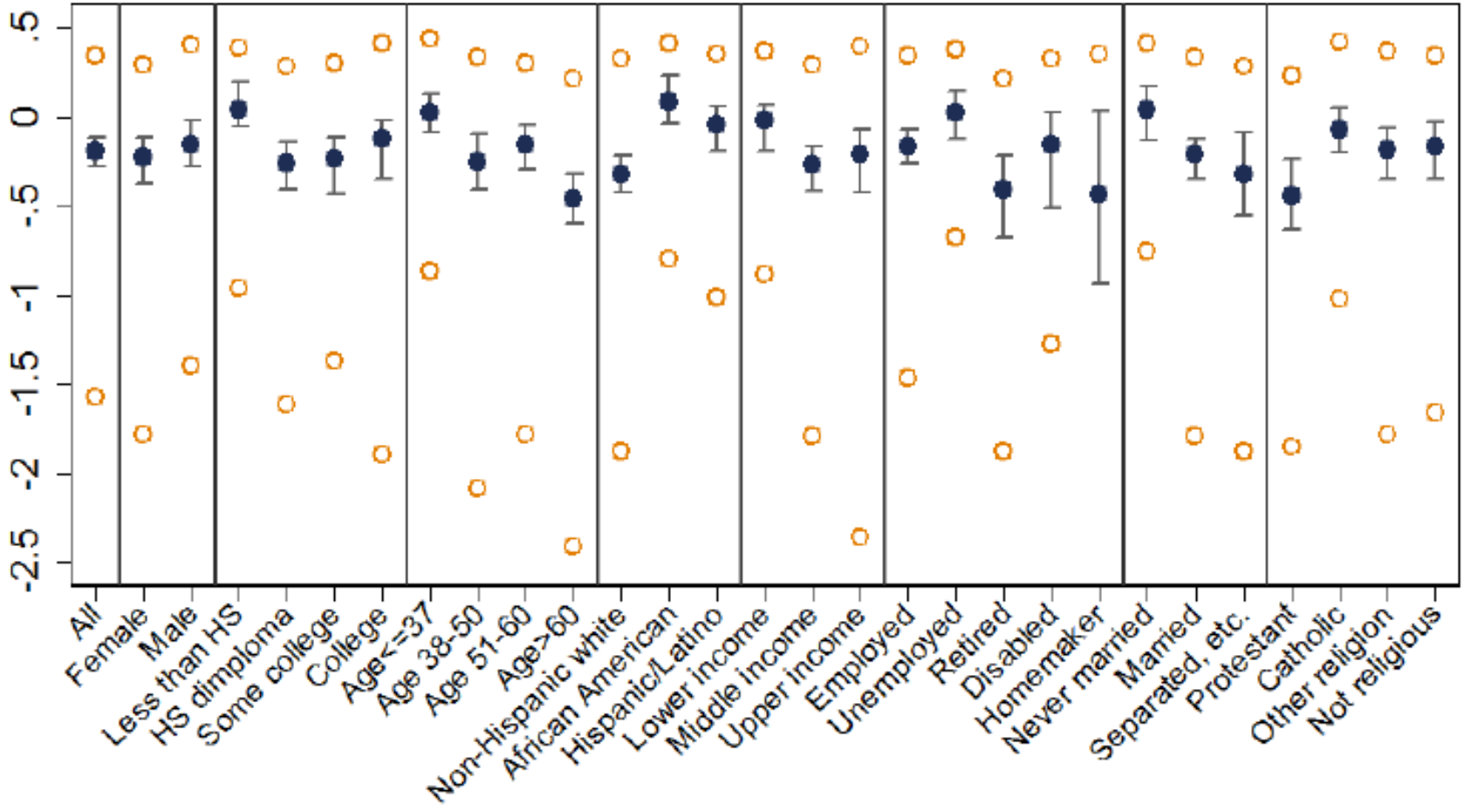
# Economic rationality – CCEI scores



## The mean estimated fair-mindedness by sub-group



## The median estimated equality-efficiency tradeoff by sub-group



## Distributional preferences and voting behavior

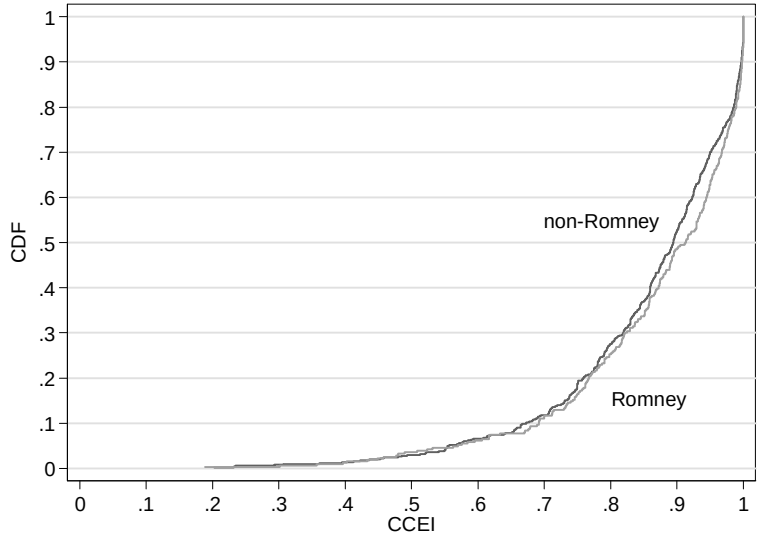
- It is natural to examine the empirical relationship between distributional preferences and subjects' political decisions.

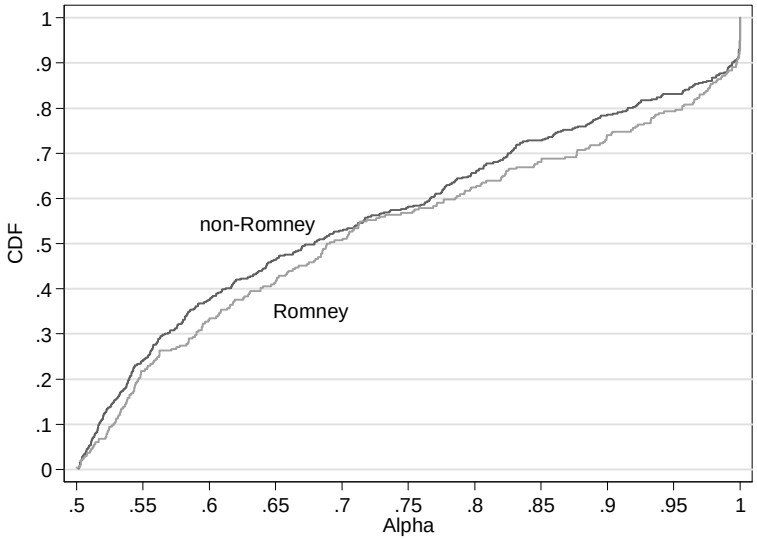
- Whether efficiency-focused distributional preferences are associated with political support for government redistribution is an open question.

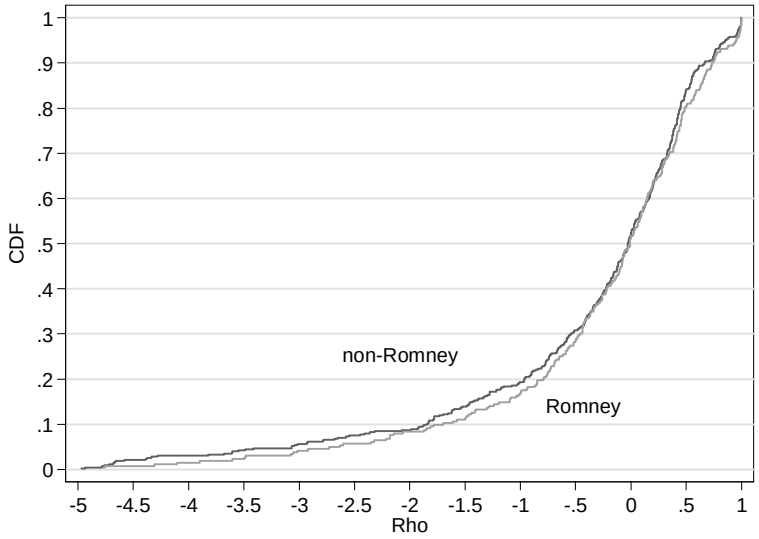
- Democrats are not more averse to inequality than Republicans – they instead look more favorably on government intervention in general.

- We explore the link between equality-efficiency tradeoffs and political behavior by looking at voting decisions in the 2012 presidential election.

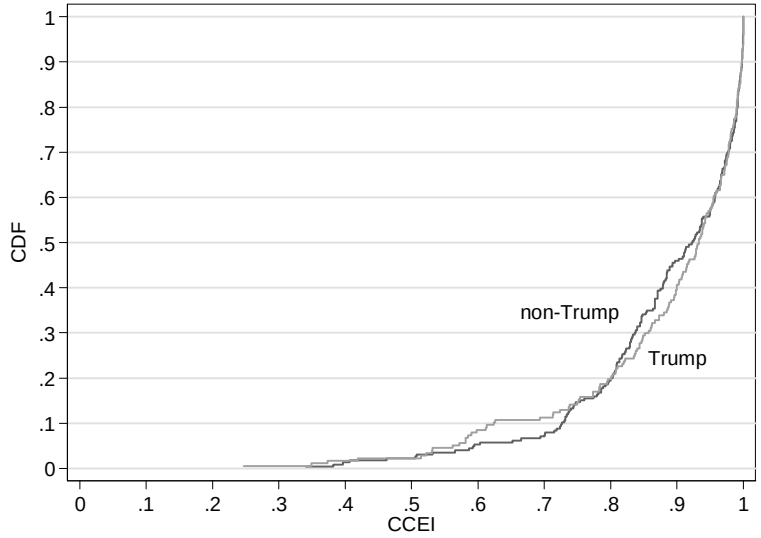
# Romney versus non-Romney voters

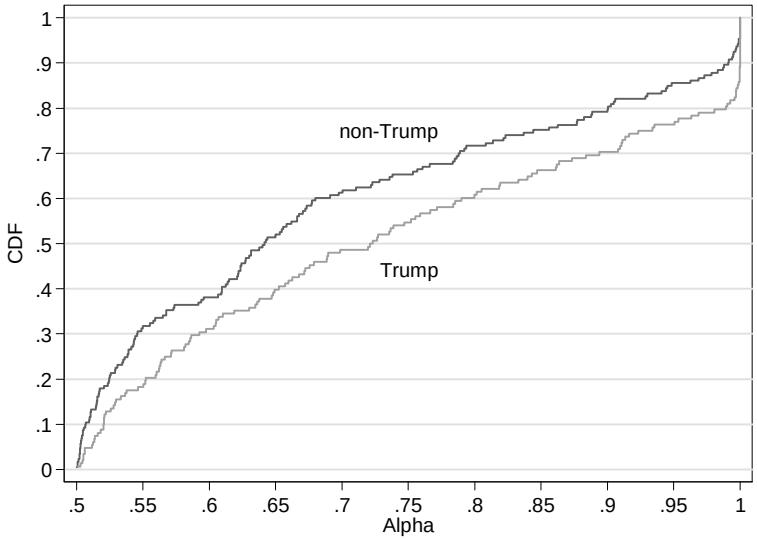


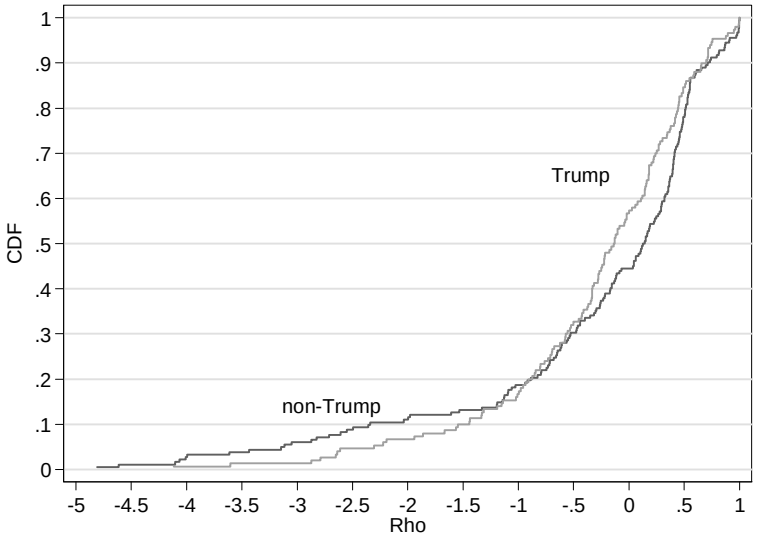



# Trump versus non-Trump voters



# The Distributional Preferences of Elites

## The distributional preferences of law students

Elite law students hold especial interest because they assume positions of substantial power in national and indeed global social, economic and political affairs:

- All eight sitting Supreme Court Justices (as well as Garland and Gorsuch nominated to succeed Scalia) are graduates of either Yale or Harvard Law Schools.

- Over the past century more than half of the presidents attended Yale, Harvard or Princeton, and the last four before Donald Trump are graduates of Yale or Harvard.

The distributional preferences of elite law students will likely exercise a major influence over public and private orderings in the United States.

## The distributional preferences of medical students

Patients rely on physicians to act in their best interest, healthcare systems rely on physicians to efficiently ration limited care, and physicians must balance these often conflicting imperatives against their own self-interest.

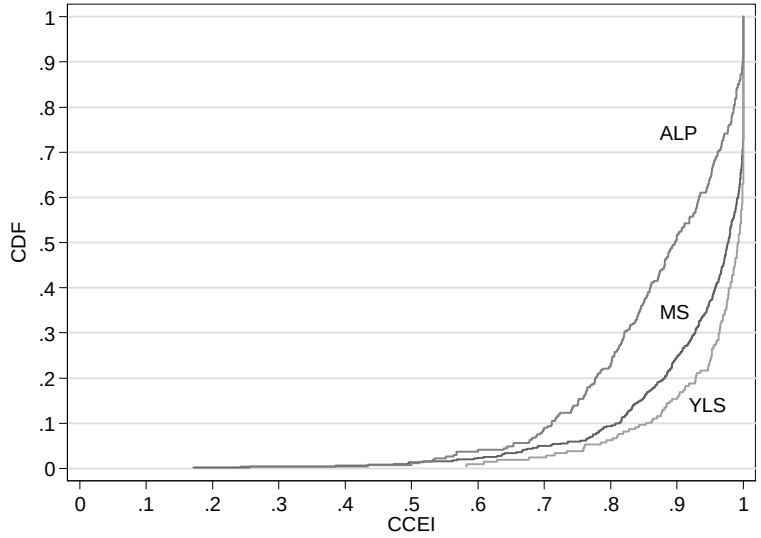
The distributional preferences of physicians thus have profound implications for patient outcomes and wellbeing, as well as the success of reforms attempting to provide more equitable, higher quality and more efficient healthcare.

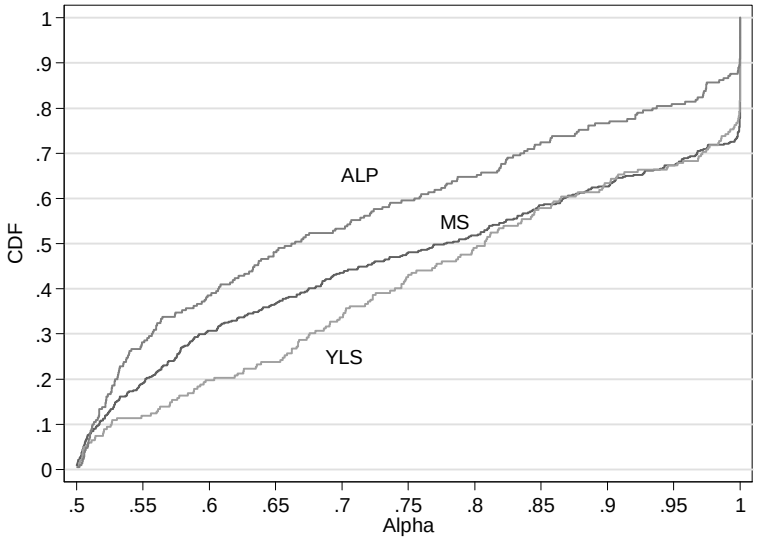
Physicians' fair-mindedness – the concern for patient health and wellbeing beyond own self-interest – has been reinforced by ethical guidelines such as in the Hippocratic Oath.

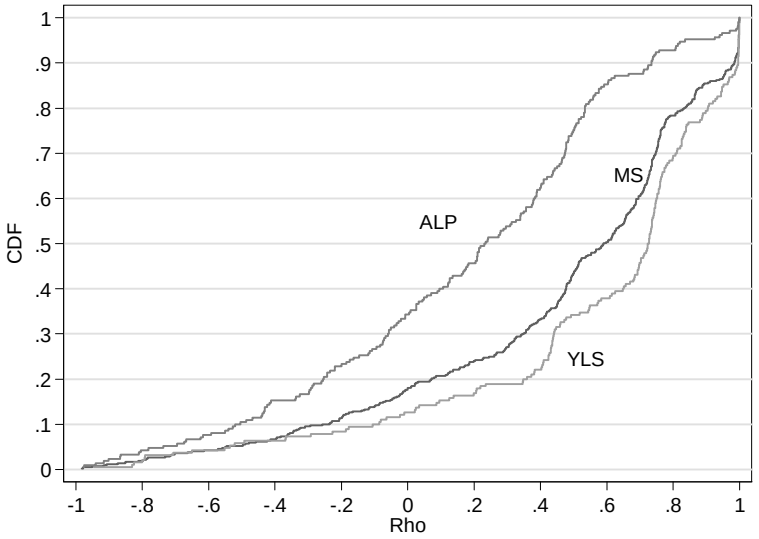
"...the behavior expected of sellers of medical care is different from that of business men in general...His behavior is supposed to be governed by a concern for the customer's welfare which would not be expected of a salesman." (Kenneth Arrow, 1963)

"...medicine is one of the few spheres of human activity in which the purposes are unambiguously altruistic." (Editors, *New England Journal of Medicine*, 2000)

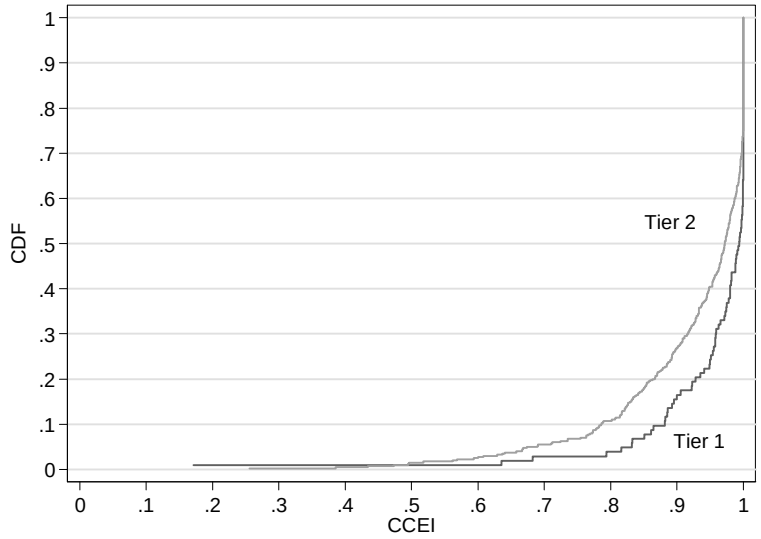
# Law students (YLS), medical students (MS) and the general population (ALP)

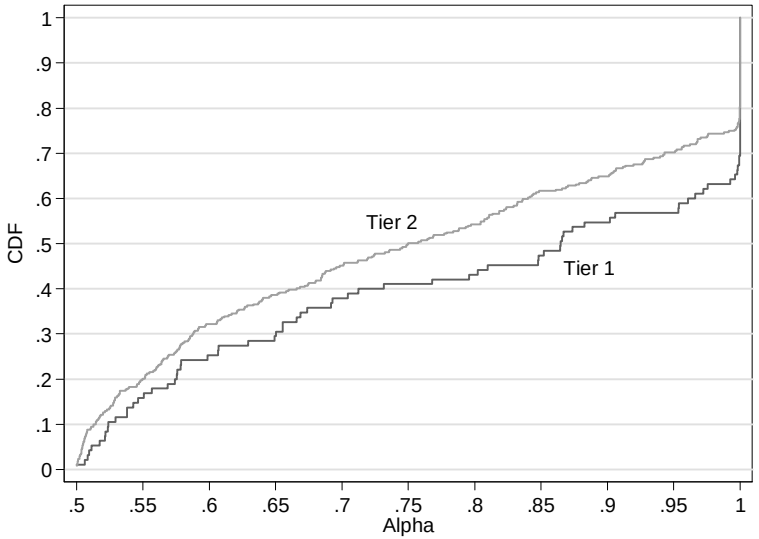


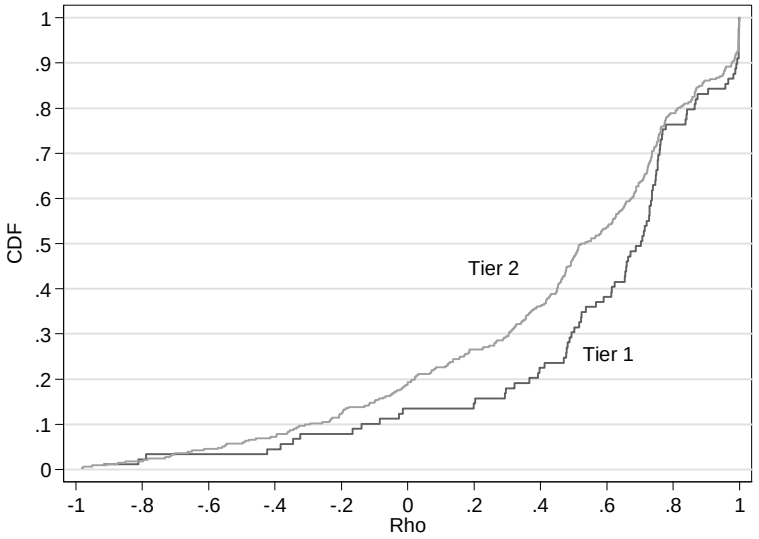



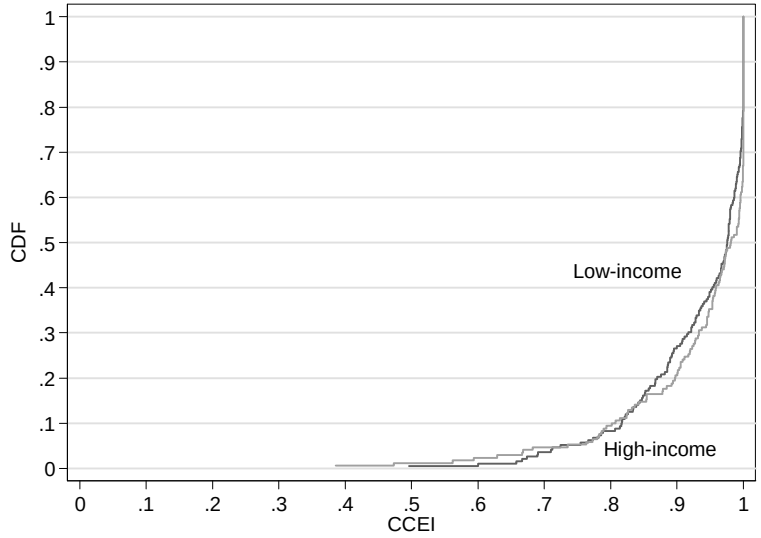
# medical students attending tier 1 versus tier 2 medical schools

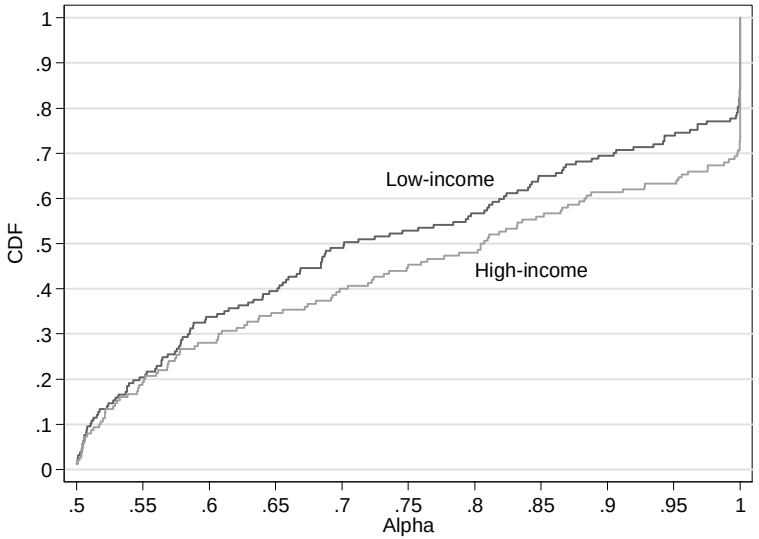


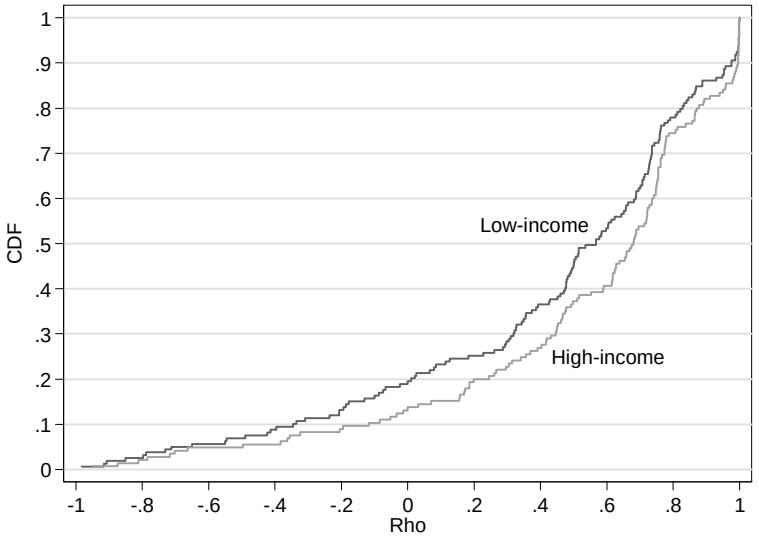



# Low-income (<$300K) versus high-income (>$300K) medical specialties



## Takeaways

1. We characterize, via experiments, the distributional preferences of the general population of the United States.

2. Overall, the data indicate a high degree of heterogeneity within each demographic or economic category.

3. Provide links from underlying distributional preferences to voter preferences over policy outcomes.

4. The distributional preferences of those (who will be) in power differ from the preferences of voters.