

4. Behavioral Insurance

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Insurance Economics (LMU, 2024)

Background I

- **Traditional economic theory** treats individuals as **homo oeconomicus**
 - calculating, self-interested, utility maximizers making entirely rational consumption and investment decisions
- **However: Evidence** abounds that individuals regularly (and **systematically!**) violate principles of rational judgment and decision-making.
- **We are not homo oeconomicus.**
- We are *homo sapiens*. And *homo sapiens* has a pretty bad track record when it comes to making good (or rationally optimal) choices.
- Reason: We are (at best) **boundedly rational**
 - Biased perceptions ▶ Tables
 - Limited cognitive abilities
 - Limited attention
 - Limited self-control
 - Over-confidence (especially about our future self)
 - Loss aversion
 - Status-quo bias
 - Reliance on biased (anchoring, salience, similarity) rules of thumb

Background II

- These anomalies have **major implications for how individuals make insurance decisions** and how they respond to product offerings, price changes, promotions, and marketing messages.
 - Behavioral biases lead to **systematic deviations from optimal choice** in insurance decisions (undersaving for retirement, choosing sub-optimal health-care plans, buying unnecessary insurance) ⇒ **Policy question: How can these decisions be improved?**
 - **Exploitation of behavioral biases** by **shrewd insurance firms** to buy (over-priced) insurance that nobody needs ⇒ **Policy question: How can vulnerable consumers be protected (Behavioral consumer protection)?**

↳ Behavioral IO

Why are insurance markets prone to behav. biases?

- Many products are **inherently complicated**
 - Complex charging structures lead to simplified decisions
- Products involve **trade-offs between present and future**
 - e.g., Instant gratification versus future self
- Decisions involve **assessments of risk and uncertainty**
 - Biases in judgments of risk and frequency: availability, representativeness, anchoring etc.
- Decisions can be **emotional**
 - Stress, fear, regret instead of cost and benefit (e.g. accident insurance, travel insurance)
- **Little learning** from past mistakes
 - Decisions are often infrequent and learning is far from immediate (e.g. retirement plan)

A selection of biases and implications

→ *Therka*

- **Status Quo Bias:** Individuals tend toward inaction, with roots in **loss aversion** (to making a risky choice) and the **endowment effect** in which people value what they currently own more than similar options available in the marketplace
 - **Implication for Insurance:** Individuals and companies may go years without thoroughly assessing coverage adequacy or testing prices, even though they are aware that their needs have changed and opportunities to improve coverage and/or reduce premium exist.
- **Choice Overload:** In the face of too much information, individuals may freeze and make no decision at all
 - **Implication for Insurance:** Insurance buying can be a complex process, with many terms, conditions, and risk tradeoffs to be considered. In the face of this complexity, buyers may refuse to add or change coverage, even for a recognizable benefit.

A selection of biases and implications

- **Availability Bias:** Individuals assess the probability/relevance of events by the ease with which examples come to mind. Risk assessments can be biased by improbable but vivid personal experiences
Implication for Insurance: People carry (personally) unnecessary insurance (accident insurance) while undersaving for retirement insurance
- **Framing:** Product choices by individuals are influenced by the way in which options are presented (choice architecture)
Implication for Insurance: Simply by presenting insurance options in a clever (misleading) way, insurance providers can sell unnecessary (or overpriced insurance)

Framing example

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← Decoy

Framing example

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DIVERSIONS	<input type="checkbox"/> Print & web subscription - US \$125.00	84 %
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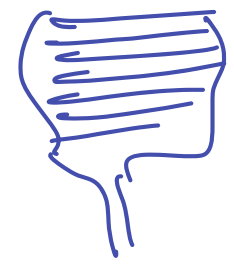
68 %

32 %

Framing example II

BLADES
CHOOSE FROM 3 MIGHTY RAZORS

THE HUMBLE TWIN	THE 4X	THE EXECUTIVE
EVERY MONTH \$1 +2.00 S&H	EVERY MONTH \$6 SHIPS FREE	EVERY MONTH \$9 SHIPS FREE
SELECT	SELECT	SELECT
A great basic shaver, for guys who dig simplicity and precision.	Member favorite - a gentle shave in a single stroke.	The final frontier - it's like a personal assistant for your face.
<ul style="list-style-type: none"> ✓ 2 stainless steel blades ✓ 5 cartridges per month ✓ Reliable - this is the '82 wagon that starts when it's below zero ✓ Lubricating strip soothes the skin 	<ul style="list-style-type: none"> ✓ 4 stainless steel blades ✓ 4 cartridges per month ✓ You will love this razor - and your girlfriend can use it too ✓ Full 90-degree pivot head hugs the turns, surges you onward 	<ul style="list-style-type: none"> ✓ 6 stainless steel blades ✓ 4 cartridges per month ✓ Special trimmer edge built in for the professional ✓ This blade comes from the future and lives in outer space
LEARN MORE	LEARN MORE	LEARN MORE



20%

60%
25%





20%
60%

15%



Framing example III

Shop for handbags on Google

 <p>Chloé - Marcie Mittelgroße Tote €1.490,00 NET-A-PORTER Free shipping</p>	 <p>H&M - Handtasche - ... €39,99 H&M + €4,90 shipping</p>	 <p>Saint Laurent Klassische Nano €1.490,00 Yves Saint Laur... + €13,50 shipping</p>	 <p>Dolce & Gabbana - Sicily €1.150,00 NET-A-PORTER Free shipping</p>
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WIR EMPFEHLEN IHNEN

 <p>DOLCE & GABBANA Bedruckte iPhone 7 Plus- Hülle aus strukturierte... €135</p>	 <p>DOLCE & GABBANA Bedruckte iPhone 7- Hülle aus strukturierte... €325</p>	 <p>DOLCE & GABBANA Bedruckte iPhone 7 Plus- Hülle aus strukturierte... €355</p>
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Framing example IV

Insurance A

Annual Premium : € 200

Deductible : € 0

Σ € 200

Insurance B

Annual Premium : € 175

Deductible € 50

Σ 225

Behavioural Industrial Organisation (IO)



Paul Heidhues

Bofond Koszegi

Behavioural Industrial Organisation (IO)

- Combines Behavioural Economics with standard IO (intersection of theory of the firm and theory of markets)
- **Main themes:**
 - How rational firms interact with consumers who make systematic mistakes in evaluating products
 - How rational firms respond to consumer preferences that differ from those usually assumed in IO
 - What policy insights (especially on issues in competition and consumer-protection policy) follow from this
- **A selection of topics:** Relative thinking, salience, shrouded attributes, confirmation bias, loss aversion, overconfidence, status-quo bias, ...

Approach to classifying behavioral biases

(2009)
7 EconLit



Vl. Ke
Malmendler

- Stefano Della Vigna's distinction between preferences, beliefs and decision-making

Approach to classifying behavioral biases

Ten behavioural biases and effects in retail financial markets

<p>Our preferences are influenced by emotions and psychological experiences</p>	<p>Rules of thumb can lead to incorrect beliefs</p>	<p>We use decision-making short-cuts when assessing available information</p>
<p>Present bias e.g. spending on a credit card for immediate gratification</p> <p>Reference dependence and loss aversion e.g. believing that insurance added on to a base product is cheap because the base price is much higher</p> <p>Regret and other emotions e.g. buying insurance for peace of mind</p>	<p>Overconfidence e.g. excessive belief in one's ability to pick winning stocks</p> <p>Over-extrapolation e.g. extrapolating from just a few years of investment returns to the future</p> <p>Projection bias e.g. taking out a payday loan without considering payment difficulties that may arise in the future</p>	<p>Framing, salience and limited attention e.g. overestimating the value of a packaged bank account because it is presented in a particularly attractive way</p> <p>Mental accounting and narrow framing e.g. investment decisions may be made asset-by-asset rather than considering the whole investment portfolio</p> <p>Decision-making rules of thumb e.g. investment may be split equally across all the funds in a pension scheme, rather than making a careful allocation decision</p> <p>Persuasion and social influence e.g. following financial advice because an adviser is likeable</p>

Is bias always a mistake policy should try to correct?

Box 1: Does loss-aversion reflect genuine preferences?

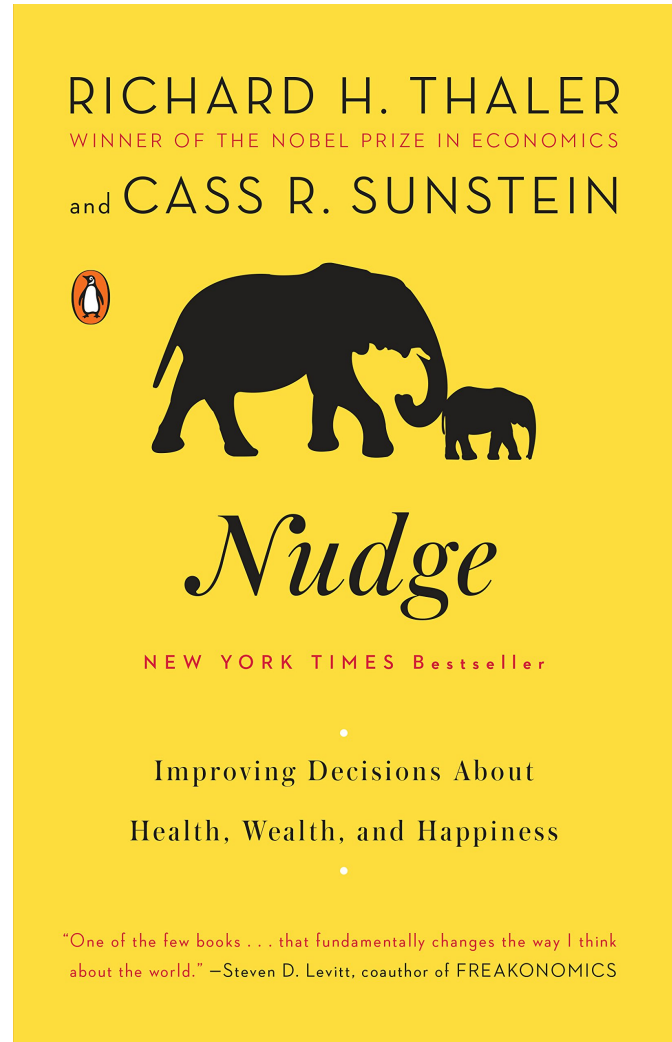
When analysing whether loss-averse choices represent a genuine preference to which we should give credence the following questions are useful:

- Do consumers correctly anticipate (e.g. when buying insurance) the emotional detriment that they would feel if exposed to a loss?
- Is the reference point against which consumers are evaluating losses reasonable and sufficiently consistent to suggest stable underlying preferences?
- Is there evidence that the loss-averse preferences for a particular product are being 'manufactured' by suppliers, for example by manipulating the reference point or framing the problem to over-emphasise the likely impact of the loss?

Policy debate: What should policymaker do?

- Should policy intervene at all?
- If so, how restrictive/strict should interventions be?
 - **Bans/mandates** versus “softer” interventions
 - More recently: Can we **use behavioral insights** to improve decisions? ⇒
The Nudge debate

Thaler and Sunstein: Nudge



Nudge: A definition (sort of)

- **Thaler/Sunstein (2008):** *A nudge, as we will use the term, is any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting fruit at eye level counts as a nudge. Banning junk food does not.*

Underlying principle: Liberatorian paternalism

- Sounds like an oxymoron.
- Thaler/Sunstein try to combine two opposing schools of thought (not least in an attempt to make nudging theory appear apolitical)
- **Liberterian element:** People are free to do what they like (no enforcement).
- **Paternalistic element:** Choice architects try to influence behavior of individuals so they make better choices “as judged by themselves”.

An example for a nudge



Nudging as a an alternative policy instrument

1. Regulation (e.g. bans or mandates)
2. Economic incentives
3. Information

Nudging as a an alternative policy instrument

1. Regulation (e.g. bans or mandates)
2. Economic incentives
3. Information
4. Nudges

Nudging as a an alternative policy instrument

1. Regulation (e.g. bans or mandates)
 2. Economic incentives
 3. Information
 4. Nudges
 - Non-evasive and liberty preserving
 - Effective
 - Cheap
 - Too good to be true?
- Radical incrementalism*

Nudging as a an alternative policy instrument

1. Regulation (e.g. bans or mandates)
2. Economic incentives
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4. Nudges
 - Non-evasive and liberty preserving
 - Effective
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Why can nudges help?

- Because we are **not** *homo oeconomicus*.
- Recall: We are *homo sapiens*. And *homo sapiens* has a pretty bad track record when it comes to making good (or rationally optimal) choices.

Why can nudges help?

- This does not mean that *homo oeconomicus* is infallible.
- *Homo oeconomicus* can make mistakes, but (s)he is not systematically biased when making decisions.
- **Nudging takes behavioral biases in decision-making into account and aims at minimizing them.** Goal: Nudge *homo sapiens* towards decisions that *homo oeconomicus* would have made.
- *Homo sapiens* may benefit from nudges. *Homo oeconomicus* would not (they are irrelevant).

Nudge: Goal: Improve decision "as judged themselves"

Dark Nudge: Nudge aimed at behavior against one's interest

Sludge: Nudge to make behavior change more difficult

Foundation: Automatic vs. reflective cognitive system

Econs: Reflective system



- Controlled
- Effortful
- Deductive
- Slow
- Self-aware
- Skilled

Foundation: Automatic vs. reflective cognitive system

System 2

Econs: Reflective system



- Controlled
- Effortful
- Deductive
- Slow
- Self-aware
- Skilled

System 1 (Kahneman)

Humans: Automatic system



- Uncontrolled
- Effortless
- Associative
- Fast
- Unconscious
- Rule-following

When are nudges needed most?

- Decision problems of high **complexity**
- Decision problems with low **frequency**
- Decision problems with limited **feedback** about consequences
- Decision problems with high levels of **uncertainty**
- Decision problems with **immediate benefits and postponed cost**
- Unfortunately, these are typically **the most important decisions in life** (investments in health, education, savings, etc.)

What makes a good nudge?

Six principles of good choice architecture

1. Defaults
2. Expect and forgive error
3. Give feedback
4. Help people understand mapping from choice to welfare
5. Structure complex choices
6. Use incentives in your favor

What makes a good nudge?

Six principles of good choice architecture

1. **D**efaults
2. **E**xpect and forgive error
3. **G**ive feedback
4. Help people **U**nderstand mapping from choice to welfare
5. **S**tructure complex choices
6. Use **iN**centives in your favor

Nudging in practice

1. Nudging theory has become fairly **popular among policymakers** (especially in the UK and USA)
2. Applications in all domains of life
3. One of the most practically relevant contributions of behavioral economics.
4. Also quite **trendy topic in academia** (perhaps even more so after Thaler's Nobel prize)

Critique on nudging

- At the same time, nudging has also been subject to **harsh criticism across many disciplines** (Philosophy, Economics, Psychology, Law)
 - Nudges are **manipulative** (and much more paternalistic than claimed)
 - Nudges are prone to exploitation
 - Nudges are incompatible with the rule of law
 - Nudges fail to induce long-term behavioral changes
 - Nudges cannot be a substitute for (more expensive) traditional policy instruments but are often used this way

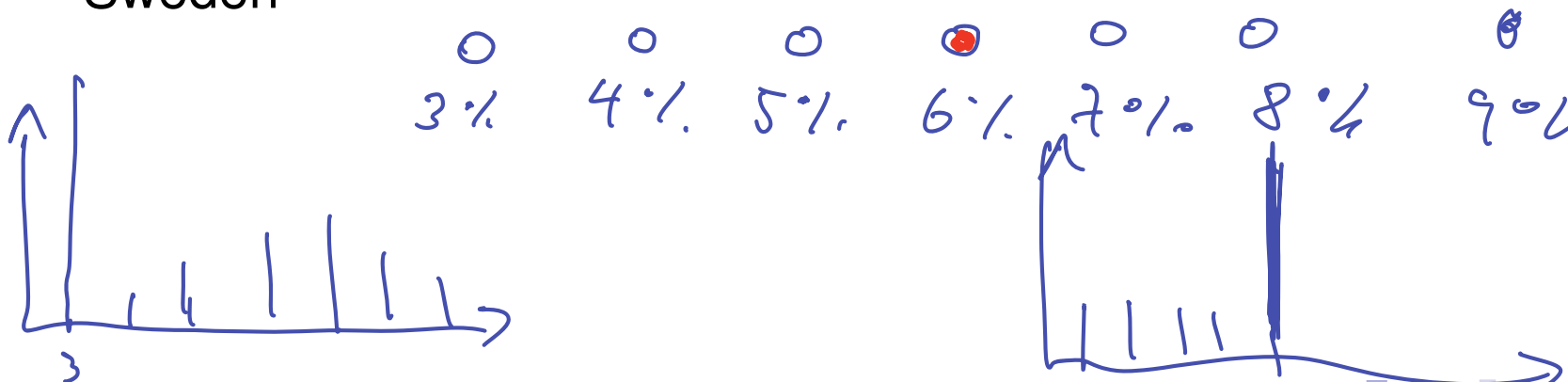
Real-world application of nudges

Foodem Winter

Choice 1 : Enroll?
Choice 2 Plan
Choice

Health insurance: Medicare Part D versus Obamacare

- In 2006 Medicare Part D was introduced to provide insurance for drug expenses for the elderly population in the US
 - Mantra back then: Choice, choice, choice
 - Results: Many choices were horrible because they became very complex.
- Lessons learnt for the ACA (aka Obamacare) in 2014
 - Provide a complexity-reducing choice environment on plan-finder website
- Similar learning curve in part-privatization of retirement insurance in Sweden



Retirement insurance: Save More Tomorrow

- In the late 1990's, Richard Thaler and Shlomo Benartzi designed a novel program to increase savings rates in 401K plans.
- Working with companies and investment managers, they developed the "Save More Tomorrow" investment plan.
- Has two basic components:
 - Individuals were approached several months in advance of scheduled pay increases and asked to pre-commit to increasing their 401K savings rate coincident with those increases, by an amount that would result in no visible decrease in takehome pay
 - Individuals were also asked to set up an automated increase in their contribution rate coinciding with each scheduled future raise up to a pre-set maximum.
- ~~Individuals were also asked to set up an automated increase in their contribution rate coinciding with each scheduled future raise up to a pre-set maximum.~~
- Is now widely used in the United States as (default!) policy

● NEW: Defaults

A shameless plug: MSc Behavioural Science Stirling



<https://www.stir.ac.uk/courses/pg-taught/behavioural-science>

