Behavioral economics and psychology of incentives

Emir Kamenica
University of Chicago Booth School of Business
Plan for talk

- Overview
- Review of empirical evidence
- Mechanisms
- Interventions in developing countries
Behavior change

- Standard decision making problem:

\[ \max_a E_{\mu} [u (a, \omega)] \]
Behavior change

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- Change the marginal utility
  - incentives
Standard decision making problem:

$$\max_a E_\mu [u(a, \omega)]$$

- Change the marginal utility
  - incentives
- Change the belief
  - persuasion
Standard theory of incentives

- Beliefs (implicitly) taken as given
  - no scope for persuasion
Standard theory of incentives

- Beliefs (implicitly) taken as given
  - no scope for persuasion
- Increase marginal utility of \( a \leftrightarrow \text{pay for } a \)
  - if you want to induce behavior, pay for it
Empirical evidence

- Two types of anomalies
Empirical evidence

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- Standard incentives backfire
  - paying for intrinsically enjoyable tasks
  - paying for prosocial tasks
  - paying too little
  - paying too much
  - giving too many options
Empirical evidence

- Two types of anomalies
  - Standard incentives backfire
    - paying for intrinsically enjoyable tasks
    - paying for prosocial tasks
    - paying too little
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    - giving too many options
  - Non-standard “incentives” work
    - frames
    - defaults
    - primes
    - implementation intentions
    - nudges
    - choice architecture
Mechanisms

- Standard incentives typically work very well
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  - laundry list of exceptions not useful
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- Mechanisms

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\text{output} = f(\text{effort}; X)
\]

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\max_a E \mu [u(a, \omega)]
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Mechanisms

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Mechanisms

- contextual inference
- loss aversion and dynamic inconsistency
- output = f (effort; X)
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  - contextual inference
  - loss aversion and dynamic inconsistency
  - output = f (effort; X)

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Empirical evidence
Failure of standard interventions

- Extrinsic incentives crowd out intrinsic incentives (Deci 1971)
  - temporary payment reduces subsequent engagement

- Paying for prosocial behavior (Titmuss 1970; Lacetera et al. 2012)

- Paying too much (Ariely et al. 2009; Beilock 2010)

- Paying too little (Gneezy & Rustichini 2000a; 2000b)

- Providing too many options (Iyengar et al. 2004)
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Success of non-standard interventions

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- Cognitive dissonance (Festinger 1957)
Success of non-standard interventions

- Framing (Wansink 2006)
- Defaults (Madrian & Shea 2001)
- Priming (Vohs et al. 2006; Berger et al. 2008)
- Cognitive dissonance (Festinger 1957)
- Choice architecture (Sunstein & Thaler 2008)
Mechanisms
Mechanisms

- Beliefs
- Preferences
- Technology
Beliefs

- **Contextual inference**

\[ \max_a E_\mu [u(a, \omega)] \]
Beliefs

- Contextual inference

\[ \max_a E_\mu [u(a, \omega)] \]

- Incentives, frames, defaults, choice sets etc. affect
  - what I think about how much I will like the task (Benabou & Tirole 2003)
  - what others will think about why I am doing the task (Benabou & Tirole 2006; Ariely et al. 2009)
  - how much I know about which option is best for me (Kamenica 2008)
  - what I think I might have forgotten (Baliga & Ely 2011)
  - etc.
Preferences

- Loss aversion and dynamic inconsistency

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- Defaults can affect \( \mu \), but also \( u(\cdot) \)
  - loss aversion
Preferences

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- Defaults can affect \( \mu \), but also \( u(\cdot) \)
  - loss aversion

- A large choice set can affect \( \mu \) but also \( \max/u(\cdot) \)
  - dynamic consistency
Technology

- Helping people do what they want to do vs.
- Getting them to do what they don’t
Technology

- Helping people do what they want to do
- vs.
- Getting them to do what they don’t

\[ \max_a E_\mu [u(a, \omega)] \]
Technology

- Helping people do what they want to do
  
  vs.

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- Don’t door the bicyclist
Technology

- Helping people do what they want to do
  vs.
- Getting them to do what they don’t

$$\max_a E_\mu [u(a, \omega)]$$

- Don’t door the bicyclist
- Independence of the incentive scheme and the production function
Impact evaluation
Predicting impact

- Why intervene?
  - externalities
  - bounded rationality
Predicting impact

- Why intervene?
  - externalities
  - bounded rationality

- Getting vs. helping distinction
Predicting impact

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- Getting vs. helping distinction

- E.g., getting kids in school
Predicting impact

- Why intervene?
  - externalities
  - bounded rationality

- Getting vs. helping distinction

- E.g., getting kids in school
  - different routes grounded in different theories
  - generalizability