

Psychology and Economics

14.13 Lecture 23: Policy with behavioral agents

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MIT

May 11, 2020

Plan for today

- Paternalism
- An example of libertarian paternalism: Save More Tomorrow
- Can we rely on market solutions?

End-of-semester festivities

- Cumulative final exam on May 19 (Tuesday) online \.
 - Same logistics as during mid-term exam
 - You pick your time window: start any time from 8 am to 9 pm.
 - Same style as midterm: true/false/uncertain, multiple choice, pset-style questions
 - We will send you email with precise logistical instructions.
- Entirely optional:
 - COVID-19 lecture this Friday (May 15) at 1 pm
 - Will also complete no-audience version of lecture videos

Reasons for government policy

- Macroeconomic policy (e.g. Federal Reserve, fiscal stimulus)
- Competition policy (e.g. anti-trust laws)
- Redistribution and social insurance (unemployment insurance; Social Security)
- Externalities (e.g. cigarette taxes) and other market failures (e.g. innovation)
- **Internalities:** consumer does not fully or properly internalize all the costs and/or benefits she imposes on her (future) self.

What is paternalism?

- Merriam-Webster: *A system under which an authority undertakes to supply needs or regulate conduct of those under its control in matters affecting them as individuals as well as in their relations to authority and to each other.*
- David Laibson: *An attempt to influence or control people's conduct for their own good – in other words, when the motivation for the intervention is not about externalities.*

When is paternalism warranted?

- Non-standard preferences
 - Time preferences
 - Risk and reference-dependent preferences
 - Social preferences
- Non-standard beliefs
 - Limited attention
 - Learning failures; over-optimism; projection and attribution bias
 - Motivated beliefs
- Non-standard decision-making
 - Gender discrimination
 - Defaults, frames, and nudges
 - Poverty
 - Happiness and mental health

Hard vs. soft paternalism

- **Hard paternalism**

- Force choices on people; change prices significantly
- Mandate choices or procedures
- Outlaw products
- Taxes

- **Soft paternalism**

- *Libertarian paternalism (Thaler and Sunstein, 2003):*
policies that constructively influence behavior, while preserving or nearly preserving, freedom of choice
- *Asymmetric paternalism (Camerer et al., 2003):*
policies that help people who make mistakes, while interfering minimally with people who behave optimally

Arguments against paternalism?

- People have better information than the government.
- Might make things worse if misunderstand preferences
- People optimize already anyway. Why intervene?
- Rational people are worse off since their choices are distorted.
- The government is inefficient and wastes money.
- The government does not (always) have consumers' best interest in mind.
- Fear of regulatory capture
- Freedom of choice matters per se.
- People dislike (hard) paternalism.
- Which paternalistic policy should we choose?
- Practical implementation problems

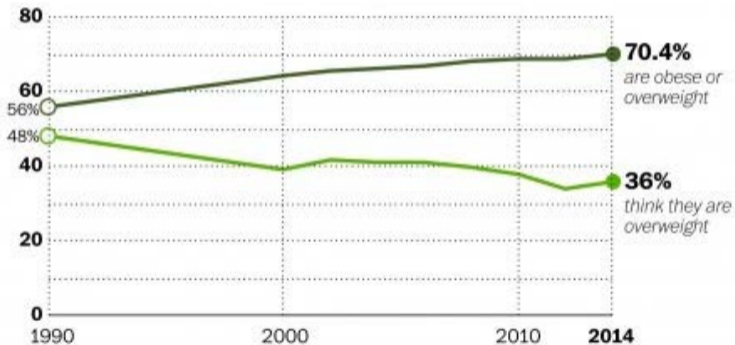
Arguments in favor of paternalism

- People make mistakes.
- People don't like to make choices for themselves.
- Rational people can opt out of/are unaffected by soft paternalism regimes.
 - Addresses many of the above concerns.

Are people making mistakes?

Deluding ourselves

% calling themselves "very" or "somewhat" overweight, versus % who are overweight or obese



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Source: Gallup/ CDC

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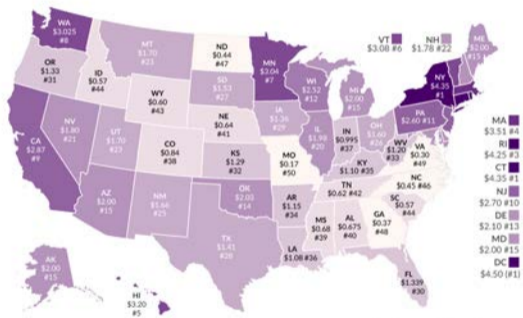
Relatively popular paternalism

- Social security (hard paternalism)
- Health program for retirees, like Medicare (hard paternalism)
- Restrict investment menu in 401(k) plans (hard paternalism)
- Consumer safety regulations, e.g. FDA (hard paternalism)
- Mandatory education (hard paternalism)
- Cigarette 'sin' taxes (hard paternalism)
- Banning prostitution (hard paternalism)
- Banning polygamy (hard paternalism)
- Mandating face masks (hard paternalism) [in some states!]
- Ban junk food in school vending machines ('soft' paternalism)
- Calorie disclosure laws (soft paternalism)
- Default enrollment in 401(k) plans (soft paternalism)

State cigarette taxes (per pack) are extremely high!

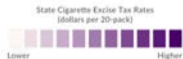
How High Are Cigarette Taxes in Your State?

State Cigarette Excise Tax Rates (dollars per 20-pack), January 2019



Note: Local taxes are not included and can be substantial. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included.

Source: Bloomberg Tax; state statutes.

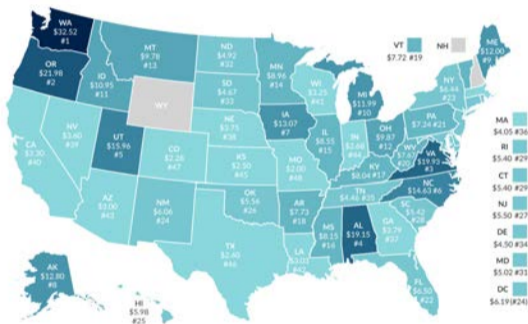


- Federal tax is roughly an additional dollar per pack.

Vast variation in state alcohol taxes (per gallon)

How High are Distilled Spirits Taxes in Your State?

State Distilled Spirits Excise Tax Rates (Dollars per Gallon), as of January 2019



Note: Rates are those applicable to off-premise sales of 40% alcohol by volume (a.b.v.) distilled spirits in 750ml containers. At the federal level, spirits are subject to a tiered tax system. For 2019-2020, federal rates are: \$2.70 per proof gallon on the first 100,000 gallons per calendar year, \$13.34/proof gallon for more than 100,000 gallons but less than 22,230,000 and \$13.50/proof gallon for more than 22,230,000 gallons. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included.



- Lowest in CO and MO
- Highest in WA and OR
- Additional federal taxes

Relatively unpopular paternalism

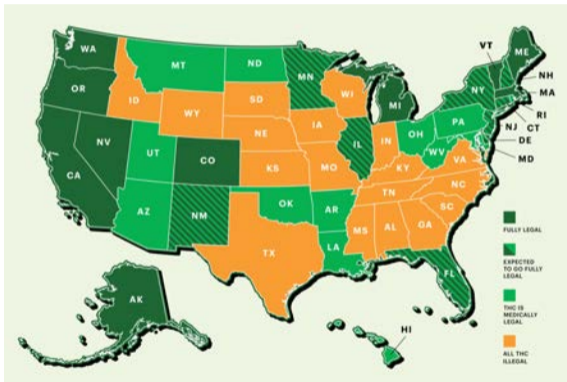
- Helmet laws (hard paternalism)
- Seatbelt laws (hard paternalism)
- Junk food bans (hard paternalism)
- Junk food taxes (hard paternalism)
- Other kinds of 'sin' taxes (hard paternalism)
- Alcohol bans (hard paternalism)
- Pornography laws (hard paternalism)
- Gambling laws (hard paternalism)
- Mandating face masks (hard paternalism) [in some states!]
- NYC's ban on 16+ oz sodas (hard paternalism)

Fasten your seatbelt



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THC (cannabis) legalization across states (as of 2019)



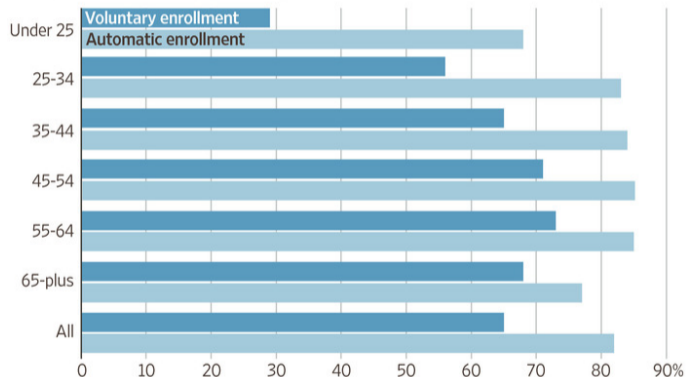
- What is the case for making drugs illegal vs. taxation?

Courtesy of Tax Foundation. License: CC BY-NC

Massive impacts of some nudges: automatic enrollment

Little Nudge, Big Impact

Participation rates by age for Vanguard defined-contribution retirement plans



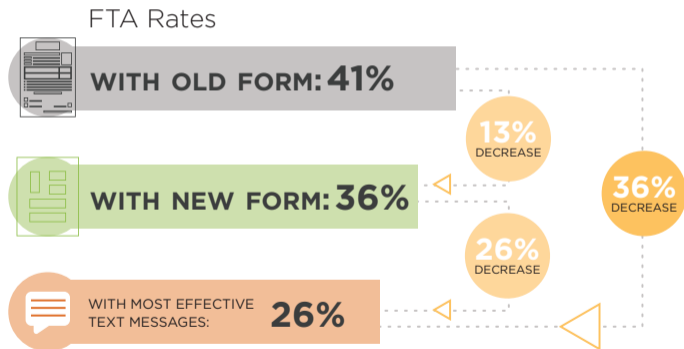
Source: Vanguard Group data for 2013 on about 400 plans and 800,000 participants and eligible nonparticipants

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Massive impacts of some nudges: court appearances

Improvements in timely court appearance



Estimates for summons recipients who provide a phone number

But there are

MAIN OUTCOMES AND MEASURES Primary outcome was time to first vascular rehospitalization or death. Secondary outcomes were time to first all-cause rehospitalization, total number of repeated hospitalizations, medication adherence, and total medical costs.

RESULTS A total of 35.5% of participants were female (n = 536); mean (SD) age was 61.0 (10.3) years. There were no statistically significant differences between study arms in time to first rehospitalization for a vascular event or death (hazard ratio, 1.04; 95% CI, 0.71 to 1.52; $P = .84$), time to first all-cause rehospitalization (hazard ratio, 0.89; 95% CI, 0.73 to 1.09; $P = .27$), or total number of repeated hospitalizations (hazard ratio, 0.94; 95% CI, 0.60 to 1.48; $P = .79$). Mean (SD) medication adherence did not differ between control (0.42 [0.39]) and intervention (0.46 [0.39]) (difference, 0.04; 95% CI, -0.01 to 0.09; $P = .10$). Mean (SD) medical costs in 12 months following enrollment did not differ between control (\$29 811 [\$74 850]) and intervention (\$24 038 [\$66 915]) (difference, -\$5773; 95% CI, -\$13 682 to \$2137; $P = .15$).

CONCLUSIONS AND RELEVANCE A compound intervention integrating wireless pill bottles, lottery-based incentives, and social support did not significantly improve medication adherence or vascular readmission outcomes for AMI survivors.

TRIAL REGISTRATION clinicaltrials.gov Identifier: [NCT01800201](https://clinicaltrials.gov/ct2/show/study/NCT01800201)

Author Affiliations: Author affiliations are listed at the end of the article.

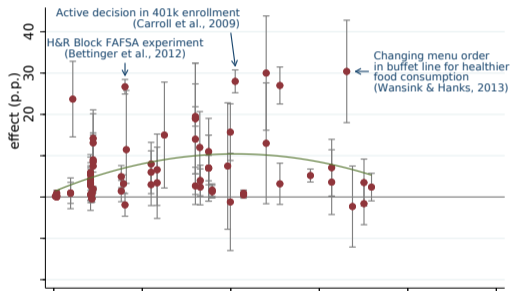
Corresponding Author: Kristin Volpp, MD, PhD, Perelman School of Medicine, University of Pennsylvania, 1120 Blockley Hall, 423 Guernsey St, Philadelphia, PA 19104-6214 (volpp70@wharton.upenn.edu)



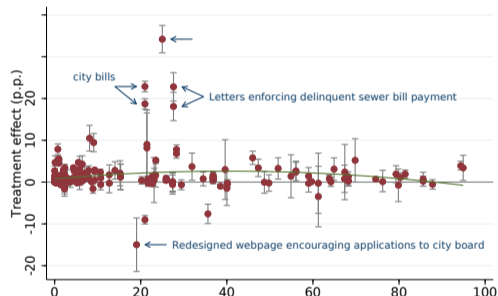
Caveat: larger treatment effects in academic studies than in nudge units

Figure 4: Nudge treatment effects

(a) Academic journals sample

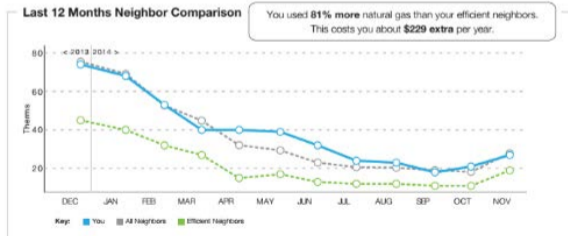
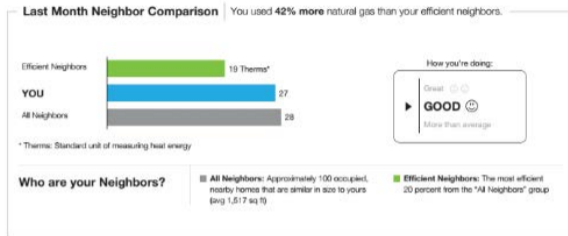


(b) Nudge units sample



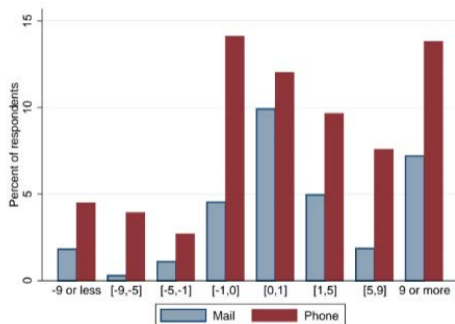
Courtesy of Stefano DellaVigna and Elizabeth Linos. Used with permission.

Does everyone want to be nudged?



No! Some people are willing to pay NOT to be nudged.

Figure 7: Willingness-to-Pay for Home Energy Reports



Notes: This figure presents the histogram of willingness-to-pay for four more Home Energy Reports, with all survey responses weighted equally.

Courtesy of Hunt Allcott and Judd B. Kessler. Used with permission.

What form should paternalism take?

- Take 401(k) savings policies. What policy is best?
 - Minimum non-zero 401(k) savings rate
 - Active decision
 - Default of non-participation
 - Default of participation (savings rate + asset allocation)
 - Default + web-based advice
 - Default + limited menu of easy alternatives
 - Personal financial planner sits down with you
 - Other options?
- Note: strict 'non-paternalism' is also problematic.
 - Is it possible to truly be non-paternalistic?
 - What does that mean in this context and in general?

A brilliant example of Libertarian Paternalism

- Thaler and Benartzi (2004) design a 401(k) program for company that wanted to increase its employees' savings.
- The company hired a financial advisor.
 - Employees could sit down with the advisor to evaluate their financial situation and make a plan.
 - For those who agreed to talk to the financial advisor, he recommended a savings rate.
 - Some agreed to implement this.
- Benartzi and Thaler got the leftovers—a group selected *against* the propensity to save!

The Save More Tomorrow (SMarT) Plan

- (1) Employees approached about increasing their contribution rates a considerable time before next scheduled pay increase
- (2) Employees join voluntarily, and if they do, their contribution to the plan is increased beginning with the first paycheck after a raise (by an amount less than the raise).
- (3) The contribution rate continues to increase on each raise until the contribution rate reaches a preset maximum.
- (4) The employee can opt out of the plan at any time (by making a phone call and filling out a form).

Why is the SMarT plan libertarian paternalism?

- Aspects (2) and (4) make the program libertarian paternalism.
- The plan is entirely voluntary.
- People can leave it if they don't like it.
- Basically, it's just increasing people's options.

Results of the first implementation of SMarT (Thaler and Benartzi, 2004)

TABLE 2
AVERAGE SAVING RATES (%) FOR THE FIRST IMPLEMENTATION OF SMarT

	Participants Who Did Not Contact the Financial Consultant	Participants Who Accepted the Consultant's Recommended Saving Rate	Participants Who Joined the SMarT Plan	Participants Who Declined the SMarT Plan	All
Participants initially choosing each option*	29	79	162	45	315
Pre-advice	6.6	4.4	3.5	6.1	4.4
First pay raise	6.5	9.1	6.5	6.3	7.1
Second pay raise	6.8	8.9	9.4	6.2	8.6
Third pay raise	6.6	8.7	11.6	6.1	9.8
Fourth pay raise	6.2	8.8	13.6	5.9	10.6

* There is attrition from each group over time. The number of employees who remain by the time of the fourth pay raise is 229.

SMarT combines several behavioral principles.

- (1) It puts the increase in the contribution rate into the future.
 - Hence, at the moment of joining, it sidesteps people's short-run inclination not to save (present bias).

- (2) It never requires cutting back on consumption, so it doesn't make employees feel like they're suffering a loss from saving.
 - They still get a little gain from pay raises (addresses reference-dependence).

- (3) It makes saving for retirement the default, and creates a small immediate cost of switching out of it.
 - It uses default effects and present bias to help them!
 - Those not subject to default effects/present bias just pay small cost to switch out if the plan isn't right for them (anymore).

A market solution?

- Example: self-control problems regarding credit-card spending
- Common economists' reaction: why do we need a central authority to help people?
 - If consumers are sophisticated, they demand ways to change their consumption, i.e. they demand commitment.
 - Market participants seeking to earn profit will satisfy demand.
 - Government intervention won't be necessary.
- What might be problematic with this line of argument?

The market is part of the problem!

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Jun 29, 2007 ... Have a problem with **impulsive spending**? Throw your **credit cards** in the freezer!
www.associatedcontent.com/article/292723/prevent_impulsive_spending_put_your.html - 48k - [Cached](#) - [Similar pages](#)

[Article: Impulsive and compulsive spending](#)

Compulsive **spending** is many times an addiction to **credit cards**. ... Since **impulsive** and compulsive **spending** patterns can often be justified or rationalized ...
www.crown.org/Library/ViewArticle.aspx?ArticleId=426 - 88k - [Cached](#) - [Similar pages](#)

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The Siren Song of **Impulsive Spending**. Thursday August 14, 2008. Is your **credit card** screaming to be used? Do random items in the mall flag you down to be ...
bipolar.about.com/b/2008/08/14/the-siren-song-of-impulsive-spending.htm - 27k - [Cached](#) - [Similar pages](#)

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How To Avoid Impulsive Spending Your spouse or partner complains that you spent too much money. You are surprised when your **credit card** bill arrives each ...
www.scribd.com/doc/2881651/How-To-Avoid-Impulsive-Spending - 93k - [Cached](#) - [Similar pages](#)

[Impulse Spending: Stop Spending By Freezing Your Credit Card In Ice](#)

Jun 16, 2008 ... If you have trouble controlling the amount and frequency of your **credit card** purchases try putting your **credit card** in.
consumerist.com/tag/impulse-spending?l=5016722&l=stop-spending-by-freezing-your-credit-card-in-ice - [Similar pages](#)

[Improve Your Shopping Habits: How To Recover From An Impulse Buy](#)

Sep 18, 2008 ... Someone was talking about her **credit card** bill at a local dept store. ...
Your Spouse Has Debt and A Spending Addiction: Avoid A Bailout ...
www.thedigitalife.com/blog/index.php/2008/09/18/shopping-habits-how-to-recover-from-an-impulse-buy/ - 73k - [Cached](#) - [Similar pages](#)

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- While one side of the market might help people with self-control problems...
- ...Another side will try to exploit customers.
- Firms try to target naive people (Ru and Schoar, 2017).
- Naive people are most easily exploited *and* they don't think they need help!

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Fundamental tension in the market

- Market participants have an incentive not only to provide self-control to consumers, but also to *break down* any self-control consumers may have.
- Two forces:
 - (1) If consumers value and demand self-control, a firm can profit from providing it and will want to provide it.
 - (2) But other firms, or even the same firm, can make money by taking advantage of the person's short-sightedness, and so will want to *undermine* any self-control.
- (2) severely limits the market's ability to provide self-control.
- Can the government limit such market influences? It already does!
 - Many forms of advertisements for cigarette smoking, drugs, or gambling are illegal.
 - Caps on interest rates; other forms of consumer protection (e.g. CFPB)

Nudge, not sludge

- Key goal of nudges: make it easy to make good choices
 - Text message reminders, thoughtful defaults, etc.
- But the same techniques for nudging can be used for less benevolent purposes!
 - Firms maximize profits rather than buyers
 - Example: offer rebate to buy product, but then require customers to mail in a form
 - Because of such sludges, redemption rates for rebates tend to be low
 - Similar examples from public sector (IRS or voter registration)
- Identifying and eliminating sludges can be highly valuable.

Summary

- Some forms of soft paternalism can unambiguously improve welfare.
- Nudges can make things worse.
- Some people dislike being nudged. We should respect that.
- The market does not solve everything.
- Sometimes reducing sludges can go a long way.

Big picture summary: Now what?

- Psychological considerations are important
- Understand your own biases better and try to improve decision-making
 - Short-run considerations: e.g. procrastination, exercise
 - Long-run considerations: e.g. jobs, friendship, etc.
- Small changes can make big differences
 - Introspect, be more mindful in your choices
 - Experiment, seek advice
 - But also don't be too harsh on yourself!
 - Sometimes it is easier to understand and help your friends than yourself
- Design of teams, incentives, or products

Some books to read

- Kahneman et al. (1982): *Judgment Under Uncertainty: Heuristics and Biases*
- Kahneman and Tversky (2000): *Choices, Values and Frames*
- Kahneman (2011): *Thinking, Fast and Slow*
- Ross and Nisbett (1991): *The Person and the Situation: Perspectives of Social Psychology*
- Cialdini (1993): *Influence, the Psychology of Persuasion*
- Thaler and Sunstein (2008): *Nudge: Improving Decisions about Health, Wealth, and Happiness*
- Ariely (2009): *Predictably Irrational: The Hidden Forces that Shape our Decisions*
- Mullainathan and Shafir (2013): *Scarcity: Why Having Too Little Means so Much*
- Lewis (2017): *The Undoing Project: A Friendship That Changed Our Minds*
- Thaler (2015): *Misbehaving: The Making of Behavioral Economics*

The end

- It was a great pleasure teaching this class!
- I learned a lot. I hope you did too.
- If you haven't done so, please fill out the course evaluations.
- Swing by for office hours if you have questions!
- Thank you!

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