

Public Economics

Fall 2024

Economics of incentives

Martin Guzi

martin.guzi@econ.muni.cz



Outline

1. Positive vs Negative incentives
2. When people behave predictably irrational



Theory of incentives (Skinner, 1938)

The incentive theory of motivation states external rewards and punishments are the primary cause of an individual's behavior, as opposed to internal factors.

Individuals are more attracted to do actions that are positively received and avoid actions that are negatively received.

In other words, individuals perform certain actions to seek pleasure and avoid pain.



Positive and negative incentives

Positive Incentives: rewards for making specific choices or taking certain actions.

For example, trophies and medals, eating at certain restaurants, or choosing certain companies. It includes employee motivators such as compensation, recognition, and security.

Negative Incentives: financial punishment for making specific choices or taking certain actions.

For example, speeding, sugar tax. Negative incentives are given if the positive incentives do not work (penalties and fines).



Governments use which of the following to prevent people from breaking laws:

- A. Positive incentives
- B. Negative Incentives
- C. Economic Rewards
- D. Economic Returns

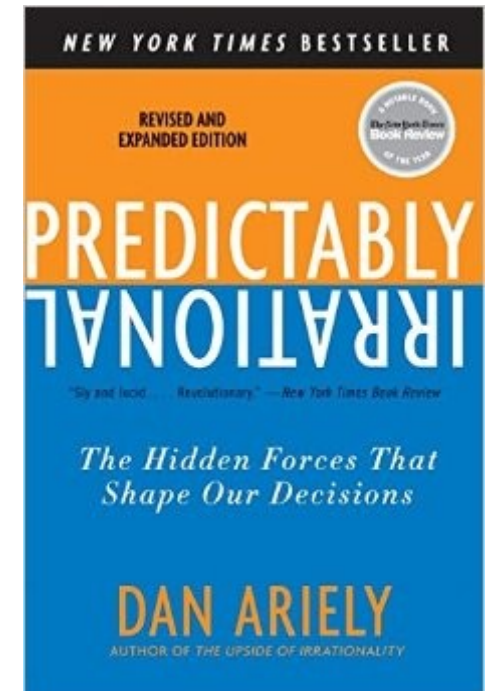


- Tax rebates: Some governments offer a tax rebate if you purchase an electric vehicle. These rebates can range from \$2,500 to \$7,000 per new electric vehicle purchase.
- Higher tax rates: For example, a \$5 tax on cigarette purchases
- A speeding ticket of \$200.
- A \$500 per year increase on health insurance if you smoke.
- A \$300 per year savings on car insurance if you do not have an accident.
- Rewards programs: Airlines allow frequent flyers to earn points they can use toward a free flight.



Predictably irrational (Dan Ariely, 2008)

- People are making decisions that are detrimental to their own welfare or to public welfare
- People are not only irrational on occasion but they tend to be irrational in consistent and predictable ways.
 - Act against your own self-interest
 - Fear losses more than you like profits
 - Tend to be little lazy
- Government should account for these tendencies
 - People more likely do things that are easier to do.



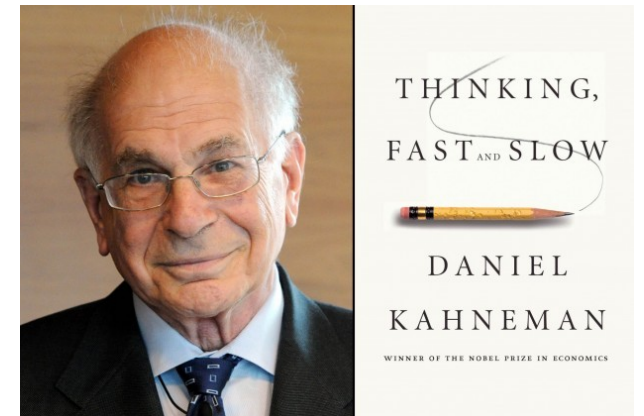


https://masaryk.eu.qualtrics.com/jfe/form/SV_3ws9FpZU5Y2fjjE

Behavior economics

- Instead of making assumptions about human behavior, behavioral economics relies heavily on scientific experiments to determine how people behave in different situations
- Daniel Kahneman - Nobel Prize 2002, book *Thinking, Fast and Slow*
A gas station 1 gives a special 5-cent-per-gallon discount for paying cash. Station 2 with the same prices indicates that they charge a 5-cent-per-gallon surcharge to customers who pay by credit card.

	Cash	Credit card
Station 1	45	50
Station 2	45	50



The effects of framing on decisions

- Imagine you are a physician working in an Asian village, and 600 people have come down with a life-threatening disease. Two possible treatments exist. If you choose treatment A, you will save exactly 200 people. If you choose treatment B, there is a one-third chance that you will save all 600 people, and a two-thirds chance you will save no one. Which treatment do you choose, A or B?
- Kahneman and Tversky found that the majority of respondents (72 percent) chose treatment A, which saves exactly 200 people

The effects of framing on decisions

- You are a physician working in an Asian village, and 600 people have come down with a life-threatening disease. Two possible treatments exist. If you choose treatment C, exactly 400 people will die. If you choose treatment D, there is a one-third chance that no one will die, and a two-thirds chance that everyone will die. Which treatment do you choose, C or D?
- In this case, they found that the majority of respondents (78 percent) chose treatment D, which offers a one-third chance that no one will die.

Risk aversion and framing of questions

- Assessment of risk is often an outcome of subjective evaluation
- According to Tversky and Kahneman people evaluate gains and losses differently. Thus while treatments A and C are quantitatively identical, treatment A is framed as a gain (i.e., you save 200 people) while treatment C is framed as a loss (i.e., 400 people die).
- People are more likely to take risks when it comes to losses than gains (people prefer a “sure thing” when it comes to a potential gain but are willing to take a chance if it involves avoiding a loss).



How old was Cristoforo Colombo?

(each student replies one of two questions)

1) Was Christopher Columbus, the voyager who discovered America, older than 34 years when he died? How old was he when he died?

2) Was Christopher Columbus, the voyager who discovered

Note: Colombo was born in 1451 and died in 1506.

Results from student survey

<https://masaryk.eu.qualtrics.com/reports/RC/public/bWFzYXJ5ay02NzNINjFjZGI0ZGM0MTAwMDhiYzk0NjgtVVJfNW1TUHFWS0dxQ05sZ0VL>

Nudge policies are modern tools based on knowledge about human behavior (e.g. psychology and economics).

The idea is that a little science might help the government to collect taxes, distribute benefit payments, help people to find jobs, get an education or save for retirement.



Nudge (the design of a choice environment)

- In 2008 Richard Thaler and Cass Sunstein introduced a behavioral strategy to public policy makers called nudge.
- By changing people's choice environment, citizens can be gently **nudged** into acting in ways that are more beneficial to not only themselves but also to others.
- Nudge essentially assumes that individuals are 'imperfect' and need assistance in making the right decisions.
- idea of nudging shows it is possible to steer people towards better decisions by presenting choices in different ways and without forbidding any options (Libertarian paternalism).

Nudges a definition



“A nudge is any aspect of the choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid.”

Thaler & Sunstein (2008), ‘Nudge’.

Nudge units: a new tool in the policy toolbox

Search for scientifically grounded and empirically validated behavior innovations:

- UK 2010 – the Nudge unit (first in the world)
- US 2015 – Social and Behavior Science Team to use insights from behavioral science research to serve American people
- Denmark, Germany, Australia, Singapore....
- 2014 Behavioral Exchange conference in Australia





Behavioural Insights and Public Policy

Institutions applying BI to public policy around the world



Institutions inside government

Institutions outside government

Multi-national organisations

Nudge – the critics

- Individuals are regarded as ‘incapable’
- Nudge is manipulative - the form of ‘subliminal mind-control’.
- Performing behavior experiments on public (without knowing it)
- Is the government competent to determine the directions in which we should be nudged?



- Effects of 'nudge' are (so far) harmless, rather marginal and relatively short-lived.
- Nudges (soft-touch interventions) are better than other strategies such as mandates, taxes or bans.
- Attractive to government because nudges can achieve real improvements at very little cost.



Piano stairs



- <https://www.youtube.com/watch?v=2lXh2n0aPyw>

Default rules often have a large effect on social outcomes.

- People tend to pick the **default option** in a range of choices
- Role of inertia in decision making
- Default may lead to greater participation in public programs
- Examples where opt-out is necessary:
 - Automatic enrollment to pension plans
 - Organ donation
 - Newsletters

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Personalized default rules

- As technology evolves, it should be increasingly possible to produce **personalized defaults**, based on people's own choices and situations (in oppose to mass default rules).
E.g. pension plan for high/low income workers
- *What Works Network* for governments
- Alternative is to avoid any default rule and to require active choices. **Active choosing** increases the likelihood that people will end up with their preferred outcomes.

Simplification

- Significant benefits might be obtained merely by simplifying and easing people's choices.
- Complexity may reduce compliance
- For some public programs, take-up rates are relatively low even though the cost of participation is small.
- Simplify the application process (simpler and shorter forms).
- Having more choices is not better (enrollment may decline).

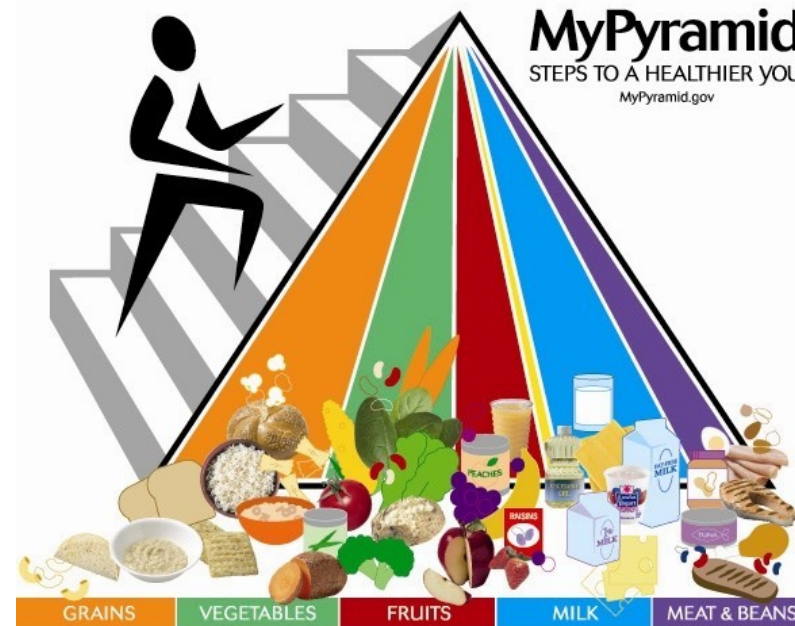


Plate, not pyramid. (straightforward guidance)

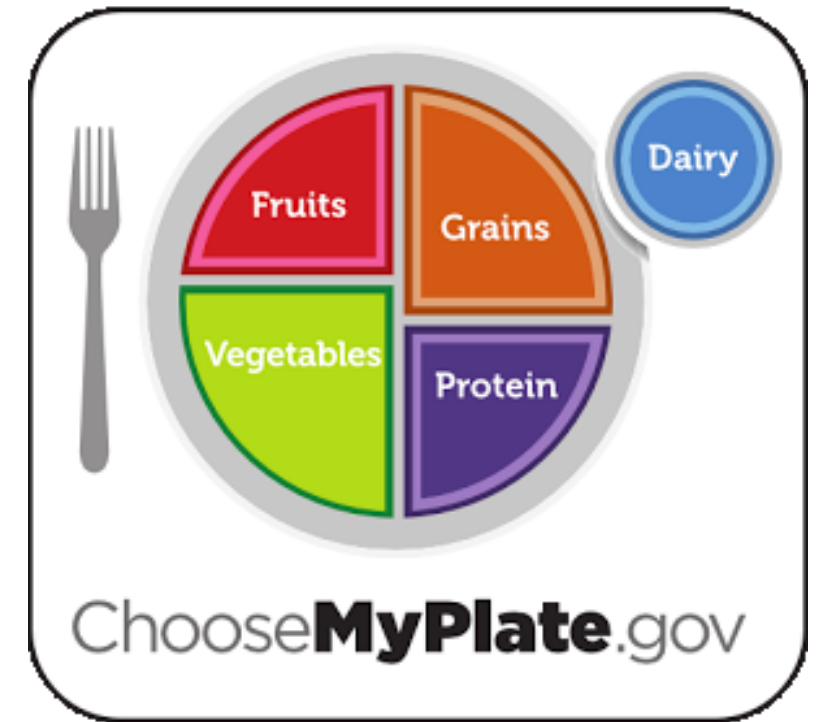
• 1943



1992



2010



By Cass Sunstein

PYRAMIDA

ZDRAVÉ

VÝŽIVY

JEZTE VÝJIMEČNĚ

JEZTE VÝJIMEČNĚ

JEZTE VÝJIMEČNĚ ☹

JEZTE ČASTO ☺



JEZ

Procrastination

- Some people procrastinate or neglect to take steps that impose small **short-term costs** but that promise **large long-term gains**.
- Some people make choices that have short-term net benefits but long-term net costs but fail to make choices that have short-term net costs but long-term net benefits.
- Examples:
 - delay enrolling in a retirement plan, starting to exercise, seeing a doctor, ceasing to smoke, or adopt cost-saving technology
- Solution: automatic enrollment, information on benefits/risks

Social influences

- Individual behavior is influenced by the perceived behavior of other people.
- People care about their reputations (social punishment)
- **Social norms** can help create a phenomenon of compliance without enforcement (e.g. indoor smoking)
- Social influences lead people to cooperate with one another, on the assumption that others are cooperating.

Example: If people learn that they are using more energy than similarly situated others, their energy use may decline—saving money while also reducing pollution.



How to ask for a donation?

“DEAR WIKIPEDIA READERS: To protect our independence, we’ll never run ads. We take no government funds. We survive on donations averaging about €10. Now is the time we ask. If everyone reading this right now gave €2, our fundraiser would be done within an hour. We’re a small non-profit with costs of a top 5 website: servers, staff and programs. Wikipedia is something special. It is a library or a public park where we can all go to think and learn. If Wikipedia is useful to you, take one minute to keep it online and ad-free another year. Thank you.”



Principle of reciprocity

People have the urge to reciprocate a gift or a service provided to them.

Original: Now is the time we ask.

Reframed: For 13 years Wikipedia has been helping you in your quest for knowledge. Now, we ask you for help.



Social norm

People follow the lead of others. If many people do something, it makes it trustworthy and right to do.

Original: We survive on donations averaging about 10 Euro.

Reframed: Already X hundred thousand people like you decided to become donors this year. We survive on their donations averaging about 10 Euro (where of course X is the real number).



Loss aversion

Information framed as possible loss has more impact than information framed as possible gain.

Original: If Wikipedia is useful to you, take one minute to keep it online and ad-free another year. Thank you.

Rephrased: If Wikipedia is useful to you, take one minute and help not losing it for another year. Thank you.

Source: Thinking, Fast and Slow (Daniel Kahneman, 2013)

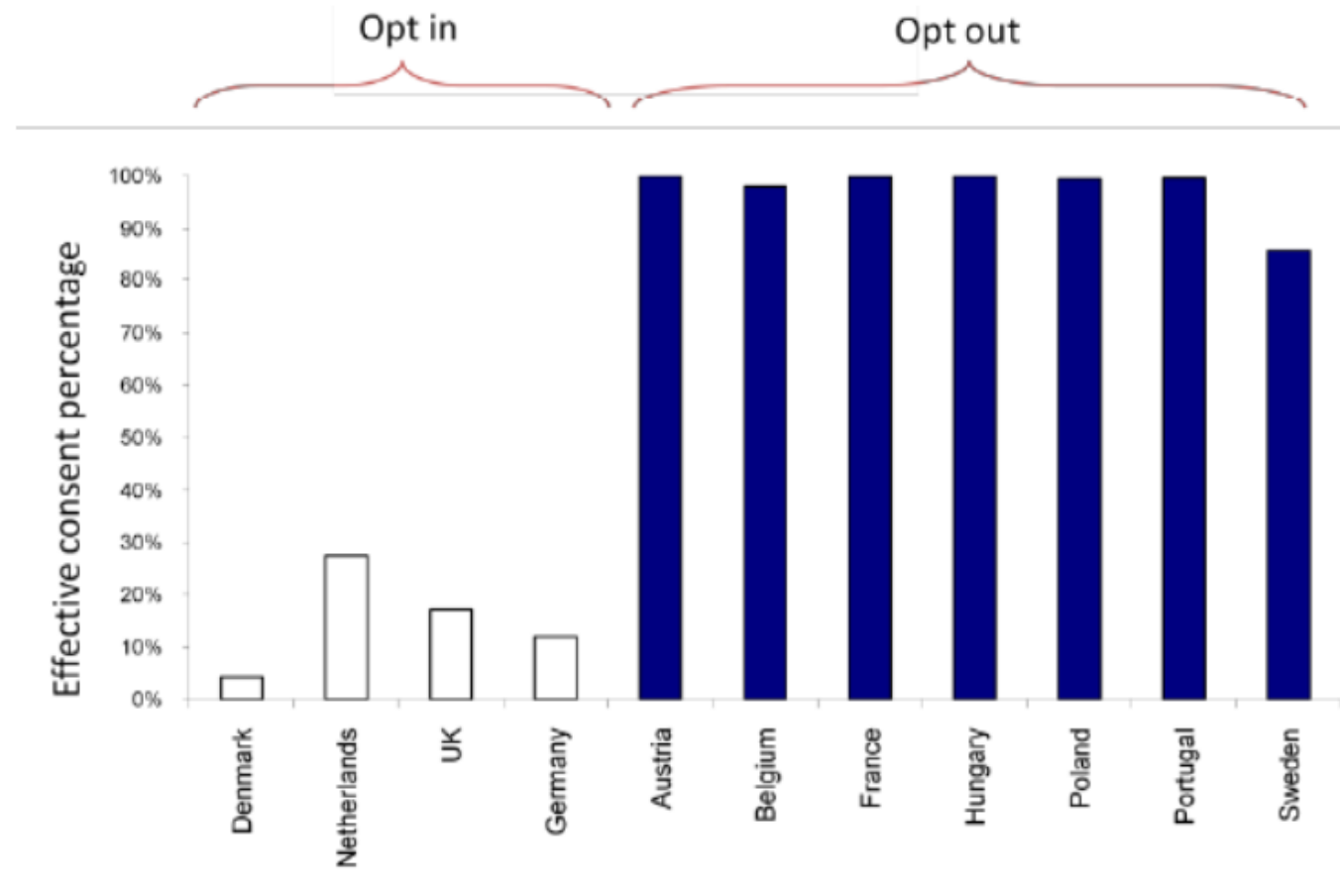


Changed banner:

- For 13 years **Wikipedia has been helping you** in your quest for knowledge. Now, **we ask you for help**. Please **become a donor** and join the **X hundred thousand people like you who donated this year**. If we **don't want to lose ad-free Wikipedia** we need to raise 58 million \$.
We have already raised 67% of the money! **Together we can do it!** Please help. Thank you.

Default choices increase organ donation

Johnson & Goldstein (2003), *Do Defaults Save Lives?*, Science, Vol. 302

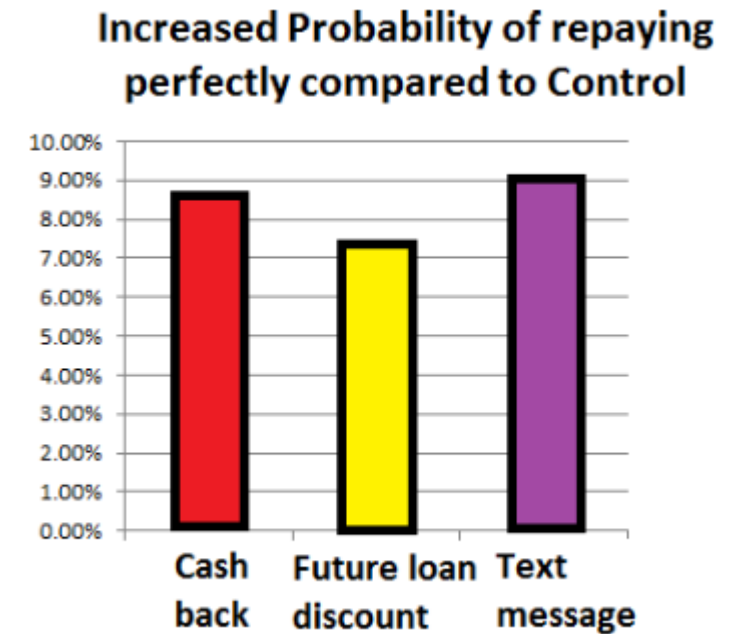


Incentives for loan repayment (Uganda)

Treatments:

- (1) a cash reward (25%) upon completing payments on time
- (2) a 25% interest rate reduction on the next loan taken from the bank
- (3) SMS reminders every month three days before the payments are due.

The mall businesses in developing countries suffer from lack of financial management



Cadena & Schoar (2011), *Remembering to Pay: Reminders vs. Financial Incentives for Loan Payments*, NBER Working Paper

Tax compliance with social normative letters

The control group received standard tax letters reminding the recipients to pay the amount they owed in arrears. The treatment groups received the same letters but with an added social normative message in the form “9 out of 10 people in your _____ pay their tax on time”. The results indicated that all these treatments were effective at encouraging compliance.

In Swiss experiment tax payers received messages “Paying your taxes is the right thing to do”. Essentially no effect on tax compliance behavior.

