Institutional and Organizational Economics

A Behavioral Game Theory Introduction

Tore Ellingsen

Pitch

- ▶ Why do some countries succeed while others struggle?
- ▶ Why are some firms profitable while rivals fail?
- ▶ Why do some marriages thrive and others end in divorce?

This introductory text equips readers to answer essential questions around the success and failure of humans in groups, drawing on behavioral game theory, psychology, and sociology.

Coming soon: UK October 2023, US December 2023

Compact: 233 pages
Affordable: GBP 15.99, USD 22.95, EUR 19.90

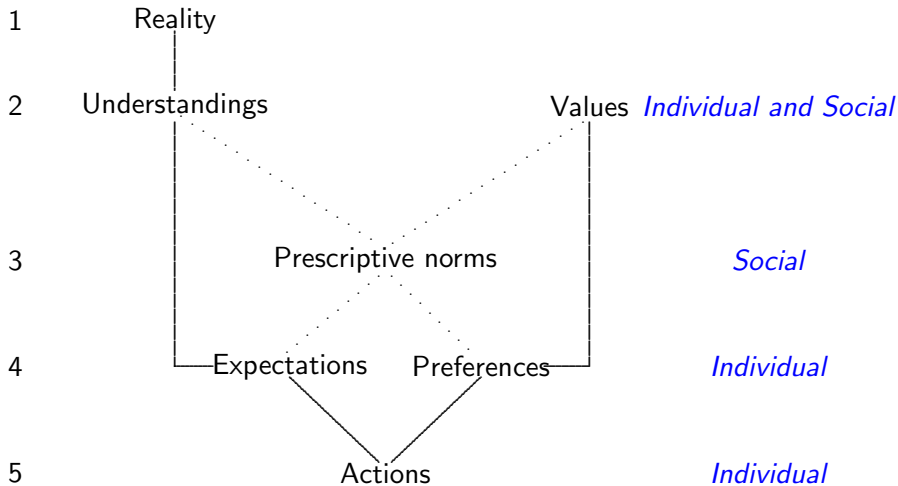Want to teach it? I share slides and exercises.

Endorsements

This slim volume offers an amazing wealth of ideas about institutions and organizations. The exposition nicely combines historical and experimental evidence with clear and simple behavioral game theoretic explanations. A book to instruct and delight students and scholars alike.

Avinash Dixit

Institutional and Organizational Economics not only provides a superb development of the ideas of organizational economics using the tools of basic game theory, but also offers fascinating connections to history, sociology and literature. A tour de force.

Oliver Hart

The Big Picture

1   Reality

2   Understandings   Values   *Individual and Social*

3   Prescriptive norms   *Social*

4   Expectations   Preferences   *Individual*

5   Actions   *Individual*

Chapters

A Model of Social Duties

Tore Ellingsen[1]   Erik Mohlin[2]

[1]Stockholm School of Economics, [2]Lund University and Institute for Futures Studies

IOEA
16 May 2023

Why Do We Behave Unselfishly?

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- ▶ Duties of charity (responsibilities for promoting communal value)

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3. Being defined by the group, duties are more malleable than many other preferences.

History / Related Literature

- **Classics:** Panaetius (2d century BC), Cicero (44 BC), Hume (1739-40, 1751), Smith (1759/90).

- **Sociology and Organisation:** Durkheim (1957/1900), Weber (1930/1905), Parsons (1951), Opp (1982), Coleman (1988,1990), March & Olsen (1989,1994).

- **Philosophy:** Ullman-Margalit (1977), Bicchieri (2005), Darwall (2006).

- **Law:** Macaulay (1963), Sunstein (1996), Kahan (1997).

- **Political Science:** Riker and Ordeshook (1968).

- **Psychology:** Piaget (1932), Thibaut & Kelley (1959), Kelley & Thibaut (1978), Rusbult & van Lange (2008), Janoff-Bulman et al (2009), Tomasello (2020)

- **Economics:** Edgeworth (1881), Becker (1974), Bolton & Ockenfels (2000), Fehr & Schmidt (1999), Charness & Rabin (2000), Gächter and Riedl (2005,2006), Cappelen et al (2007), Bernheim (1994), Rabin (1994,1995), Konow (2000), Brekke, Kverndokk & Nyborg (2003), López-Pérez (2008), DellaVigna, List, Malmendier (2012), Huck, Kübler & Weibull (2012), Krupka & Weber, (2013), Kimbrough & Vostroknutov (2016).

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1ppp: Interaction and dynamics (promises, reciprocity) left for later.

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Put enough structure on this model:

$$u(a) = x_d(a) - \delta \left[\mathbb{1}_{a \notin \mathcal{A}_J} h(a, e_o(S)) + \gamma \mathbb{1}_{a \notin \mathcal{A}_C} s(a) \right],$$

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- ▶ $e_o(S)$ is Other's entitlement payoff (henceforth simply *entitlement*);
- ▶ $h(a, e_o(S))$ is harm from violating duty of justice;
- ▶ $s(a)$ is shortage from violating duty of care.

Duties of Justice (*iustitia*) and the Size of Harm

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1. Explicit rules (external context)—derive **entitlement from obligation**:
$$e_o = \min_{a \in \mathcal{A}_J} x_o(a).$$

2. Implicit rules (internal context)—derive **entitlement from material payoffs**:
$$e_o = \beta x_o{}^{ideal} + (1 - \beta)x_o{}^{selfish}$$

   and obtaining obligation from entitlement:

$$a \in \mathcal{A}_J \text{ if } x_o(a) \geq e_o.$$

Duties of Charity (*beneficentia*) and the Size of Shortage

Communal value (for example)

$$c(x) = \underbrace{x_d + x_o}_{\text{efficiency}} - \alpha \underbrace{|x_d - x_o|}_{\text{equality}}$$

Shortage

$$s(a) = \underbrace{\max_{\hat{a}} c(x(\hat{a}))}_{\text{ideal}} - \underbrace{c(x(a))}_{\text{realization}}$$

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- **Approach 2:** Observe Decider in several different situations, and estimate parameters (finite mixtures).
  - On data set of Bruhin, Fehr, Schunk (2019), our model compares favorably to Charness-Rabin (2002).

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Duty Model: Seeking Other costs s for Decider. Action set $\mathcal{A} = \{S, N\}$. Hypothesis about external context: Obligation to seek, $\mathcal{A}_J = \{S\}$.

a	x_d, x_o	h	u
S	$-s, 0$	0	$-s$
N	$m, -(k+m)$	$k+m$	$m - \delta(k+m)$

Table: Lost wallet experiment

Lost Wallet Puzzle (ii): Predictions

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Puzzle resolved: Dutifulness can push weight on Other's payoff above 1.

Lost Wallet Puzzle (iii): Corroboration of Assumptions

In experiment, small money is 13.5 dollars and big money is 94 dollars.

The social appropriateness elicitations (7 items due to floor effects):
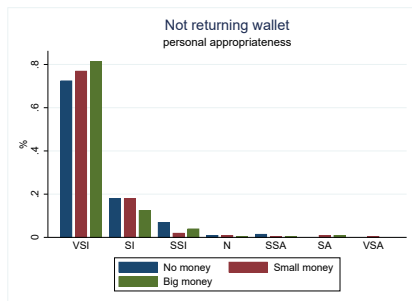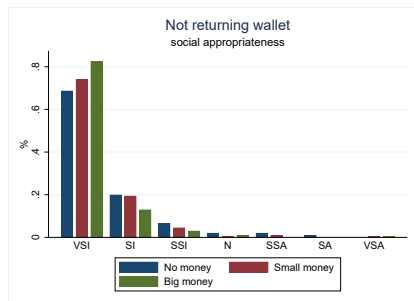
Figure: Lost wallet experiment: social (right) and personal (left) appropriateness ratings of not returning

Uncertain Entitlements?

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Brief intro.

Application 2: Standard Dictator Experiment

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Endowment 10 dollars. Decider picks a gift g in the interval $[0, 10]$.

Other's entitlement (derived from payoffs)

$$e_o = \beta \cdot 5 + (1 - \beta) \cdot 0 = 5\beta.$$

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Thus, Decider's utility is

$$
\begin{aligned}
u &= 10 - g - \delta\left(h(g) + \gamma s(g)\right) \\
&= 10 - g - \delta\left(\max\{0, e_o - g\} + \alpha\gamma|(10 - g) - g|\right) \\
&= 10 - g - \delta\left(\max\{0, 5\beta - g\} + \alpha\gamma|10 - 2g|\right).
\end{aligned}
$$

Decider's Utility Illustrated

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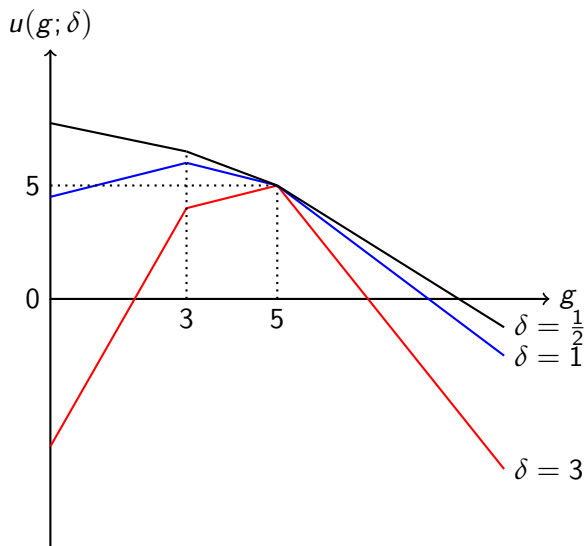
Figure: Decider's utility in the Dictator situation ($\alpha = 1/4, \beta = 3/5, \gamma = 1$)

Decider's Predicted Behavior in Dictator Experiment

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Can model explain evidence? K-W elicitation yields the following
distribution of $e_o(= 5\beta)$:

0	1	2	3	4	5
0.18	0.11	0.06	0.14	0.26	0.23

Table: Standard Dictator Experiment: Elicited Entitlements

Also: Post-play communication evidence. (And pre-play.)

Application 3: Entitlement from External Context

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Several experiments, starting with Konow (2000) have allocated the Dictator role on the basis of prior production or winning a quiz. Dictator gives much less.

Hypothesis: Because it increases Dictator's entitlement. Evidence:
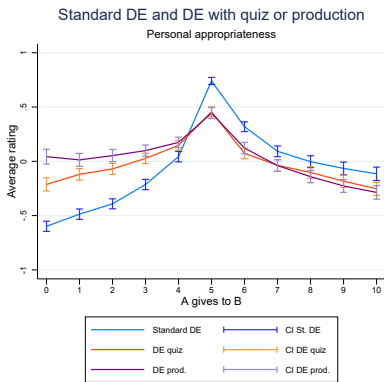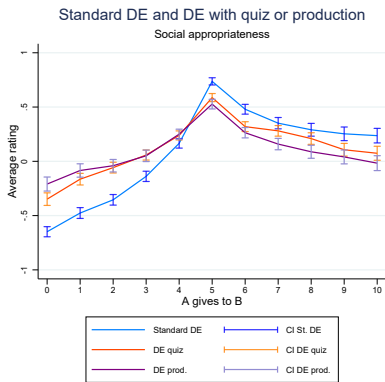
Application 4: Choice-Set Dependence

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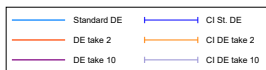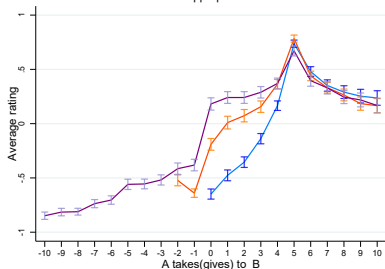(i) Exogenous entitlement? Taking violates property; $e_o^T = 0$.

Application 4: Choice-Set Dependence

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(i) Exogenous entitlement? Taking violates property; $e_o^T = 0$.

(ii) Endogenous entitlement:

$$e_o^T = \beta \cdot 5 + (1 - \beta) \cdot (-10) = 15\beta - 10 < 5\beta.$$

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K-W elicitations support both effects (next slide).

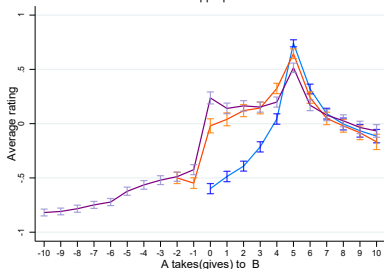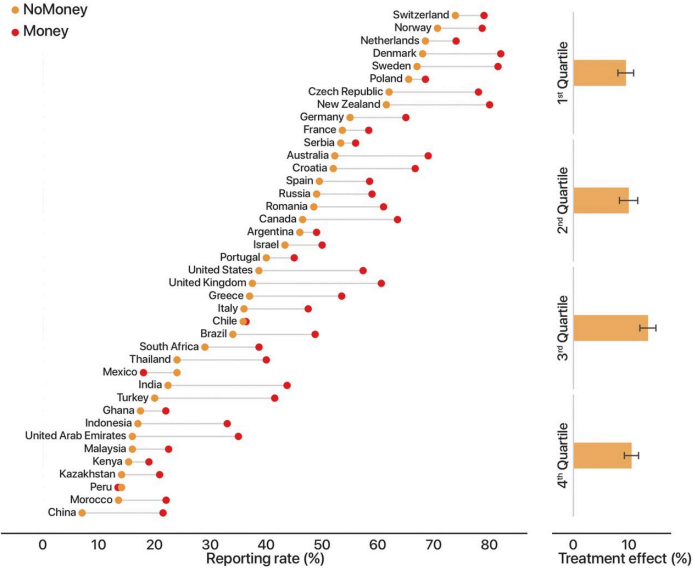# Choice-Set Dependence: Social Appropriateness

Figure: Average social (right) and personal (left) appropriateness ratings in the standard DE and DE with take options (95% confidence intervals)

Lost Wallet Experiment

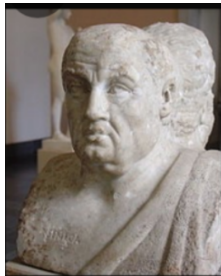Culture matters, and money too...(Cohn et al 2019) ▸ back

Respecting Rules

The Beggar Parable

Might and Right

Successful crime is dignified with the name of virtue; the good become the slaves of the impious; might makes right; fear silences the power of the law.

(Lucius Annaeus Seneca)

Dictator Data: Engel's (2011) Meta-analysis

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data only from 328 treatments with full range information, N = 20813