The Societal (versus Social) Preferences of Americans*

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Abstract

We compare societal preferences — the tradeoffs between self-interest and the interest of society — to the more commonly studied social preferences — the tradeoffs between self-interest and the interest of an (anonymous) other member of society — by implementing generalized dictator games with a broad cross-section of Americans drawn from the American Life Panel (ALP). To capture societal preferences, the dictator's recipient is a charity of the subject's choice. Our data enable us recover preferences from the ground up without imposing theoretical preconceptions on the data. Specifically, we assess whether these two types of other-regarding decisions are consistent with utility maximization and decompose the underlying societal and social preferences into two qualitatively distinct tradeoffs — altruism versus self-interest, and equality versus efficiency — by estimating a constant elasticity of substitution (CES) utility function at the individual level. We find that a large majority of subjects make choices that are nearly consistent with utility maximization in both experiments. By estimating individual-level preference parameters across a broad sample of Americans, we show that societal and social preferences are highly heterogeneous within and across sociodemographic groups, in both the altruism and equality-efficiency dimensions. Despite this heterogeneity, subjects are more altruistic in their societal than in their social preferences. The distribution of the equality-efficiency parameter, by contrast, is strikingly similar across the two domains. Finally, a within-subject analysis of the subsample that participated in both experiments reveals that individual CES parameters estimated from social preferences are strongly predictive of their societal counterparts, suggesting a unified and portable model of other-regarding preferences that extends across domains

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1 Introduction

The overall message from a vast body of research is that people often sacrifice their own payoffs in order to increase the payoffs of others. Moreover, they do so even in circumstances that do not involve reciprocity motivations or strategic behavior. This has led economists to systematically study *other-regarding preferences* and in particular the *social or distributional preferences* that govern such behavior. Most famously, in dictator games, $self$ (the subject) — when given absolute discretion in dividing some endowment between themselves and an anonymous *other* in any way they wish — systematically does not keep everything for themselves. In general, experimental research has been very fruitful in both establishing the empirical reliability of social preferences and directing theoretical attention to such preferences.[1]

But other-regarding preferences also reflect a qualitatively distinct dimension from social preferences, which we will refer to as *societal preferences*. While social preferences govern the tradeoffs that $self$ makes between their own interests and the interests of *other*, societal preferences govern the tradeoffs between their own interests and the broader interests of society. Natural examples include healthcare, human rights, the environment, education, discrimination, development, and globalization, among others. Although the two types of other-regarding preferences may operate together, they are conceptually distinct.

There is no *a priori* reason to insist that societal preferences and social preferences will have precisely the same form, or even a similar one. Indeed, it is natural to suspect that societal and social preferences will exhibit a different indexical preference for $self$. Similarly, attitudes toward inequality — and consequently the willingness to trade off equality and efficiency — may well differ between societal and social preferences. Because other-regarding preferences in general — encompassing both societal and social preferences — are important inputs into any broader measure of social welfare, correctly distinguishing societal from social preferences, and accurately measuring both, is crucial to evaluating a range of socioeconomic policies, institutions, and outcomes.

There is a large empirical literature studying societal preferences, discussed below, using data from the field and/or the lab, mostly via charitable giving. However, charitable behavior is not motivated by purely societal preferences — most notably, it may also be governed by social recognition [Andreoni and Petrie, 2004, Samek and Sheremeta, 2017], peer pressure [DellaVigna et al., 2012, Meer, 2011], and direct benefits that a donor derives from charitable donations [Fack and Landais, 2010]. Our study is designed to minimize these confounds — eliminating social recognition and peer pressure effects while isolating societal preferences from other motivations — by implementing our experiment online with

[1] Key early contributions include Loewenstein et al. [1989], Bolton [1991], Rabin [1993], Levine [1998], Fehr and Schmidt [1999], Bolton and Ockenfels [1998, 2000], Charness and Rabin [2002], and Andreoni and Miller [2002], among others. See Camerer [2003] for a comprehensive survey of the early literature; the field has grown substantially since then.

a large and diverse sample of the U.S. population, and ensuring the anonymity of subjects (both *self* and *other*).

Furthermore, existing experimental work on societal preferences has typically collected only a few decisions from each subject and offered subjects a binary or discrete choice in extreme rather than typical decision problems designed to reveal violations of specific hypotheses.[2] Most importantly, the small datasets in the existing literature force experimenters to pool data across subjects and to ignore individual heterogeneity.

To provide a positive account of societal (and social) preferences, we present subjects with a decision problem that can be interpreted as a standard economic decision — the selection of a bundle from a linear budget set. These decision problems are presented using a graphical experimental interface that facilitates the collection of a rich individual-level data set. The experiment employs decision problems that are representative (both in the statistical and economic senses) from which we can recover a broad class of prominent other-regarding preferences, ranging from Rawlsian to utilitarian, rather than being narrowly tailored to test a particular theory. Finally, the rich datasets generated by this design allow us to analyze behavior at the level of the individual subject. There is no need to pool data or to assume that subjects are homogeneous in their social or societal preferences.

Specifically, we administered a modified dictator game varying the relative price of giving, in which recipients are registered charities selected by subjects from Charity Navigator, an independent evaluator of non-profits. Our sample is drawn from RAND's American Life Panel (ALP), a broadly representative online survey of U.S. adults that enables us to combine experimental data with detailed demographic and economic information. Furthermore, we previously ran procedurally identical dictator games with an overlapping ALP sample [Fisman et al., 2023], in which the only difference was that recipients were anonymous ALP respondents.[3] This allows us to experimentally distinguish and compare societal and social preferences — for a given subject — in a large, diverse sample.

Throughout, we denote by π_s and π_c the payout for *self* (the subject) and their chosen cause (the charity of their choice), respectively. In the standard split-the-pie dictator experiment, *self* divides the endowment (normalized to one) in any way they wish such that $\pi_s + \pi_c = 1$. One respect in which this framework is restrictive is that the set of feasible payoff pairs is always the line with a slope of -1, so that the problem faced by *self* is simply allocating some fixed total budget. In the modified dictator game we study, *self* must allocate the endowment across π_s and π_c at *prices* p_s and p_c such that:

$$p_s\pi_s + p_c\pi_c = 1.$$

[2]The criterion used to evaluate a theory is the fraction of choices it predicts correctly. Charness and Rabin [2002] exemplify this approach, which typically collects only a few decisions per subject through a series of choices designed to compare competing theories or test specific hypotheses.

[3]The two sets of experiments were conducted several months apart, which minimizes the possibility that subjects, for example, simply applied a similar procedure to both sets of decisions. Furthermore, the distinctive patterns we observe for our estimated societal versus social preference parameters suggest that this is unlikely to be a significant concern.

This configuration creates *budget sets* over π_s and π_c, where p_c/p_s is the *relative price of giving*. Because choices are from standard budget sets, we are able to use classical revealed preference analysis to assess whether subject behavior is consistent with rationality, in the sense of maximizing a (well-behaved) societal utility function, and deploy classical demand analysis to recover information about the underlying societal preferences.

The broad range of budget sets faced by each subject provides a rigorous test of the Generalized Axiom of Revealed Preference (GARP). In particular, the changes in endowments and relative prices are such that budget lines cross frequently. As a result, we may subject our data to high-powered tests of revealed preference conditions. We find that most subjects exhibit behavior that nearly satisfies GARP, which suggests their behavior is sufficiently consistent to allow us to recover meaningful preferences. Since GARP imposes on the data the complete set of conditions implied by utility maximization, revealed preference relations in the data thus contain all information on underlying preferences.

The consistency of individual decisions naturally leads us to ask what kind of societal preferences are consistent with the observed choices. We show that individual choices are well-explained by a constant elasticity of substitution (CES) model of societal preferences. In our context, the CES has the form

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

where $0 \leq \alpha \leq 1$ represents the relative weight on the payout for $self$ (self-interest), $-\infty \leq \rho \leq 1$ represents the curvature of the indifference curves (equality versus efficiency), and $\sigma = 1/(1-\rho)$ is the (constant) elasticity of substitution. The CES approaches perfect substitutes as $\rho \to 1$, Leontief as $\rho \to -\infty$, and log utility as $\rho \to 0$. More generally, any $\rho > 0$ (resp. $\rho < 0$) indicates societal preference weighted toward efficiency (resp. equality), because $p_c\pi_c$ decreases (resp. increases) when the relative price p_c/p_s decreases. Our analysis generates individual-level estimates of $\hat{\alpha}_n$ and $\hat{\rho}_n$ for each subject n.

Both tradeoffs — self-interest versus altruism (α) and equality versus efficiency (ρ) — play distinct and essential roles in modeling societal preferences, and each has a natural counterpart in real-world settings. The α CES parameter reflects how much of an income gain an individual is willing to devote to broader societal goals. The ρ CES parameter captures how sensitive that contribution is to the "price" of giving, whether determined by the relative tax treatment of consumption versus charitable donations or by how effectively a monetary contribution is transformed into social welfare.

We present our results alongside those of Fisman et al. [2023], who studied social preferences with a sample that partially overlaps with ours, also modeling preferences using the CES form, where π_c is replaced with π_o to reflect the payout for an anonymous *other* (a random anonymous ALP respondent not sampled for the experiment).

The subjects in our sample display widely heterogeneous societal preferences, as captured by the estimated CES parameters, $\hat{\alpha}_n$ and $\hat{\rho}_n$, and only a small amount of the observed variation is explained by sociodemographic characteristics. As expected, subjects' societal preferences (allocating money to the charity of their choice) are substantially

more altruistic than their social preferences (allocating money to an anonymous other from the general population). More interestingly, and perhaps surprisingly, despite the heterogeneity in societal (and social) preferences, the distribution of the substitutability between equality and efficiency is near-identical in subjects' societal and social preferences.

Figure 1 below summarizes these results by (statistically) classifying subjects' societal (and social) preferences. We classify subjects as fair-minded ($\hat{\alpha}_n < 0.5$), intermediate ($\hat{\alpha}_n = 0.5$), self-minded ($\hat{\alpha}_n > 0.5$) or selfish ($\hat{\alpha}_n = 1$) and as equality-focused ($\hat{\rho}_n < 0$), intermediate ($\hat{\rho}_n \approx 0$) or efficiency-focused ($\hat{\rho}_n > 0$).[4] The bars show the fraction of subjects in each category of self-interest for societal (left bar) and social (right bar) preferences. Each bar is then split into equality-focused, intermediate and efficiency-focused subgroups.

[Figure 1 here]

Most noticeably, the distribution of $\hat{\alpha}_n$ is skewed to the left for societal preferences relative to social preferences, as many more subjects are classified as fair-minded (34.2% versus 5.3%) and far fewer are classified as self-minded (16.6% versus 34.7%) or selfish (9.5% versus 19.2%). In sharp contrast to the distribution of $\hat{\alpha}_n$, which shifts markedly between societal and social preferences, subjects are roughly evenly split between equality-focused and efficiency-focused across both preference types, with a substantial share classified as intermediate. This is particularly evident among the approximately 40% of subjects classified neither as fair- nor as self-minded ($\hat{\alpha}_n = 0.5$), where the distributions of the CES equality-efficiency parameter $\hat{\rho}_n$ are remarkably similar: in both cases, the majority are efficiency-focused or intermediate, with equality-focused subjects comprising only 4.2% (societal) and 7.5% (social), compared to 17.5% (societal) and 17.0% (social) who are efficiency-focused.

Furthermore, and perhaps most interestingly, a within-subject analysis of the subsample that participated in both societal preferences and social preferences experiments shows that the estimated CES parameters of social preferences are highly predictive of the CES parameters of societal preferences that are the focus of the current paper. We find these results to be particularly intriguing, as the overall distributions of the CES self-interest parameter $\hat{\alpha}_n$ are quite different for societal and social preferences (and given that the experiments were conducted a few months apart, it is unlikely that subjects are simply repeating the same heuristic they deployed earlier). Our main takeaway from the comparison of subjects' societal and social preferences is that, despite differences between the

[4] We statistically classify preferences by calculating 95% confidence intervals around each parameter. We then set $\alpha = 1$ for any α whose confidence interval exceeds 1, $\alpha < 0.5$ if the *upper* bound of its confidence interval is less than 0.5, $\alpha > 0.5$ if the *lower* bound of its confidence interval is above 0.5, and equal to 0.5 for any remaining α. We conduct a similar exercise for ρ, using a threshold at 0, omitting subjects that are classified as having $\alpha = 1$, since ρ is undefined for those subjects. The broad patterns we document here are not sensitive to alternative ways of classifying subjects using, for example, intervals for the estimated preference parameters.

two and the considerable individual-level heterogeneity in both types of preferences, these elements of other-regarding preferences are highly correlated at the individual level.

Naturally, however, some differences remain, reflecting the distinctiveness of societal versus social preferences. In our final analysis, we show that these differences correlate with several individual-level attributes. Specifically, lower-income subjects, as well as Black and Hispanic subjects, are more altruistic (have relatively lower estimated $\hat{\alpha}_n$) in their social relative to societal preferences. We do not take a position on what might explain this correlation, but present it as a potentially interesting fact for future research. Taken together, these results indicate that sociodemographic factors may shape the relative importance of self-interest and altruism even when the broader preference structure is similar across other-regarding preference domains.

To summarize, using a large and diverse sample of U.S. adults, we find that societal preferences — the tradeoffs individuals make between their own interests and the interests of society — are substantially more altruistic than social preferences, which govern tradeoffs between self-interest and the interests of an anonymous other. Both types of preferences are highly heterogeneous across individuals, with observable sociodemographic characteristics explaining only a modest share of this variation. Perhaps most importantly, a within-subject analysis reveals that the CES parameters estimated from social preferences are strongly predictive of their societal counterparts, suggesting a unified and portable model of other-regarding preferences.

The rest of the paper is organized as follows. Section 2 reviews the relevant literature. Section 3 describes the experimental design, procedures, and subject pool. Section 4 presents the results, and Section 5 offers concluding remarks.

2 Background Literature

To economize on space, we will not attempt to provide a comprehensive review of the enormous literature on social preferences. Interested readers can refer to Camerer [2003] as well as Cooper and Kagel [2016] for the main (if somewhat dated) surveys of the literature. There is also a well-developed body of work that aims to disentangle the motives for charitable giving. Again to economize on space, we refer interested readers to Alesina and Giuliano [2011] for a broad overview. We only note that, although we use charitable giving to study societal preferences, our focus is quite distinct from that of the prior work, which employs experiments in the lab and in the field (as well as field experiments) to study particular aspects of charitable giving.[5] In contrast, we impose no theoretical preconceptions on the data and instead recover societal (and social) preferences from the

[5]Some prominent examples include differential responses to changes in matching gifts and tax rebates [Eckel and Grossman, 2003], bids in charity auctions [Leszczyc and Rothkopf, 2010], sorting in door-to-door fundraising campaigns [DellaVigna et al., 2012] and responses to fundraising appeals following natural disasters or humanitarian crises [Fong and Luttmer, 2009], among others.

ground up at the individual level, testing for the consistency of individual choices with utility maximization and estimating preference parameters for each subject separately.

To the best of our knowledge, Eckel and Grossman [1996] are the first to document in a standard split-the-pie dictator game that subjects are more altruistic in their societal preferences (in the form of gifts to the American Red Cross) than in their social preferences, arguing that this is "consistent with the hypothesis that sympathy toward an identified recipient increases giving." Numerous variants of their experiment have been conducted since — the meta-analysis of Umer et al. [2022] lists 16 studies focused exclusively on charitable giving in dictator games, as well as three that involve both a charity and an anonymous *other* as recipients, reaffirming that societal preferences are more altruistic than social preferences. This result is consistent with our finding on the tradeoff between self-interest and altruism in societal versus social preferences, but studying the equality-efficiency tradeoff requires a modified dictator game like ours that varies the price of giving. Further, no prior experiment combines distinct estimates of social *versus* societal preferences, which allow us to explore how the two are related at the individual-level.

Our work departs from these previous studies and the prior literature more broadly in three important ways:

1. While some prior studies introduce matching funds to study efficiency concerns (by varying the effective price of a donation), these price changes are typically not implemented at the level of the individual subject. Individual-level giving elasticities are essential both for characterizing the distribution of preferences and for informing policy: as Vesterlund [2006] cautions, aggregate elasticities are difficult to interpret when contributors do not face the same marginal tax rate changes. In contrast, by varying the relative price of giving for each subject and presenting subjects with many choices, we are able to estimate such individual-level elasticities.

2. Our sample is large, broadly representative of the U.S. adult population, and linked to unusually rich background data on subjects' sociodemographic and economic characteristics, drawn from RAND's American Life Panel (ALP) — a probability-based online survey panel widely used in social science research for its demographic breadth and depth of background information. Moreover, many subjects also participated in procedurally identical but temporally separate experiments measuring their social preferences, giving us individual-level parameter estimates for both types of other-regarding preferences — societal and social — which we can relate to subjects' individual characteristics.

3. Finally, we allow subjects to express their societal preferences by choosing among more than 300 potential charity recipients spanning all 30 cause areas listed on Charity Navigator (a platform we describe in greater detail below). By comparison, Eckel and Grossman [1996] focus exclusively on the Red Cross, and other studies typically offer only a small handful of charities (see, for example, Tonin and Vlassopoulos,

2017), raising concerns about a mismatch between the limited choice set and the true societal preferences of individual subjects (obscuring societal preferences versus an affinity for a particular societal cause).

3 The Experiment

In this section, we describe the experimental design, procedures, and subject pool we use to study societal preferences, distinguish them experimentally from social preferences, and compare these two classes of other-regarding preferences. The design draws on our prior work, which aimed to devise a choice environment rich enough for a general characterization of patterns of individual behavior, whether in decisions involving preferences for personal versus social consumption (as is our context here) or attitudes toward risk and/or inequality.

Broadly speaking, our experiments present subjects with a sequence of standard consumer decision problems in which they select a bundle of commodities from a linear budget set. Choices are made through a simple point-and-click graphical interface introduced by Choi et al. [2007b] and first utilized by Fisman et al. [2007] to analyze social preferences and by Choi et al. [2007a] to analyze risk preferences. We thus build on expertise acquired in previous work using this experimental method across different types of individual choice problems; however, this is the first study to apply it to societal preferences.[6] The approach has two main advantages over earlier methodologies:

- Because the interface is user-friendly, it is possible to present subjects with many choices over the course of a single experimental session, yielding a much larger dataset. This makes it possible to analyze behavior at the level of the individual subject, without the need to pool data or assume that subjects are homogeneous.

- The choice of a bundle subject to a budget constraint provides more information about preferences than a typical binary choice, enabling us to use classical revealed preference analysis to decide if subject behavior is consistent with rationality, and classical demand analysis to recover information about the underlying preferences.[7]

[6] Fisman et al. [2015, 2017, 2023], Li et al. [2017, 2022], and Casalino et al. [2024] employ the experimental methodology to study distributional preferences across a number of different samples, including a nationally representative one. Fisman et al. [2007] also introduced three-dimensional budget sets to study dictator games with two *others*. Choi et al. [2014] study risk preferences in a nationally representative sample. The datasets of Choi et al. [2007a] and Choi et al. [2014] have been analyzed in many other papers, including Halevy et al. [2018], Polisson et al. [2020], de Clippel and Rozen [2023], Echenique et al. [2023] among others. Also using three-dimensional budget sets, Ahn et al. [2014] extended the experimental work on choice under risk (known probabilities) to choice under ambiguity (unknown probabilities), and Dembo et al. [2026] provide purely nonparametric revealed preference tests of the complete representation of models of choice under risk.

[7] Naturally, it is possible that presenting choice problems graphically biases behavior in some particular

3.1 Design and Procedures

The experiment consists of 50 independent decision rounds. Each round starts by having the computer select a budget line randomly from the set of lines that intersect at least one axis at or above the 50 token level and intersect both axes at or below the 100 token level. The budget lines selected for each subject in their decision problems are independent of each other and of the budget lines selected for other subjects in their decision problems. Subjects make choices by using the computer mouse to move the pointer on the computer screen to the desired point, and are restricted to allocations on the budget constraint.[8]

The actual payoffs of a particular choice are determined by the allocation chosen from the budget line according to the particular environment. In the experiment studying societal preferences, $self$ (the subject) received the tokens kept (π_s) and the tokens given (π_c) are directed toward a social cause through a charity of the subject's choice (as described in more detail below). By contrast, in the experiment of Fisman et al. [2023] studying social preferences, which serves as benchmark, $self$ received the tokens kept (π_s) and an anonymous *other* received the tokens given (π_o).

At the beginning of the societal preference experiment — before subjects received specific instructions on the experimental procedures and the use of the computer interface — they were asked to select a charity via a set of expandable and collapsible tables consisting of lists populated from Charity Navigator (www.charitynavigator.org). Founded in 2001, Charity Navigator is the largest and most-used charity rating agency in the U.S., assessing thousands of charities on measures of transparency, efficiency, and accountability and assigns each a star rating. Its website provides detailed information on the calculations underlying these ratings. At the time our experiment was conducted, Charity Navigator assigned each rated charity to one of nine sectors (in alphabetical order):

Animals	Arts	Culture & Humanities
Education	Environment	Health
Human Services	International	Public Benefit

Each cause has an associated list of several unique categories (subcauses), leading to a total of 30 possible categories from which subjects could choose a recipient charity. For instance, Environment is subdivided into two categories: Botanical Gardens, Parks & Nature Centers, and Environmental Protection & Conservation. We scraped the Charity

way, but there is no evidence that this is the case. The dictator experiment of Fisman et al. [2007] is identical to Andreoni and Miller [2002] except for presenting choice problems graphically, and the two studies yield directly comparable results. Moreover, although Fisman et al. [2007] test a much wider range of budget sets, the behaviors elicited graphically is consistent with those elicited non-graphically, as well as with the split-the-pie dictator games reported in Camerer [2003].

[8] In the (two-person) dictator experiment of Fisman et al. [2007], choices were not restricted to lie on the budget line but no subject violated budget balancedness using a narrow confidence interval. To make the computer program easier to use, in all future experiments we restricted choices to allocations on the budget constraint.

Navigator website for the 10 top-ranked charities within each cause, yielding a total of 300 charities available to subjects — many more than any other study of this kind. The complete list of charities is available in the Online Appendix.

At the end of the experiment, one of the 50 decision rounds was randomly selected to carry out for payoffs. Each decision round had an equal probability of being chosen. Each subject received the tokens kept in that round (π_s) and the charity selected by the subject received the tokens given (π_c). In the social preferences experiment, a randomly chosen ALP respondent (not sampled for the experiment) received the tokens given (π_o). Payoffs were calculated in terms of tokens and then converted into money. Each token was worth 50 cents. Subjects received their payments from the American Life Panel (ALP, described in the next subsection) reimbursement system via direct deposit into a bank account. Charity payments were made by the ALP at the conclusion of the experiment. The experimental instructions and all computer dialog windows are reproduced in the Online Appendix.

3.2 Subject Pool

We have integrated the graphical interface and experimental protocol described above with the American Life Panel (ALP) survey instrument. The ALP consists of several thousand U.S. adults (18 and older) who are recruited using probability-based sampling methods — primarily from respondents to the University of Michigan's Survey of Consumer Attitudes — making it broadly representative of the U.S. adult population. The subjects in the societal preferences experiment were randomly recruited from the entire ALP panel. Of the 1,114 ALP respondents who logged in, 1,106 (99.3%) progressed to the decision problems, 1,041 (93.4%) completed all 50 decision problems, and 1,053 (94.5%) completed at least 45 of the 50 allocation decisions; this last group constitutes our subject pool. Attrition was thus very low, with nearly all respondents who logged in completing the experiment.[9]

As a point of comparison, we use data collected the same year but a few months apart by Fisman et al. [2023] in an experiment involving social preferences — allocating tokens to $self$ and an anonymous *other* — which is otherwise identical to ours. The 696 subjects that completed this experiment were also recruited from the entire ALP panel. Of the 1,053 subjects in our societal experiment, 309 subjects (29.3%) also completed the social preferences experiment of Fisman et al. [2023]. Table 1 compares the demographic characteristics of our subject pools to both the full ALP sample and the U.S. adult population as measured by the American Community Survey (ACS) conducted by the U.S. Census and representative of the U.S. population.

[Table 1 here]

The gender composition of our sample closely mirrors that of the U.S. population (55% female in our sample versus 51% nationally), and the geographic distribution across census

[9] Those who completed at least 45 but fewer than 50 decisions did not quit the experiment; rather, some choices were not recorded due to computer/network errors.

regions is similarly representative. The racial and ethnic composition of our sample is broadly consistent with national figures, with African Americans and Hispanic or Latino respondents well represented. Notably, our sample is older than the general population — the median age is 57 compared to 48 nationally, and those aged 65 and above are over-represented — which reflects the age profile of the ALP panel more broadly. Our sample is also better educated and has somewhat lower household income than the national average, consistent with known features of survey panels [Hays et al., 2015]. Importantly, however, the demographic characteristics of those who completed the experiment closely match those who started it.

4 Results

4.1 Nonparametric Analysis

We begin by exploring the allocation decisions of our experimental subjects in a simple framework that imposes no assumptions on the functional form of societal (and social) preferences. We do so by constructing a reduced-form measure of these preferences, which is the average fraction of tokens *kept* by $self$ — $\pi_s/(\pi_s + \pi_c)$ in the societal preferences experiment and $\pi_s/(\pi_s+\pi_o)$ in the social preferences experiment; intuitively, these fractions capture self-mindedness, and are thus analogous to the CES parameter α we will derive in our parametric analysis below.

To construct these measures for each individual, we average at the subject level across all 50 decision problems consisting of budget sets with varying prices, which we simply denote by $\bar{\pi}$. Selfish (own-payoff maximizing) behavior would yield $\bar{\pi} = 1$, and any departure from one reflects some form of societal (or social) preferences. Any symmetric societal (resp. social) preferences putting equal weight on π_s and π_c (resp. π_s and π_o) — ranging from perfect substitutes $\pi_s + \pi_c$ (resp. $\pi_s + \pi_o$) to perfect complements $\min\{\pi_s, \pi_c\}$ (resp. $\min\{\pi_s, \pi_o\}$) — would yield $\bar{\pi}$ close to 1/2 when averaged over the 50 different budget lines with varying relative prices of giving.[10]

4.1.1 Heterogeneity in Societal Preferences

Focusing on societal preferences, our subjects overall kept 46.3% of the tokens on average, but there is considerable heterogeneity across subjects around this mean: the individual-level average of $\bar{\pi}$ ranges from 11.5% for the bottom decile to 71.2% for the top decile, and from 36.6% for the lower quartile to 55.9% for the upper quartile. This distribution indicates a relatively high level of giving: for the majority of subjects (52.2%), $\bar{\pi} < 1/2$, and for the vast majority (86.4%), $\bar{\pi} < 2/3$. Conversely, we observe very few near-selfish

[10] Given the wide range of budget lines with varying price ratios our subjects face, and that each subject faced a different realization, even subjects who put exactly equal weight on π_s and π_c (resp. π_s and π_o) may not keep exactly half of the tokens on average in our experiment.

subjects — $\bar{\pi} > 0.90$ for only 29 subjects (2.8%) and $\bar{\pi} > 0.95$ for only 16 subjects (1.5%). An approximately equal split is also relatively common: for 401 subjects (38.1%), $0.45 < \bar{\pi} < 0.55$. As we will see below in our parametric analysis, however, even within this subset of subjects who gave approximately half on average, there is still considerable heterogeneity in the equality-efficiency tradeoff in their societal preferences.

Figure 2 explores the heterogeneity in societal preferences across the nine causes, ordered by descending popularity (the fraction of subjects choosing each cause). The three most popular causes are Animals, Human Services, and Health, selected by 266, 247, and 240 subjects (25.3%, 23.4%, and 22.8%), respectively, accounting for 753 subjects in total (71.5%). Figure 2 shows the mean of the average fraction of tokens kept $\bar{\pi}$, the 95% confidence intervals for these means, and the 25^{th} and 75^{th} (circles) and 10^{th} and 90^{th} (lines) percentiles of the distribution. There are no substantial differences in the average of $\bar{\pi}$ across causes, and none of these differences is statistically significant. By contrast, there is considerable within-cause heterogeneity in the distribution of $\bar{\pi}$. Furthermore, for each cause the distributions exhibit the key features of societal preferences discussed above: relatively high rates of giving and a high frequency of an approximately equal split on average.

[Figure 2 here]

4.1.2 Societal and Social Preferences Compared

Next we compare societal and social preferences and explore the extent to which heterogeneity in both is explained by demographic and socioeconomic characteristics: gender, age, ethnicity, education, employment status, and income. Each panel of Figure 3 represents a partition of the subject pool into mutually exclusive categories and provides the same information as Figure 2 on the individual-level average of $\bar{\pi}$ across all subjects within each category. The top panel presents values for societal preferences and the bottom panel for social preferences.

[Figure 3 here]

Focusing first on societal preferences, the top panel of Figure 3 reinforces our earlier message — considerable heterogeneity in societal preferences within each demographic group, but fairly similar patterns across groups, with some important exceptions that we discuss further in our regression analysis below. The individual-level average, $\bar{\pi}$, ranges only from 0.44 to 0.52 across all sociodemographic categories, and within each category we observe considerable heterogeneity, skewed toward giving, with a substantial fraction of each group concentrated in the 0.45 to 0.55 range. As noted above, however, subjects with comparable $\bar{\pi}$ may still exhibit very substantial heterogeneity in their elasticity of substitution.

Next we contrast these patterns with $\bar{\pi}$ for social preferences, shown in the bottom panel of Figure 3. While we again see considerable within-group heterogeneity, $\bar{\pi}$ is considerably higher across all sociodemographic categories, ranging from 0.54 to 0.66 (as are the lower/upper quartiles and the bottom/top deciles). Perhaps as expected in social preferences, where the recipient is an anonymous *other* drawn from the general population, $\bar{\pi} < 0.45$ for only 28 subjects (4.0%) of the 696 subjects in Fisman et al. [2023],in sharp contrast to the distributions for societal preferences described above, where $\bar{\pi} < 0.45$ for 369 of the 1,053 subjects (35.0%).

Since we have detailed sociodemographic information on our subjects, as well as overlapping subject pools for societal and social preferences (from separate experiments conducted a few months apart), we can further explore how the correlates of keeping versus giving measured by $\bar{\pi}$ differ across the two types of other-regarding preferences, and examine the extent to which the two are correlated at the individual level. Table 2 reports regression results with $\bar{\pi}$ as the outcome in each specification. The first three columns provide results from the societal preferences experiment with: (1) no fixed effects; (2) state of residence fixed effects; and (3) cause fixed effects. Several factors consistently predict $\bar{\pi}$: this value is lower for women (keep less for $self$), as is the case for higher-income individuals; by contrast, this value is higher for minorities — both Black and Latinx subjects (keep more for $self$).

The last two columns provide results from the social preferences experiment, with: (4) no fixed effects; and (5) state fixed effects, and show that a different set of factors predicts $\bar{\pi}$ for social preferences. Most notably, the sign reverses for Black and Latinx subjects — both are more altruistic in their social preferences, and in the case of Black subjects the difference relative to White subjects is statistically significant. In contrast to societal preferences, it is low-income rather than high-income subjects who are most altruistic. To economize on space, columns (1)-(6) of Appendix Tables A1 and A2 show univariate regressions (one covariate at a time) for societal and social preferences, respectively. The last three columns of Appendix Table A1 (7)-(9) and the last two columns (7)-(8) of Appendix Table A2 reproduce the fully specified multivariate regressions from Table 2 to facilitate the comparison across specifications.

[Table 2 here]

Finally, for the subsample of 309 subjects (29.3%) that participated in both the societal and social preferences experiments, we directly compare the two types of other-regarding preferences in Appendix Table A3. The outcome variable is the difference in $\bar{\pi}$ between social and societal preferences, defined as the social value minus the societal value, so that a positive coefficient indicates lower altruism in social relative to societal preferences. Columns (1)-(6) report univariate regressions and columns (7)-(9) report the fully specified multivariate regressions with no fixed effects and with state and cause fixed effects, respectively. For this subsample, we again find a clear difference between White and non-White subjects: for both Black and Latinx subjects, the negative coefficient indicates lower

altruism in societal relative to social preferences. A similar pattern holds for low-income subjects, though with the full set of potentially correlated regressors, the difference between low- and middle-income is no longer statistically significant.

4.2 Parametric Analysis

4.2.1 Testing for Consistency

Before postulating a parametric family of functional forms for the utility function and fitting the derived demand functions to the data, it is natural to first test whether choices can be utility-generated. If budget sets are linear (as in our experiment), revealed preference theory [Varian, 1982, 1983] provides a direct test: choices in a finite collection of budget sets are consistent with maximizing a well-behaved (piecewise linear, continuous, increasing, and concave) utility function if and only if they satisfy the Generalized Axiom of Revealed Preference (GARP). To assess how nearly individual choice behavior complies with GARP, we use Afriat's (1972) Critical Cost Efficiency Index (CCEI), which measures the fraction by which each budget constraint must be shifted inward in order to remove all violations of GARP. By definition, the CCEI is between zero and one: indices closer to one mean the data are closer to perfect consistency with GARP and hence to perfect consistency with utility maximization.

In our experiments, mean CCEI scores across all subjects are 0.883 and 0.877 in the societal and social preferences experiments, respectively. We interpret these numbers as confirmation that subjects' choices are generally consistent with utility maximization. To provide a benchmark level of consistency, we follow Bronars [1987], which builds on Becker [1962], and compare the behavior of our actual subjects to the behavior of simulated subjects who randomize uniformly on each budget line. When confronted with the same decision problems as the human subjects do, the mean CCEI score for a random sample of 25,000 simulated subjects is only 0.600.[11]

4.2.2 CES Preference Estimates

Our subjects' CCEI scores are thus sufficiently near one to justify treating the data as utility-generated, and Afriat's theorem tells us that the underlying utility function $u_s(\pi_s, \pi_c)$ (resp. $u_s(\pi_s, \pi_o)$) that rationalizes the individual-level data in the societal (resp. social) preferences experiments can be chosen to be well-behaved. Additionally, with two goods, consistency and budget balancedness imply that demand functions are homogeneous of degree zero. If we additionally assume separability and homotheticity, the underlying

[11] While the Bronars [1987] test provides purely random choice as a benchmark, Fisman et al. [2007] generated simulated subjects who maximize the CES utility function with different levels of idiosyncratic logistic preference shocks as benchmarks. Our subjects' CCEI scores can be considered utility-generated also relative to small preference shocks. This analysis is omitted to economize on space.

utility function must belong to the CES family.[12] The CES form is given by:

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

As explained above, this formulation spans a range of well-behaved utility functions through the parameters α and ρ, so it embeds societal (or, replacing π_c with π_o, social) preferences in a particularly convenient manner. The advantages of the CES formulation are therefore flexibility, tractability, and straightforward interpretation. The CES is the parametric form chosen for recovering distributional preferences by Andreoni and Miller [2002], Fisman et al. [2007], among many others. Additional details on the CES formulation and estimation may be found in Fisman et al. [2007].

We emphasize that the experimental interface enables us to collect many observations per subject and therefore our estimates are obtained for each subject n separately, generating individual-specific estimates of $\hat{\alpha}_n$ and $\hat{\rho}_n$. Clearly, even a high level of consistency in the individual-level decisions does not imply that aggregate data are consistent. In fact, the considerable heterogeneity in subjects' behaviors entails that although behaviors are *individually* consistent, they are *mutually* inconsistent. It is thus clearly advantageous to estimate individual-level parameters and generate individual-level distributions of these estimates, rather than to pool data and estimate population- or type-level parameters.

Figure 4 below presents the cumulative distribution functions (CDFs) of the CCEI scores and the CES estimates $\hat{\alpha}_n$ and $\hat{\rho}_n$ in the societal and social preferences experiments. Panel (a) provides, in addition to showing CCEI scores for human subjects, the distribution for the simulated subjects of Bronars [1987]. The CDFs of the human subjects are skewed to the right, illustrating both the extent to which subjects fell short of perfect consistency and the extent to which they outperformed random choice. We observe very similar levels of consistency across both types of other-regarding preferences, and in both cases subjects exhibit far higher consistency than randomly generated choices.

Panels (b) and (c) of Figure 4 present the CDFs of the CES estimates $\hat{\alpha}_n$ and $\hat{\rho}_n$ for societal and social preferences, respectively. Panel (b) shows that the CDF of the estimated $\hat{\alpha}_n$ parameter in the societal preferences experiment lies clearly to the left, indicating a much higher degree of altruism in societal than in social preferences. This is as expected given our non-parametric results, which showed a higher fraction of tokens kept $\bar{\pi}$ in the societal preferences experiment. Interestingly, and even surprisingly given that the two experiments were conducted a few months apart, Panel (c) shows no such difference: the CDFs of the estimated $\hat{\rho}_n$ parameter largely coincide across societal and social preferences.

[Figure 4 here]

Finally, in Table 3 below we examine the correlation between the CES parameter estimates $\hat{\alpha}_n$ and $\hat{\rho}_n$ in societal and social preferences via a standard regression framework,

[12] We have also conducted a CCEI-type test for consistency with CES utility maximization; this test can yield a score no higher than Afriat's CCEI. We omit these results for brevity, as they yield near-identical CCEI scores for nearly all subjects.

in which we predict the societal preference parameter values using the social preference parameter estimates as independent variables. We restrict the analysis to the overlapping sample of 309 subjects (29.3%) who participated in both experiments. Given the long left tail of the estimated $\hat{\rho}_n$ distribution, we use the rank of $\hat{\rho}_n$ across all observations in a given specification. To make the rank of $\hat{\rho}_n$ comparable to $\hat{\alpha}_n$, we normalize it to [0,1], with 0 assigned to the most equality-oriented subject and 1 to the most efficiency-oriented.

In columns (1) and (2) in Table 3 we present results for $\hat{\alpha}_n$ and in columns (3) and (4) for (the rank value of) $\hat{\rho}_n$. Note that the sample drops to 253 subjects in column (2) and 237 in columns (3) and (4) because $\hat{\rho}_n$ cannot be identified for near-perfectly selfish subjects ($\hat{\alpha}_n = 1$), so column (2) excludes those near-perfectly selfish in the social preferences experiment, and columns (3) and (4) exclude those near-perfectly selfish in either experiment.

For both $\hat{\alpha}_n$ and $\hat{\rho}_n$, the CES social preferences parameter estimates are highly predictive of their societal preferences counterparts (with $p < 0.001$ in all specifications). The point estimates imply that a one-unit increase in the social preferences value of $\hat{\alpha}_n$ is associated with approximately a 0.36 unit increase in its societal preferences counterpart. The association between the $\hat{\rho}_n$ parameter values is quite similar, with a point estimate of about 0.38. We note that the coefficient on the social preferences parameter $\hat{\rho}_n$ is negative and significant in predicting societal preferences parameter $\hat{\alpha}_n$ as well, though it is less than half the magnitude of the other coefficients. The within-subject correlations across societal and social preference parameters support modeling individual other-regarding preferences as extending across domains.

[Table 3 here]

5 Conclusion

This paper introduces and studies societal preferences, which govern tradeoffs between self-interest and the interest of society, and compares them to the more commonly studied social preferences, which govern tradeoffs between self-interest and the interest of an anonymous *other*. Using a graphical experimental interface administered to a broadly representative sample of the U.S. population through the American Life Panel (ALP), we implement modified dictator games that vary the relative price of giving, with a wide variety of charities chosen by subjects as recipients in the societal preferences experiment and anonymous ALP respondents as recipients in the social preferences experiment.

Our revealed preference analysis shows that individual choices are broadly consistent with utility maximization in both settings. Modeling societal (and social) preferences using the CES form, we recover individual-level estimates of the self-interest and the elasticity of substitution for each subject. Subjects display considerably more altruism in their societal than in their social preferences, while the distribution of the substitutability parameter is strikingly similar across the two domains.

We also find that societal (and social) preferences vary enormously across subjects, and only a modest fraction of this variation is explained by observable sociodemographic characteristics. Nonetheless, we document several systematic patterns: women and higher-income individuals tend to be more altruistic in societal preferences, while Black and Latinx subjects are less altruistic in societal than in social preferences. Finally, a within-subject analysis of an overlapping sample reveals that the CES parameters estimated from social preferences are strongly predictive of their societal counterparts, despite the heterogeneity in both types of other-regarding preferences (and the fact that the two types of estimates were based on experiments conducted several months apart).

More broadly, this last finding speaks to the question of whether preferences are linked across domains.[13] The strong within-subject correlation between societal and social preference parameters suggests that the preference structure individuals bring to choices involving society at large is not independent of the structure they bring to choices involving a single anonymous *other*, pointing toward a unified and portable model of other-regarding preferences, one in which the underlying parameters are linked consistently — if not identically — across distinct domains.

[13] Zame et al. [2026] provide necessary and sufficient conditions for inferring how a decision-maker will choose among risky social allocations — lotteries over payoffs for both $self$ and $others$ — from two separately observable pieces of behavior: their choices under personal risk (lotteries affecting only themselves) and their riskless social choices (deterministic splits between $self$ and $other$). They find strong experimental support for these theoretical linkages.

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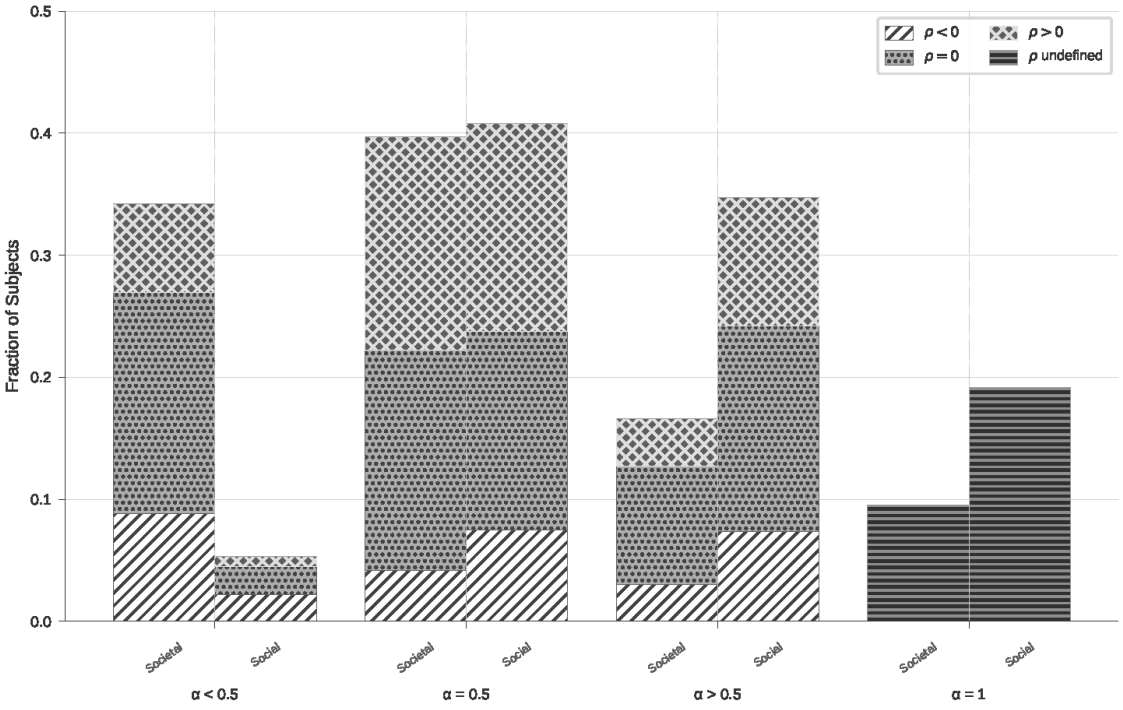
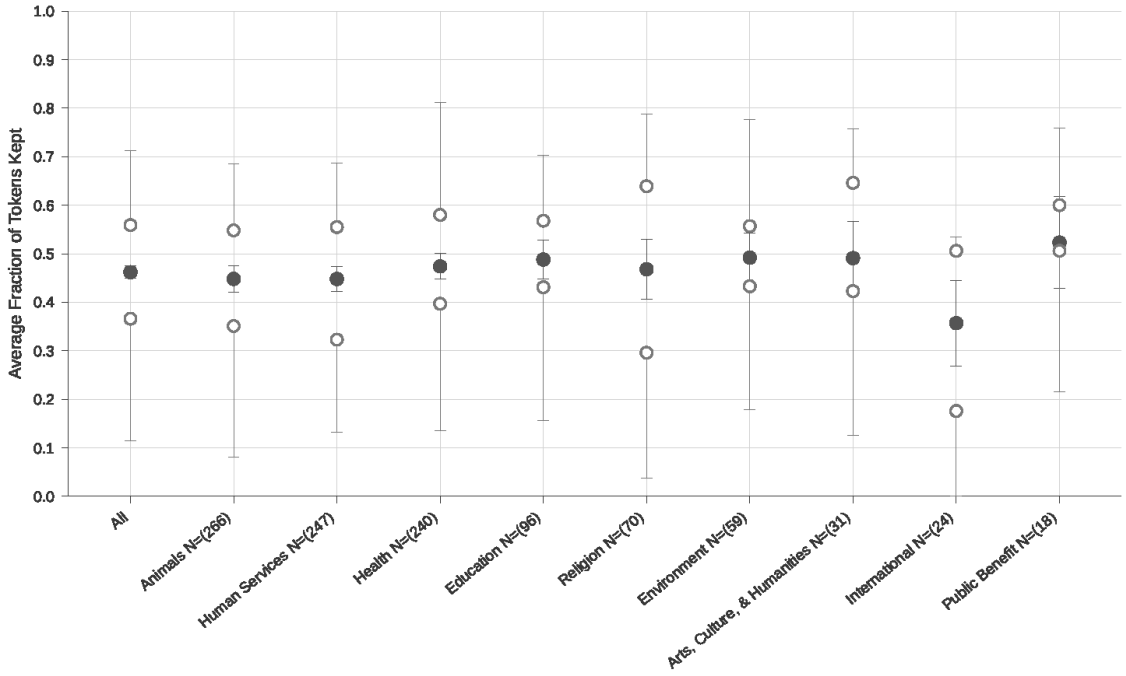
Figure 1: Classifying Societal and Social Preferences



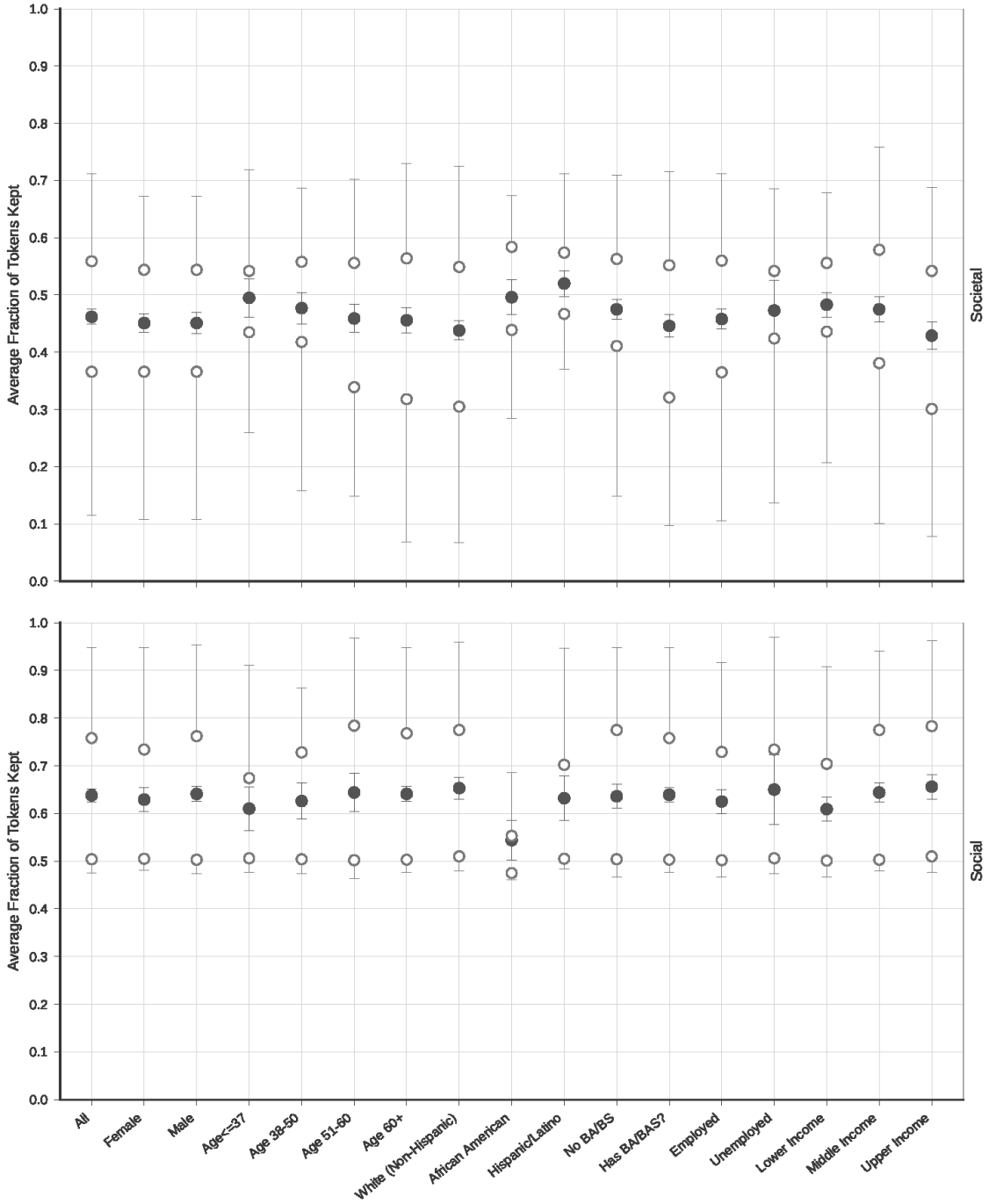
Classifies subjects' societal preferences (left bar in each pair) and social preferences (right bar) using estimated CES parameters. Along the horizontal axis, subjects are grouped by their self-interest parameter $\hat{\alpha}_n$: fair-minded ($\hat{\alpha}_n < 0.5$), intermediate ($\hat{\alpha}_n = 0.5$), self-minded ($\hat{\alpha}_n > 0.5$), and selfish ($\hat{\alpha}_n = 1$). Within each $\hat{\alpha}$ category, bars are subdivided by the equality-efficiency parameter $\hat{\rho}_n$: equality-focused ($\hat{\rho}_n < 0$, white with forward diagonal hatching), intermediate ($\hat{\rho}_n \approx 0$, gray with dot hatching), and efficiency-focused ($\hat{\rho}_n > 0$, dark gray with cross-hatching). For selfish subjects ($\hat{\alpha}_n = 1$), the equality-efficiency parameter $\hat{\rho}_n$ is unidentified (near-black with horizontal hatching). Preference types are classified statistically using 95% confidence intervals around each parameter estimate. We obtain similar results using point estimates to classify subjects' types.

Figure 2: Average Fraction of Tokens Kept by Selected Category



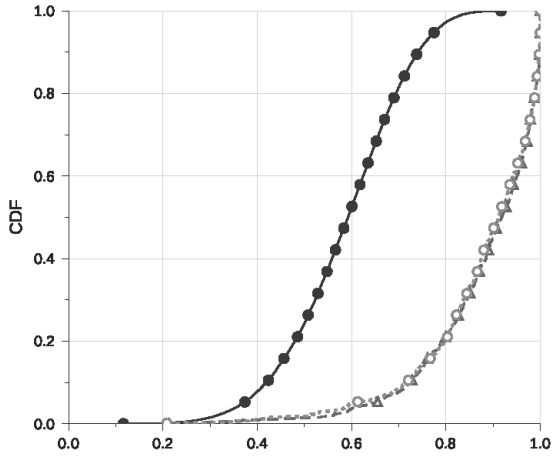
The distribution of the individual-level average fraction of tokens kept $\bar{\pi} = \pi_s/(\pi_s + \pi_c)$ across the nine charity causes in the societal preferences experiment, ordered by descending popularity (the fraction of subjects selecting each cause). For each cause, the dark gray filled circle with symmetric error bars shows the mean and its 95% confidence interval. Open circles indicate the 25^{th} and 75^{th} percentiles, with lines extending to the 10^{th} and 90^{th} percentiles.

Figure 3: Average Fraction of Tokens Kept by Demographic Subgroup: Societal versus Social

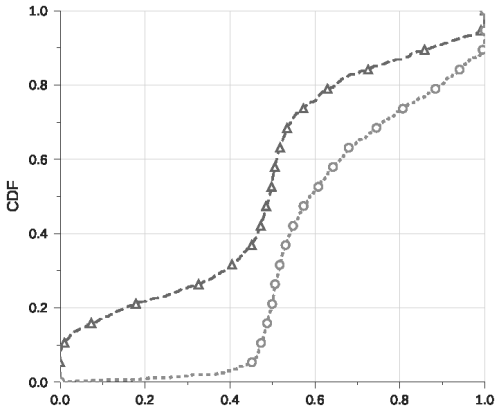


The distribution of the individual-level average fraction of tokens kept $\bar{\pi}$ across demographic subgroups for the societal preferences experiment (top panel) and the social preferences experiment (bottom panel). For each group, the dark gray filled circle with symmetric error bars shows the mean and its 95% confidence interval. Open circles indicate the 25^{th} and 75^{th} percentiles, with lines extending to the 10^{th} and 90^{th} percentiles.

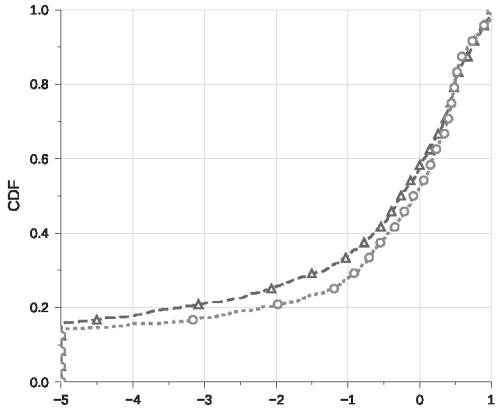
Figure 4: CCEI scores and CES Parameter Estimates: Societal versus Social



(a) CCEI



(b) Alpha



(c) Rho

CCEI scores and CES parameter estimates in the societal preferences experiment (dashed gray with triangle markers) and the social preferences experiment (dotted gray with open circle markers). Panel (a): The distribution of CCEI scores, with the distribution for 25,000 simulated subjects who randomize uniformly on each budget line (solid black with solid circle markers) as a benchmark. Panel (b): The distribution of the estimated CES self-interest parameter $\hat{\alpha}_n$. Panel (c): The distribution of the estimated CES equality-efficiency parameter $\hat{\rho}_n$, censored at -5 to improve readability.

Table 1: Comparing the Subject Pool to the U.S. Population

	Started	Complete	Both	Entire ALP	US Adults
Female	56.6	55.0	57.1	58.0	51.0
Age					
Median	57.0	57.0	55.0	53.0	48.0
18-44	21.7	22.9	26.3	31	46.9
65+	29.0	26.9	24.4	28.1	19.5
Race					
Caucasian	78.3	79.9	81.5	78.0	74.3
African American	11.0	10.0	8.8	11.0	11.7
Hispanic or Latino	16.5	16.9	15.6	16.2	15.9
Education and Income					
HS Diploma	95.5	95.5	92.9	96.4	89.2
College	44.6	44.8	47.4	44.8	29
Median Income ($000s)	58.9	59.14	55.9	66.8	91.7
Employment					
Employed	54	55.3	56.8	55.1	61.1
Unemployed	5.1	5.9	6.2	5.3	4.0
Not in the Labor Force	40.9	38.9	37.0	39.6	36.1
Census Region					
Northeastern	18.0	18.0	17.9	17.2	18.0
Midwestern	18.6	18.0	19.8	18.9	21.0
Southern	33.5	33.9	33.4	36.5	38.3
Western	29.9	29.9	28.9	27.4	22.7

The demographic characteristics of subjects across four groups: those who started the societal preferences experiment (Started), those who completed it (Complete), those who completed both the societal and social preferences experiments (Both), the full American Life Panel (ALP), and the U.S. adult population (US Adults). All figures are percentages unless otherwise noted. The median age is reported in years. Income is measured as median household income in thousands of 2016 dollars. U.S. population data are drawn from the American Community Survey (ACS) conducted by the U.S. Census Bureau (http://factfinder.census.gov).

Table 2: Correlates of Societal and Social Preferences

	Societal			Social	
	(1)	(2)	(3)	(4)	(5)
Female	-0.0401***	-0.0398***	-0.0387***	-0.0110	-0.0194
	(0.0137)	(0.0139)	(0.0136)	(0.0178)	(0.0187)
Youngest Quartile (< 47)	0.0278*	0.0245	0.0274*	-0.0485**	-0.0489**
	(0.0163)	(0.0161)	(0.0164)	(0.0226)	(0.0235)
Oldest Quartile (> 63)	-0.0083	-0.0055	-0.0110	-0.0544**	-0.0668**
	(0.0186)	(0.0190)	(0.0184)	(0.0265)	(0.0278)
Black	0.0421**	0.0410**	0.0404**	-0.0870***	-0.0984***
	(0.0188)	(0.0203)	(0.0191)	(0.0266)	(0.0276)
Hispanic	0.0632***	0.0576***	0.0594***	0.0042	-0.0016
	(0.0164)	(0.0182)	(0.0170)	(0.0273)	(0.0292)
Less Than High School	-0.0319	-0.0440*	-0.0320	-0.0668*	-0.0880**
	(0.0227)	(0.0242)	(0.0235)	(0.0389)	(0.0367)
Completed College	-0.0093	-0.0142	-0.0141	-0.0147	-0.0218
	(0.0147)	(0.0149)	(0.0147)	(0.0188)	(0.0206)
Employed	-0.0126	-0.0114	-0.0125	-0.0438*	-0.0495**
	(0.0161)	(0.0164)	(0.0159)	(0.0233)	(0.0245)
Unemployed	-0.0256	-0.0259	-0.0287	0.0149	0.0139
	(0.0294)	(0.0302)	(0.0295)	(0.0384)	(0.0385)
Low Income	-0.0009	-0.0018	-0.0008	-0.0312*	-0.0289
	(0.0168)	(0.0172)	(0.0168)	(0.0169)	(0.0176)
High Income	-0.0401**	-0.0357**	-0.0422**	0.0149	0.0085
	(0.0169)	(0.0173)	(0.0168)	(0.0172)	(0.0175)
Observations	1,053	1,052	1,051	696	695
Fixed Effects	No	State	Cause	No	State
R^2	0.037	0.088	0.050	0.036	0.106

OLS regressions with the individual-level average fraction of tokens kept $\bar{\pi}$ as the dependent variable. Columns (1)–(3) use data from the societal preferences experiment: column (1) includes no fixed effects, column (2) adds state-of-residence fixed effects, and column (3) adds charity cause fixed effects instead. Columns (4)–(5) use data from the social preferences experiment: column (4) includes no fixed effects and column (5) adds state-of-residence fixed effects. Age is measured relative to the youngest quartile (below age 47) and oldest quartile (above age 63), with the middle two quartiles as the omitted category. Income is measured relative to middle-income households, with high income defined as household income above $75,000. Constant term omitted from the table for brevity. Robust standard errors in parentheses. $***$, $**$, and $*$ indicate 1%, 5%, and 10% significance levels, respectively.

Table 3: The Relationship Between Social and Societal Preferences

		Societal			
		$\hat{\alpha}_n$		$\hat{\rho}_n$	
		(1)	(2)	(3)	(4)
Social	$\hat{\alpha}_n$	0.359***	0.357***		-0.113
		(0.086)	(0.118)		(0.125)
	$\hat{\rho}_n$		0.143***	0.388***	0.383***
			(0.052)	(0.064)	(0.065)
	Observations	309	253	237	237
	R^2	0.066	0.064	0.155	0.158

OLS regressions predicting societal CES parameters from their social preference counterparts, restricted to the overlapping subsample subjects who participated in both the societal and social preferences experiments. The dependent variable in columns (1)–(2) is the estimated societal self-interest parameter $\hat{\alpha}_n$, and in columns (3)–(4) is the estimated societal equality-efficiency parameter $\hat{\rho}_n$. In column (2)-(4), the sample is restricted to non-selfish subjects ($\hat{\alpha}_n < 1$) for whom $\hat{\rho}_n$ is identified (the equality-efficiency parameter is undefined for selfish subjects). Constant term omitted from the table for brevity. Robust standard errors in parentheses. $***$, $**$, and $*$ indicate 1%, 5%, and 10% significance levels, respectively.