I Choose For You: an Experimental Study*

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Abstract

We study whether risk and time preferences differ when individuals decide for others versus themselves. We introduce a novel "skin in the game" design in which choices for others impose a direct cost on the decision-maker, creating a real trade-off between self-interest and surrogate allocation. Participants are, on average, more risk-averse and impatient when choosing for others. The approach uncovers substantial heterogeneity and identifies selfish types often missed by standard no–skin-in-the-game methods. The message is nuanced: even non-selfish individuals behave differently when stakes are personal. Our framework also delivers more consistent behavior and superior out-of-sample predictive power.

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1 Introduction

Economists rely heavily on understanding how individuals navigate trade-offs involving risk and time. From household savings decisions to firm investment choices, these two dimensions — risk aversion and intertemporal substitution — are fundamental to modeling economic decision-making. Typically, preferences over risk and time are elicited and analyzed under the assumption that the decision-maker is also the beneficiary of the outcome. We observe choices made by the self, for the self, and recover the underlying parameters that govern these behaviors.

A substantial portion of economic decision-making involves choices made on behalf of others. Financial advisors manage roughly $30 trillion in U.S. household assets, making risk and timing decisions for clients; physicians select treatments for patients who defer to their expertise; and parents open investment accounts for children who cannot yet decide for themselves. In these surrogate settings, one person's preferences govern another person's consumption. Yet virtually all economic analysis of such surrogate relationships implicitly assumes that decision-makers apply the same risk and time preferences they would use for their own consumption. Whether this assumption is correct is far from obvious. This is what we do in this paper. *We study whether the fundamental parameters of risk and time preference remain stable across the self–other divide, or whether the act of choosing for another induces systematically different behavior.*

Specifically, we aim to recover the preferences that one subject holds over the consumption of another to determine whether there is a divergence in risk attitudes and impatience. The central empirical questions are whether individuals are more risk-averse when making choices for a third party compared to themselves and whether they exhibit different levels of impatience when scheduling consumption for others. Understanding this "self-other wedge" is critical for delegation and agency relationships, as it suggests that misalignments may arise not just from differing information or incentives, but also from fundamental differences in how we process risk and time for others. In other words, in analyzing choices made on behalf of others, we are focused on misalignments that stem from differences in preferences and are more fundamental, or hard-wired, than the more common concern with conflicts of interest.

Our primary methodological contribution is the specific mechanism used to elicit these preferences. A standard experimental approach studies the self-other wedge through what we call the "no-skin-in-the-game" design: a participant makes choices that determine the consumption of a passive recipient, but without affecting the participant's own payoff. The design isolates the participants' pure preferences for the other's welfare, but ignores the material constraints and opportunity costs that characterize most real-world agency problems. Crucially, it is only incentivized to the extent that an experimental participant truly cares about the outcome consumed by others.

In contrast, we introduce a novel "skin-in-the-game" (SIG) framework. In our design, the act of making choices on behalf of another is not costless; rather, it comes at the direct cost of reduced consumption for the decision-maker. This ensures that the decision-maker faces a genuine trade-off: providing a specific risk profile or time schedule for the other agent requires a sacrifice of their own resources. By linking the choices made for the other agent to a reduction in the decision-maker's own potential consumption, we move beyond a costless allocation. The design is explained in detail in Section 3. Our approach allows us to observe how surrogate risk and time preferences manifest when the decision-maker is personally invested in the allocation process and must weigh the beneficiary's interests against their own material well-being.

Our experimental results show significant individual heterogeneity, but the most common pattern is that participants are more risk averse and more impatient with respect to others' consumption than they are with their own consumption. The SIG methodology successfully identifies "selfish types," which constitute a significant fraction of participants and allow for a more nuanced understanding of agents' preferences over others' consumption than the simple no-SIG approach.

Comparing SIG to the traditional no-SIG method reveals systematic discrepancies. The no-SIG approach produces a markedly different distribution of preference types — even excluding selfish participants — reversing the main qualitative conclusion in the risk domain: it suggests that most individuals are more risk-averse for themselves, whereas SIG finds the opposite. It also substantially understates the share of participants with similar preferences for self and other (<13% under no-SIG vs. >30% under SIG).

Structural estimates tell the same story. Under CRRA utility and exponential discounting, SIG delivers stable, and economically meaningful parameters: both risk aversion and the discount factor are higher for Me than for Other, pointing to greater patience for own consumption and confirming that agents act as if they are more risk-averse when evaluating the other's consumption. By contrast, the no-SIG estimates are noisy and too imprecise to reject identical preferences across recipients.

SIG also wins on forecasting power: in an out-of-sample prediction exercise using a holdout question, it outperforms the no-SIG method.

Taken together, these results show that designs that decouple choices from one's own consumption, like no-SIG, systematically distort inferred preferences, whereas the SIG method yields internally consistent, sharper, and more accurate estimates.

The remainder of the paper is organized as follows. We conclude this section with a review of the related literature. Section 2 introduces the conceptual framework and outlines two approaches to studying how people make decisions for others: the skin-in-the-game and no-skin-in-the-game methods. Section 3 describes the experimental design. Section 4 presents the experimental results, beginning with non-parametric analyses (Sections 4.2 and 4.3), followed by structural estimation (Section 4.4) and out-of-sample predictions (Section 4.5).

Related literature Our SIG design is inspired in Andreoni and Miller [2002], who introduce a modified dictator game in which subjects allocate surplus across varying prices and budgets to study altruism through revealed-preference axioms. Fisman et al. [2007] provide a graphical implementation and recover preferences for giving, distinguishing them from broader social preferences; they find that about 25% of participants are selfish, consistent with our estimates. We extend this framework to richer objects, including lotteries and delayed payments allocated between Me and Other.

Experimental papers that use what we call no-SIG produce mixed results. Chakravarty et al. [2011] use MPLs over risky outcomes, either for the decision maker or for passive recipients, and show that subjects are more risk-averse for themselves than for others, with similar patterns in auction settings. Our findings for the no-SIG method differ from Chakravarty et al. [2011], highlighting how methodology may affect inferred preferences. Reynolds et al. [2009] study choices between safe and risky options made first for oneself and then for a group. Using a no-SIG design, they find that participants are more likely to choose the risky option for themselves, implying greater risk aversion when deciding for others. Harrison et al. [2012] compare individual MPL choices with group decisions made via voting. They find no significant difference in risk preferences unless participants are informed about others' risk attitudes, in which case social choices become more risk-averse. Their design differs substantially from ours, as decisions are made collectively. Notably, they attribute their divergence from Chakravarty et al. [2011] to the lack of skin in the game in that setting.

Exley [2016] studies how risk affects charitable giving using a design closely related to ours. Participants make MPL choices involving outcomes for themselves and for a charity, including both certain payments and lotteries. One block (comparing a self lottery to a certain amount for the charity) is particularly similar to our setup, eliciting tradeoffs between own and others' outcomes. Exley varies probabilities over a fine grid to study how uncertainty influences giving. She finds that risk serves as an excuse for selfishness: participants are less willing to allocate to the charity when its payoff is more uncertain. While the MPL structure is similar, the focus and purpose of Exley's work differ from ours, as we use these tasks to compare preferences over own and others' consumption.

Finally, Chakraborty and Henkel [2025] study how individuals allocate resources between recipients from similar versus dissimilar social groups, focusing on interpersonal uncertainty — how difficult it is to assess others' welfare. They also design non-social tasks with comparable uncertainty to isolate this channel. While we share an interest in preferences over others' consumption, our design and objectives are substantially different.

2 Model

We first discuss our methodological proposal in an abstract setting. Our methodology is broadly applicable to many different domains and questions in economics. The model primitives are $(\Theta, O, o, Q, \succeq)$ where:

- Θ is a finite set of *options*.
- O is a set of *outcomes*.
- $\succeq$ is a preference relation over O.
- $o : \Theta \times \mathbf{R}_+ \to O$ is a function mapping each option θ and each *scale* $x \geq 0$ into an *outcome* $o(\theta, x)$.
- Q is a finite set of *exchange rates*.

Consider two agents: $\textsc{Me}$ and $\textsc{Other}$. The outcomes in O will be consumed by $\textsc{Other}$. The preference $\succeq$ describes $\textsc{Me}$'s choices over outcomes for $\textsc{Other}$. Suppose that $\textsc{Me}$ has a strictly increasing and continuous utility $v : \mathbf{R}_+ \to \mathbf{R}$ over $\textsc{Me}$'s own consumption of money. Suppose also that $\succeq$ is represented by a utility function $w : O \to \mathbf{R}$.

Example 1. *Let O be the set of all simple lotteries on some given set of monetary prizes: $O = \Delta_s(\mathbf{R})$ is the set of probability distributions on $\mathbf{R}$ with finite support. Let Θ be a set of options, θ_p with $p = 0.1, 0.2, 0.3$. The function o assigns, to each θ_p and scalar $x \geq 0$, the lottery in O that pays x with probability p and 0 with probability $1 - p$.*

Suppose that the utility function w over lotteries in O takes the expected utility form. For example, $w(\ell_p) = pu(x) + (1 - p)u(0)$, when $\ell_p \in O$ is the lottery that pays x with probability p and 0 with probability $1 - p$. The function u may, in addition, be assumed to be of the constant relative risk aversion form. So we get that $w(\ell_p) = Apx^\gamma$, for some parameters $A > 0$ and $\gamma > 0$.

How can we elicit, or estimate, the preferences $\succeq$ and the utility w? The standard procedure in economics is to ask $\textsc{Me}$ to make choices in O that will be consumed by $\textsc{Other}$. Essentially, preferences are choices. We propose a different approach. We start from the notion that preferences are choices, but offer a different channel for experimentally incentivizing those choices.

Consider the following assumptions:

1. Separability: $o(\theta, x) \succeq o(\theta', x)$ if and only if $o(\theta, x') \succeq o(\theta', x')$ for any $\theta, \theta' \in \Theta$ and $x, x' > 0$.

2. $x \mapsto w(o(\theta, x))$ is a strictly monotonically increasing and continuous function.

3. $v(1 - x) \geq \max\{w(\theta, qx) : \theta \in \Theta, q \in Q\}$ for all x small enough, and $v(1 - x) \leq \min\{w(\theta, qx) : \theta \in \Theta, q \in Q\}$ for all x large enough.

Separability assumptions are extremely common in economics. We use them to define a preference on some relevant sub-domain: for example, the separation of tastes from beliefs requires separability assumptions, as does the separation of time preferences from consumption within a period. Here we impose separability in order to define a preference $\succeq^*$ over Θ by $\theta \succeq^* \theta'$ if and only if $o(\theta, x) \succeq o(\theta', x)$ for some

$x > 0$. We may interpret the preferences $\succeq^*$ as representing the choices that Me would make for Other to consume when the choice involves alternatives in Θ.

We now discuss two approaches to recover Me's preferences over Other's consumption. The first, "no skin in the game," is the standard method in the literature. The second, "skin in the game," is our proposed approach. Distinguishing between them is central to our methodological contribution and to interpreting our results.

2.1 The No Skin In The Game Method

The most common experimental design asks participants to pick between two options, $o(\theta, x)$ and $o(\theta', x)$. We call this the no-skin-in-the-game method (no-SIG).

In principle, this design lets us recover the preferences that Me holds over Other's consumption: $\succeq^*$ from our earlier discussion. But the method is only truly incentivized to the extent that Me genuinely cares about Other's consumption. Whatever Me chooses is implemented and enjoyed by Other, not by Me, and there is no "physical" link between Other's consumption and Me's own material outcomes. That absence of personal stake is why we call it the no-SIG design.

2.2 The Skin In The Game Method

Our main methodological proposal is to make Me's choices costly for Me. Our proposal is inspired by Andreoni and Miller [2002], who allow for a tradeoff between Me and Other's consumption at varying terms of trade. These terms of trade are given by the exchange rates $q \in Q$.

We ask Me to choose between Me receiving an amount of money, or giving money away. The amount that is given is the scale an outcome that Other consumes. The exchange rate q trades off Me's consumption and the scale of the outcome for Other.

The total amount of money is m. For now, assume $m = 1$. Given x, Me chooses between getting $m - x$ or giving Other the outcome $o(\theta, qx)$. Under the assumptions we have made, the *cutoff* $x^*(\theta, q)$ is well defined by

$$v(1 - x^*(\theta, q)) = w(o(\theta, qx^*(\theta, q)))$$

The cutoff $x^*(\theta, q)$ is the monetary amount that equates Me's utility from Me consuming $1 - x^*(\theta, q)$ with the utility that Me obtains from Other consuming the object $o(\theta, qx^*(\theta, q))$. This object could be a lottery, as in Example 1, a dated reward, or other consumption items.

The assumptions we have made are minimal, but they suffice for the method we have outlined to enable the recovery of ME's preference $\succeq^*$.

Proposition 1. *$\theta \succeq^* \theta'$ if and only if $x^*(\theta, q) \leq x^*(\theta', q)$.*

Proof. Let $x = x^*(\theta, q)$. Then $\theta \succeq^* \theta'$ if and only if

$$0 = v(1 - x) - w(o(\theta, qx)) \leq v(1 - x) - w(o(\theta', qx)).$$

So $x \leq x^*(\theta', q)$ as $x \mapsto v(1 - x) - w(o(\theta', qx))$ is strictly decreasing. □

The skin-in-the-game method (SIG) provides a direct connection between ME's choice of OTHER's consumption and ME's own consumption. Choosing an amount x means two things: it means that OTHER consumes the object $o(\theta, qx) \in O$ and that ME consumes the monetary amount $1 - x$.

Note the role played by the cutoff $x^*(\theta, q)$ in Proposition 1. Operationally, in our experimental design, we shall use a multiple price list (MPL) to elicit a point of indifference between consumption for ME and for OTHER.

3 Experimental Design

Our design elicits both ordinal and cardinal comparisons of preferences over outcomes for oneself (ME) and another individual (OTHER), enabling a direct comparison of the SIG and no-SIG methods. We work with two choice domains: risk and time preferences. We describe five elicitation tasks conducted for each domain and the nonparametric identification strategy (Section 3.1). We then outline the experimental protocol (Section 3.2) and discuss key design features (Section 3.3).

3.1 Ordinal Comparison of Preferences: Identification

In each domain, we have five elicitation tasks (questions):

- Risk domain

(Q1) $v(K - x^*, 0) = p \cdot v(a(x^* + c), 0) + (1 - p) \cdot v(0, 0)$

(Q2) $w(q(K - x^*), 0) = v(y^*, 0)$

(Q3) $p \cdot w(qa(x^* + c), 0) + (1 - p) \cdot w(0, 0) = v(z^*, 0)$

(Q4) $p \cdot w(a(x^* + c), 0) + (1 - p) \cdot w(0, 0) = w(m^*, 0)$

(Q5) $v(K - s^*, 0) = p \cdot w(qa(s^* + c), 0) + (1 - p) \cdot w(0, 0)$

- Time domain

(Q1) $v(K - x^*, 0) = v(a(x^* + c), t)$

(Q2) $w(q(K - x^*), 0) = v(y^*, 0)$

(Q3) $w(qa(x^* + c), t) = v(z^*, 0)$

(Q4) $w(a(x^* + c), t) = w(m^*, 0)$

(Q5) $v(K - s^*, 0) = w(qa(s^* + c), t)$

Our SIG method uses the first three valuation tasks (Q1-Q3) to measure how individuals value outcomes consumed by Me versus Other. The key idea is to recover these valuations from indifference conditions that equate utility from own consumption to utility from others' consumption. In this way, Me 's utility from Other's consumption becomes directly comparable – and commensurate – to Me's own consumption utility.

Let $v(o)$ and $w(o)$ denote Me 's utility from outcome o when consumed by Me and Other, respectively. Outcomes are monetary lotteries in the risk domain and dated payments in the time domain.[1] The first three questions elicit indifference points (x^*, y^*, z^*) via multiple-price lists. Specifically, Q1 elicits x^* from a standard own-consumption tradeoff, while Q2 and Q3 elicit y^* and z^*, capturing Me 's valuation of identical outcomes when consumed by Other (scaled by q). Comparing y^* and z^* reveals relative preferences: $y^* < z^*$ implies greater risk aversion (or impatience) for own outcomes than for others, while $y^* > z^*$ implies the opposite.

The parameters p and t capture the key features of the objects under study: p is the probability of the high prize in the risk domain, and t is the delay in days in the time domain. The parameter q scales payments when the same outcome is received by Other and can be interpreted as an exchange rate between Me 's and Other 's consumption, as in Andreoni and Miller [2002]. Unlike Andreoni and

[1] In the time domain, we write $v(x, t)$ and $w(x, t)$ to denote the Bernoulli utility of Me for receiving a payment of \$x in t days by Me and Other, respectively.

Miller [2002], who vary q across treatments to test rationality, we keep it fixed to make the tradeoff between own and others' consumption meaningful. The remaining parameters (K, a, c) are fixed constants chosen to target empirically relevant regions of preferences.

The no-SIG method instead compares Q1 with an additional task, Q4, which elicits OTHER 's certainty equivalent m^* for the same object without referencing ME 's own outcomes. Here, $K - x^* < m^*$ indicates greater risk aversion (or impatience) for own outcomes.

Finally, Q5 elicits an additional indifference point s^*, comparing own certain payoffs to risky or delayed outcomes for OTHER. This question is primarily used for out of sample prediction exercise (Section 4.5).

3.2 Experimental Protocol

The experiment consisted of 20 rounds, each featuring one multiple price list (MPL). In each MPL, participants made a sequence of binary choices between a "left" and a "right" option, designed to identify an indifference point. We also included several control tasks at the end. The Online Appendix provides full instructions and screenshots.

Valuation tasks. MPLs were used to elicit the indifference points $(x^*, y^*, z^*, m^*, s^*)$. Each round varied along two dimensions: (i) whether the left option was fixed (standard MPL) or varied across rows (modified MPL), and (ii) the identity of the recipient of outcomes (ME –ME, OTHER –ME, ME –OTHER, OTHER –OTHER).

A **standard MPL** presents a fixed left option and a right option that becomes progressively more attractive as one moves down the list. Participants indicate a single switching point, revealing an indifference value. The interface enforces a single switching point consistent with our theoretical framework. [2]

A **modified MPL** varies both options across rows: the left option becomes less attractive while the right option becomes more attractive as one moves down the list. As in the standard MPL, participants indicate a single switching point. The modified MPL mirrors Andreoni and Miller [2002]: it induces a tradeoff in which increases in

[2] Specifically, clicking the left option in a given row automatically selected the left option for that row and all rows above it, and the right option for all rows below; clicking the right option worked analogously. Participants could revise their selection at any time before submitting their final choice for each list.

ME 's consumption are paired with decreases in OTHER 's, effectively tracing choices along a budget line.

Parameters. The five questions described in Section 3.1 were implemented under two parameterizations in each domain. In the risk domain, $p \in \{0.50, 0.80\}$; in the time domain, $t \in 7, 14$ days, yielding 20 rounds in total. The remaining parameters (q, K, a, c) were set to $(\frac{3}{2}, 18, \frac{1}{2}, 28)$ and $(2, 18, \frac{1}{2}, 31)$ for $p = 0.50$ and $p = 0.80$, and to $(\frac{3}{2}, 20, \frac{1}{2}, 36)$ and $(2, 20, \frac{1}{2}, 30)$ for $t = 7$ and $t = 14$. MPL step sizes were \$1 in the risk domain and \$0.50 in the time domain. These parameters target empirically relevant regions and limit dominated options. See Section 1 in the Online Appendix for the details.[3]

Structure of the Experiment. Rounds were organized into four blocks: A (4 modified MPL ME –ME questions, Q1), B (8 standard MPL OTHER –ME questions, Q2–Q3), C (4 standard MPL OTHER –OTHER questions, Q4), and D (4 modified MPL ME –OTHER questions, Q5). Block order was quasi-randomized, with A always preceding C and D since these rely on values elicited in A. To reduce fatigue, we included short "brain breaks" after every four questions.[4]

Control tasks. At the end, participants completed a demographic survey (age, gender, education, income, number of children and siblings, political orientation) and two additional questions on financial risk-taking and charitable giving.

Incentives. Participants received a \$4 completion payment. Additionally, 20% were randomly selected for a bonus: one row from one of their MPL decisions was randomly chosen and implemented. OTHER recipients were recruited separately, and bonus payments for choices affecting them were made accordingly. The study lasted about 25 minutes, with average earnings of approximately \$9 (including payments to either ME or OTHER, depending on the realized choice).

Sample and Recruitment. The experiment was run on Prolific in March 2025 with U.S.-based adults. A total of 300 participants completed the study. Our analysis

[3]Our experimental design is static in the sense that all decisions are made at a single date. It would be interesting to study behavior in a dynamic choice setting, as in Halevy [2015].

[4]Participants were asked to identify differences between two images.

excludes 33 participants who made multiple dominated choices, leaving a final sample of 267.[5]

Ethics and Pre-registration. The study was approved by Caltech (IRB IR21-1167) and Berkeley (CPHS 2023-05-16357) and pre-registered on AsPredicted (#130714).

3.3 Discussion of Experimental Design

Two features of our methodology merit discussion. First, while we label here the standard approach as the no-SIG method, we acknowledge that if Me cares about Other's consumption, then it in fact provides incentives, since Me is choosing between objects that will be consumed by Other. If, however, Me is purely selfish, it is effectively un-incentivized. By contrast, our SIG method always embeds incentives: outcomes for Other are evaluated relative to Me 's own consumption, ensuring incentive compatibility regardless of social preferences. This is the key feature and advantage of SIG.

Second, a potential concern with our design is that participants' answers in Q1 determine the payments used in Q2 and Q3. This raises the possibility that subjects might strategically manipulate their responses in Q1 to influence later choices, thereby threatening incentive compatibility. We believe this concern is minimal in our setting. First, the link between Q1 and later questions is difficult to detect, as rounds are randomized and x^* is transformed through (q, a, c, K), obscuring the mapping. Second, our results indicate that the recovered preference distributions align with the literature, suggesting no systematic manipulation. Third, under the standard isolation assumption, incentive compatibility is preserved; with random problem selection, it holds under mild monotonicity conditions (see Azrieli et al. [2018]).[6]

Finally, while dynamic designs can raise gaming concerns, recent work finds such behaviors to be rare (e.g., Chapman et al. [2024]; Ray et al. [2012]). Alternative designs that fully eliminate these concerns would be infeasible in our setting due to the large number of required elicitation tasks.

[5]Excluded participants also completed the study significantly faster ($p < 0.01$) and often selected only the first row of each MPL.

[6]For empirical support of the isolation assumption, see Kahneman and Tversky [1979]; Hey and Lee [2005a,b].

4 Results

This section is organized as follows. Section 4.1 identifies selfish types. Section 4.2 presents the nonparametric SIG analysis, and Section 4.3 compares it to the no-SIG method. Section 4.4 introduces and estimates a structural model under both methods. Section 4.5 evaluates their out-of-sample predictive performance.

4.1 Selfish types

An important aspect of our design is that it allows us to categorize some participants as selfish. In each domain, six questions (Q2–Q4 across parameterizations) require evaluating outcomes for Other relative to Me. We use these questions to identify *selfish types*: participants who allocate all available resources to themselves and prefer even a minimal own consumption over any allocation to others.

Formally, a participant is *selfish* in domain d if they choose any option with a positive payoff for themselves (even if probabilistic) over an option benefiting Other in at least two of the six questions. Thus, they select options benefiting Other only when their own payoff is zero. By this criterion, 54 of 267 participants (20%) are selfish in the risk domain, 31 (12%) in the time domain, and 57 (21%) in at least one domain. The Online Appendix shows that, although the proportion of selfish types naturally depends on the chosen cutoff, our qualitative results remain unchanged under both more stringent and more lenient definitions of selfishness (Section 2.1).

4.2 SIG, non-parametric analysis

Columns (1) and (4) in Table 1 compare the risk and time preferences for own and Other's consumption that follow from comparing y^* and z^*. The data exhibit substantial heterogeneity: some participants are more risk-averse or more impatient for Me than for Other, some are less so, and many display similar attitudes for Me and Other. The aggregate distribution of comparative attitudes is stable across parameterizations in each domain. These attitudes are also stable at the individual level: type classifications for Me vs. Other are positively and significantly correlated across parameterizations in both domains, with correlation coefficients that are positive and statistically significant.[7]

[7]See additional statistics in Section 2.2 in the Online Appendix

TABLE 1: Comparing types recovered by SIG and no-SIG methods

	Risk domain: $p = 0.50$			Risk domain: $p = 0.80$		
	SIG	no-SIG	no-SIG non-selfish	SIG	no-SIG	no-SIG non-selfish
ME more risk-averse than OTHER	0.24	0.60	0.63	0.28	0.56	0.56
ME equally risk-averse as OTHER	0.31	0.13	0.12	0.33	0.08	0.08
ME less risk-averse than OTHER	0.45	0.27	0.25	0.39	0.36	0.36
nb subjects	$i = 211$	$i = 265$	$i = 211$	$i = 208$	$i = 262$	$i = 208$
	Time domain: $t = 7$ days			Time domain: $t = 14$ days		
	SIG	no-SIG	no-SIG non-selfish	SIG	no-SIG	no-SIG non-selfish
ME more impatient than OTHER	0.33	0.44	0.45	0.28	0.48	0.48
ME equally impatient as OTHER	0.42	0.22	0.20	0.43	0.26	0.24
ME less impatient than OTHER	0.24	0.34	0.34	0.29	0.26	0.28
nb subjects	$i = 227$	$i = 257$	$i = 227$	$i = 225$	$i = 254$	$i = 225$

Notes: Columns (1), (3), (4), and (6) focus on non-selfish participants in each domain with non-dominant choice in Q1 in each parameterization. The comparison of attitudes reported in columns (1) and (4) is done using Q2 and Q3: if $y^* < z^*$ then ME is more risk-averse (more impatient) than OTHER. The comparison of attitudes reported in columns (2), (3), (5), and (6) is done using Q1 and Q4: $K - x^* < m^*$ indicates greater risk aversion (or impatience) for ME versus OTHER.

Our conclusions hold for the strict definition used in Table 1 and the relaxed definition reported in Section 2.3 in the Online Appendix.[8]

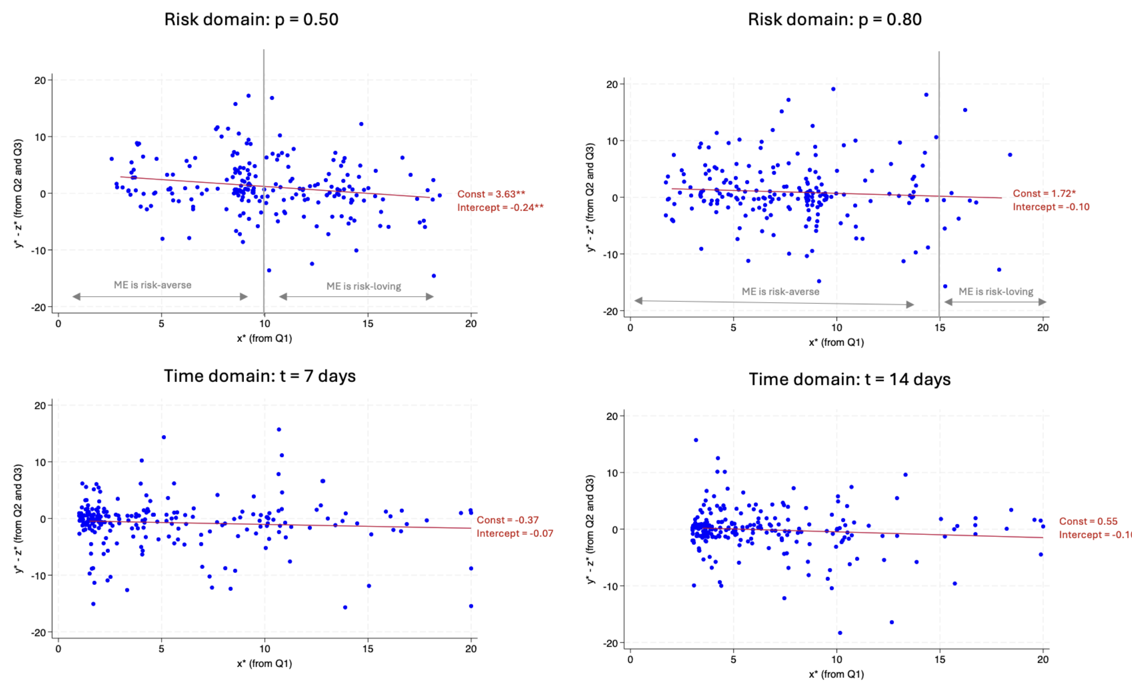
In the risk domain, a majority of participants are *less* risk-averse for ME than for OTHER. So the share of those who are *less* risk-averse for ME than for OTHER exceeds the share of those who are *more* risk-averse for ME than for OTHER (Test of Proportions: $p < 0.05$ in both parameterizations). By contrast, in the time domain, we find no consistent asymmetry across parameterizations: most participants display similar time preferences for ME and OTHER.[9]

Figure 1 shows the relationship between ME's preferences for objects consumed by OTHER and those consumed by ME, reported separately for each domain. First, we note that for the objects consumed by ME, we reproduce common findings regarding risk and time preferences. In the risk domain, most subjects are risk-averse (75% for

[8] The relaxed definition allows small perturbations. In the risk domain, we classify ME as more risk-averse than OTHER if $y^* < z^* - \$1$ (the step size in the MPL for risk questions). In the time domain, we classify ME as more impatient than OTHER if $y^* < z^* - \$0.50$ (the step size in the MPL for time questions).

[9] When $t = 7$, we observe more participants who are more impatient for ME than for OTHER ($p < 0.05$); when $t = 14$ the difference is not significant ($p = 0.92$).

Figure 1: Connection between preferences, ordinal SIG approach



Notes: For each parameterization and each domain, we plot the difference between indifference points y^* and z^* versus indifference point x^*. For the risk domain, we split the region of x^* into the risk-loving and risk-averse/neutral regions. The red line is the linear fit and the estimated intercepts and slopes are recorded next to the line. ** indicates significance at 5% level.

$p = 0.50$ and 77% for $p = 0.80$), with a median certainty equivalent of \$9 for a lottery paying \$18.50 with a probability of 0.50 and \$10 for a lottery paying \$19.50 with a probability of 0.80. In the time domain, the median subject is indifferent between \$19.75 in 7 days and \$16.50 today (implying a daily interest rate of 2.81%), and between \$17.50 in 14 days and \$15 today (implying a daily interest rate of 2.38%). The distribution of x^* in each parameterization is presented in Figure 1 in the Online Appendix.

The novelty in our design is the comparison between risk and time attitudes for Me and Other. Our data exhibit substantial heterogeneity at the participant level. There is no systematic relationship across participants between own risk preferences and risk preferences for the consumption of Other. The observations in Figure 1 are nearly symmetric around zero, indicating that the certainty equivalent of Me consuming a given lottery does not predict me's certainty equivalent of Other consuming the same lottery (expressed in Me-payments).[10] An analogous pattern holds for time preferences: an individual's patience for consumption bundles consumed by Me is unrelated to their patience for bundles consumed by Other.

Finally, we find no robust evidence that any of the control tasks we elicited at the end of the experiment are related to the differential risk- or time-preferences that participants exhibit for their own consumption versus the consumption of others. See Section 2.5 in the Online Appendix.

4.3 Comparing SIG and no-SIG, non-parametric analysis

We next compare the SIG and no-SIG methods: The method makes an important difference. Columns (1), (2), (4), and (5) in Table 1 report the classification of types under each method. The no-SIG method cannot identify purely selfish types since the objects consumed by the Other are evaluated only in terms of other's payments. This explains the difference in the number of observations reported in the first two columns of each parameterization. The third column shows the classification based on the no-SIG method after removing the selfish types identified by the SIG method.

The distributions of types recovered by the two methods differ substantially. Consider first the risk domain. Under the no-SIG approach, similar risk attitudes of Me and Other are quite rare —less than 13% for $p = 0.50$ and less than 8% for $p = 0.80$. In contrast, the SIG approach finds that more than 30% of participants exhibit similar risk attitudes for objects consumed by Me and Other.[11] Moreover, while the no-SIG approach suggests that the majority of participants are more risk-averse for Me than for Other, the SIG approach identifies the opposite pattern as the modal behavior.[12] Interestingly, removing the selfish types and reapplying the no-SIG approach leaves the distribution of types virtually unchanged. This occurs because, in the no-SIG case, the majority of purely selfish types are misclassified as being more risk-averse for Me than Other when asked to state the certainty equivalent of the lottery consumed by Other in Other-terms. Indeed, the no-SIG method recovers a similar distribution of risk attitudes for Me and Other when applied only to selfish

[10] For $p = 0.50$, both the intercept and slope of the linear fit are statistically different from zero but their magnitudes are negligible.

[11] The differences in the fractions of participants who have similar risk attitudes in the SIG and no-SIG approaches are statistically significant, $p < 0.01$.

[12] Under the no-SIG approach, the fraction of subjects classified as more risk-averse for Me than for Other is significantly larger than the fraction classified as less risk-averse: $p < 0.01$ in both parameterizations.

types (identified by the SIG approach), all non-selfish types, or all subjects together.[13]

In the time domain, the patterns are similar. The fraction of participants who display similar time preferences for Me and Other is significantly smaller under the no-SIG than under the SIG approach.[14] Moreover, while the SIG approach recovers roughly equal fractions of participants who are more rather than less impatient for Me than for Other, the no-SIG approach produces a skewed distribution, with substantially more participants classified as more impatient for Me than for Other.[15] Furthermore, as in the risk domain, removing the selfish types and reapplying the no-SIG approach does not change the distribution of recovered types.[16]

The similarity between the no-SIG distributions with and without selfish types, combined with the stark differences from the distributions recovered by the SIG approach, suggests that the discrepancies between the two methods are not merely due to the no-SIG approach's inability to identify selfish types. Rather, they reflect a more fundamental divergence in how individuals evaluate objects in terms of their own versus others' consumption. Why does the no-SIG method produce different type distributions even among non-selfish participants? The SIG method links evaluations of Other's consumption to Me's own consumption utility via the tradeoff $v(1-x) = w(o(\theta, qx))$, forcing a direct, costly (incentivized) tradeoff. In the no-SIG method, Other's consumption is evaluated entirely in Other's terms, with no personal cost to Me. When risk carries no personal consequence, participants may tolerate more of it on Other's behalf, assigning higher certainty equivalents m^* than they would under a costly tradeoff. This inflates m^* relative to $K - x^*$, leading the no-SIG method to classify a disproportionate share of participants as more risk-averse for Me than for Other. The SIG method, by requiring Me to sacrifice own consumption, seems to involve a more deliberate evaluation of Other's outcomes.

[13] The no-SIG approach applied to selfish participants yields the following type distributions: for $p = 0.50$, 50% are more risk averse, 17% equally risk averse, and 33% are less risk averse for Me than Other; for $p = 0.80$, 57% are more risk averse, 6% equally risk averse, and 37% are less risk averse for Me than Other.

[14] We obtain $p < 0.01$ in both parameterizations.

[15] In the SIG approach, the fraction of participants classified as more impatient for Me than for Other exceeds the fraction classified as less impatient at $t = 7$ days ($p = 0.03$), but not at $t = 14$ days ($p = 0.92$). In contrast, under the no-SIG approach, the fraction classified as more impatient is significantly higher than the fraction classified as less impatient in both parameterizations ($p = 0.02$ for $t = 7$ days; $p < 0.01$ for $t = 14$ days).

[16] The no-SIG approach applied to selfish participants yields the following type distributions: for $t = 7$ days, 33% are more impatient, 37% equally impatient, and 30% less impatient for Me than Other; for $t = 14$ days, 41% are more impatient, 41% equally impatient, and 17% less impatient.

4.4 SIG, structural parametric estimation

We next estimate a structural, parametric model of preferences. We assume constant relative risk aversion (CRRA) utility with exponential discounting for both Me and Other.[17] Under these assumptions, we estimate four parameters via nonlinear least squares: risk for Me (θ_M), risk for Other (θ_O), time for Me (δ_M), and time for Other (δ_O). We report aggregate results in Table 2 and individual results in Figure 2.

Column (1) of Table 2 has estimates for non-selfish participants using the three SIG questions. Column (2) reports estimates based on the two questions required under the no-SIG method.

Table 2: Estimating risk and time preferences parameters for Me and Other

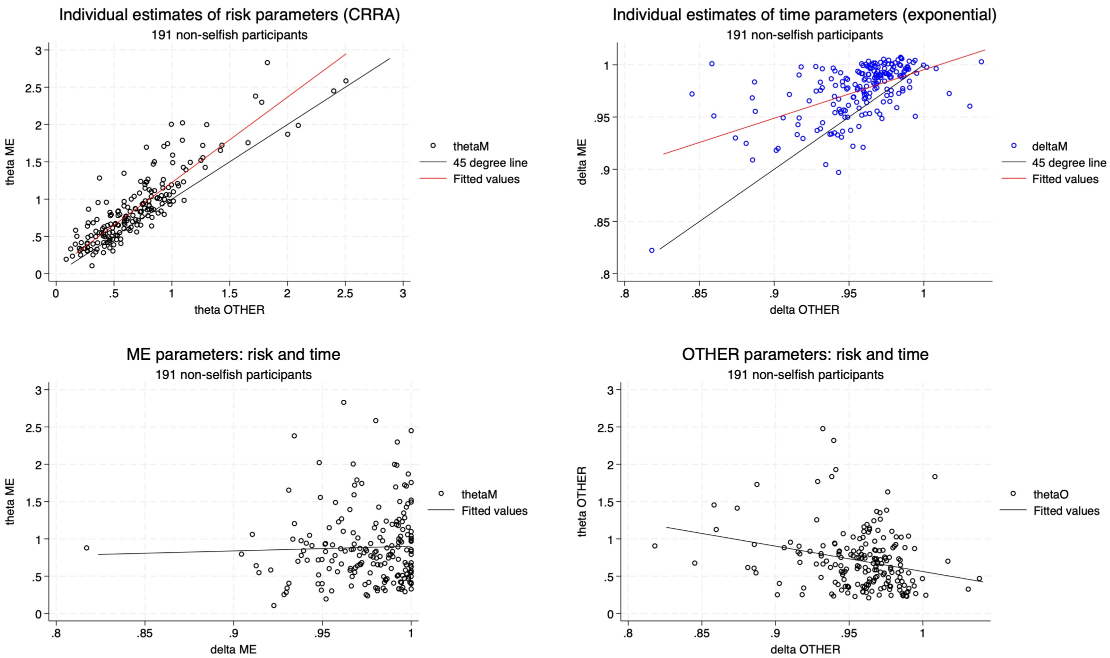
	SIG method Reg (1)	no-SIG method Reg (2)
risk parameter for Me θ_M	0.62 (0.02)	0.63 (0.02)
risk parameter for Other θ_O	0.55 (0.02)	0.67 (0.04)
time parameter for Me δ_M	0.98 (0.002)	0.98 (0.002)
time parameter for Other δ_O	0.95 (0.002)	0.98 (0.002)
H0: $\theta_M = \theta_O$	$p < 0.01$	$p = 0.270$
H0: $\delta_M = \delta_O$	$p < 0.01$	$p = 0.127$
sample	Q1, Q2, Q3	Q1, Q4
nb obs (nb subjects)	$n = 2412$ ($i = 210$)	$n = 2043$ ($i = 266$)

Notes: Nonlinear least-squares estimation is performed assuming CRRA utility and exponential discounting, i.e., $v(x,t) = \delta_M^t \cdot x^{\theta_M}$ and $w(x,t) = \delta_O^t \cdot x^{\theta_O}$. Robust standard errors are reported in the parenthesis with clustering at the participant level.

Table 2 shows three interesting findings. First, both methods recover standard preferences: on average, Me is risk-averse and impatient for both Me and Other, with estimates in line with the literature. Second, the SIG method shows systematic differences across recipients: Me is more risk-averse and more impatient when outcomes accrue to Other than to Me, with differences significant at the 1% level. These estimates closely match our nonparametric results, aside from a small asymmetry in time preferences detected only in the structural approach. Third, the no-SIG estimates suggest slightly lower risk aversion for Other and similar impatience across

[17] Our CRRA and exponential discounting assumptions are standard but restrictive, ruling out stake-dependent risk aversion and present bias. Robustness to alternatives (e.g., CARA, quasi-hyperbolic discounting) is left for future work; our non-parametric results in Sections 4.2–4.3 do not rely on these functional form choices.

Figure 2: Individual Structural Estimates of Risk and Time Parameters



Notes: The figure plots individual risk and time parameters for non-selfish participants. We exclude 19 participants with unreliable estimates. Estimation uses Q1–Q3 across parameterizations in both domains (up to 12 observations per person). The top panels compare risk (left) and time (right) preferences for Me and Other. The bottom panels show risk–time relationships separately for Me (left) and Other (right).

recipients, but the estimates are noisy and differences are not statistically significant ($p > 0.10$). Moreover, they contradict the nonparametric no-SIG results (Table 1), which show that more participants are more risk-averse and more impatient for Me than for Other.

Figure 2 reports individual-level estimates of risk and time parameters and largely mirrors the aggregate results. We focus on the 191 non-selfish participants who provide at least five interior certainty equivalents out of the 12 questions used for estimation. The top panels compare preferences for Me and Other, while the bottom panels show the distributions separately by domain and recipient.

Individual-level SIG estimates closely match our aggregate results. Most participants are risk-averse for both Me and Other (69%), while 14% are risk-loving for both. Importantly, 81% are more risk-averse for Other than for Me, and about 10% exhibit similar risk attitudes across the two. For time preferences, nearly all participants (97%) are impatient for both Me and Other. Among them, 53% display similar impatience, while 41% are more impatient for Other than for Me.[18]

4.5 Predictive ability of SIG and no-SIG methods

In our final exercise, we pit the two methods against each other in an out-of-sample prediction test using the estimates in Table 2. Conventional fit statistics (e.g., R^2, root MSE, Akaike Information Criterion, Bayesian Information Criterion) are not comparable here because the methods rely on different samples and numbers of observations. Instead, we assess predictive performance on Q5, which is held out from the estimation. On this metric, the SIG method clearly dominates, delivering a substantially lower RMSE (Wilcoxon signed-rank test: $p < 0.01$).

In summary, SIG produces estimates that are coherent across aggregate and individual levels and closely match the nonparametric benchmark. The no-SIG estimates, in contrast, are noisier and less internally consistent. Combined with the superior out-of-sample predictive power of SIG, these findings indicate a decisive advantage of SIG over the no-SIG approach.

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[18] We allow for some slack in the estimates: Me is considered more risk-averse (impatient) for Other than for Me if $\theta_M > \theta_O + 0.02$ ($\delta_M > \delta_O + 0.02$).

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