Nudging Society to Better Decisions
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Introduction

The prior lectures in this series have typically examined how psychological biases lead both citizens and CEOs to make bad decisions. This lecture will change tack and show how such biases can be harnessed for good – to encourage desirable behaviour.

Let's take an example. One important action we'd like citizens to take is to register as an organ donor. Countries vary significantly in their organ donation rates. What explains difference? You might think that national culture is a key determinant. Perhaps countries with more individualistic cultures donate less. But countries with seemingly similar cultures have wildly different donation rates. Denmark has a very low uptake; Sweden's is very high. The Netherlands' is low, Belgium's is nearly 100%. Germany's is low, Austria's is nearly 100%.[1]

Instead, the biggest single determinant is whether organ donation is opt-in or opt-out. For the low donation countries, it's opt-in. Citizens have to affirmatively tick a box (e.g., when applying for a driver's license) to become organ donors; if they don't, their organs can't be used after death. For the high donation countries, it's opt-out.

This is an example of *status quo bias*. The default decision has a substantial effect on people's behaviour. Now there could be rational reasons why the default could matter. For example, the default investment fund when investing in a pension might be interpreted as the one that pension fund trustees believe is appropriate for most employees. If a worker isn't a financial expert, it makes sense to go with the default. However, for organ donation, this explanation doesn't apply. If the citizen is purely selfish, advice doesn't matter as the decision to donate has no effect on your utility – you're already dead. If the citizen is altruistic, then she'll care about helping others – but it's very well-known that organ donation is socially optimal; no expert advice is needed.

Thus, the status quo bias likely stems from one of two sources. One is *inertia* – it takes effort to make a decision. Of course, avoiding actions that take effort can be perfectly rational – if reduces a citizen's utility, she should take this into account. It's rational not to work 7 days a week, even though this maximises your income. Why this is a bias rather than rational effort-avoidance is that the effort required to tick a box is almost zero. The second is *conformity bias* – the tendency to take cues from others' actions even if they're uninformative. Of course, it's rational to be affected by social pressure. If there's a dress code, it's rational to comply by it else people might not interact with you. However, what you wear is an observable action. Your decision to become a donor is never made public, so social pressure doesn't apply. Instead, the status quo might matter because you think that everyone else chooses the status quo, and conformity bias pressures you to take the same choice.

[1] Johnson, Eric J. and Daniel G. Goldstein (2004): "Defaults and Donation Decisions." *Transplantation* 78, 1713-1716.

Regardless of the source, status quo bias definitely exists. So, we can harness it to encourage organ donation, by changing the system from opt-in to opt-out. Indeed, from Spring 2020, the UK moved to an opt-out system. It's critical to stress that this change doesn't interfere with citizens' free will. They're just as free to choose not to be donors as before – they simply need to tick a box. Changing the default is a way of "nudging" citizens to desirable behaviour without restricting their freedom.

Status Quo Bias

Let's look at some other examples of status quo bias. One is a programme pioneered by Dick Thaler, who won the Nobel Prize in Economics for his contributions to behavioural economics, and also co-wrote the famous book *Nudge* (with Cass Sunstein) on the use of nudges to encourage certain behaviours. This programme, also introduced with Shlomo Benartzi, was called Save More Tomorrow (SMarT) and allowed employees to agree today to save part of future pay rises into a pension. Often citizens think "I can't save for retirement today as I need all my money to pay the bills, but when I get a pay rise, I'll be able to". But, because of inertia, they may not bother to fill in the required forms to save when they do get a pay rise.

Enrolling in SMarT means that the worker's pension contribution will automatically rise when his pay increases. Again, there's no restriction of freedom as the employee can subsequently change his mind. However, by altering the default, the programme had significant effects on savings. 78% of employees joined, 80% of those enrolled remained enrolled through their fourth pay rise, and the savings rate rose from 3.5% to 13.6% over 40 months.[2]

So, we've looked at two examples where we can exploit status quo bias by making the desirable choice the default. But sometimes this may not be possible, e.g., for legal reasons. Even so, we can still make progress by ensuring that the undesirable choice is not the default – by having no default. In his TED talk, "How to Change Your Behavior for the Better", Dan Ariely discusses an online pharmacy trying to persuade patients to switch from branded to generic medication due to its much lower cost. Letters had very little effect, and even offering the generics free for a year had less than a 10% uptake, because of the effort needed to fill in the form to switch.

The ideal solution would be for the pharmacy to change the default. It could write to patients saying "we'll switch you to generic, and if you don't like this, write to us". However, it's illegal to suddenly change a patient's medicine. Thus, the next best solution is to have no default, so that both medicines are on an equal footing. This involves the pharmacy telling patients that they need to return a letter to keep receiving their medication, and they had to tick a box either for the branded or for the generic medicine. This change led to substantial uptake of the generic.

Hyperbolic Discounting

Why do some people smoke and have huge credit card debt? Why don't they go to the gym enough or save enough? The easy answer would be that they're impatient – they prefer the pleasure of smoking and spending today, and that this outweighs the future costs. Indeed, if the cause is indeed impatience, smoking and spending are rational decisions. If a citizen's preferences happen to be that the present is very important, she maximises her lifetime utility by living for the moment. Moreover, it may not be the government's prerogative to force (or at least nudge) a citizen too far away from her personal preferences. If a citizen enjoys Egyptology more than computer science, a government shouldn't charge lower university fees for the latter because it might be more valuable for society.

However, it may be that citizens prioritise the present over the future *even though they don't want to*. Here's the idea. Let's say you receive a cookie each day. It's Monday today, and you're asked whether

[2] Thaler, Richard and Shlomo Benartzi (2004): "Save More Tomorrow ™: Using Behavioural Economics to Increase Employee Saving". *Journal of Political Economy* 112, 164-187

you're willing to give up your cookie on Tuesday to receive two extra cookies (three in total) on Friday. You say yes, because you're not that impatient. But, by the time Tuesday comes around and the big moist juicy cookie is in front of you, you renege on this decision. In the language of economics, your preferences are *time inconsistent*. Your Monday-self agrees that giving up the cookie on Tuesday is best for your lifetime happiness, but your Tuesday-self just can't follow through with it.

The source of such time inconsistency is what's known as *hyperbolic discounting*. Let's take a moment to explain the etymology. *Discounting* is the idea that something today gives you the same happiness as something in the future. A cookie on Monday is preferable to a cookie on Tuesday, which in turn is preferable to a cookie on Wednesday. That's rational, and stems from impatience. *Hyperbolic discounting* means that you put a particularly high weight on something received today. A cookie on Wednesday is better than a cookie on Thursday, and a cookie on Tuesday is better than a cookie on Wednesday. But a cookie today – on Monday – is much, much better than a cookie tomorrow. That's why your Monday-self doesn't think that Tuesday is particularly special compared to Friday, so giving up one cookie on Tuesday for two on Friday is worth it. But, when it comes to Tuesday, Tuesday is particularly special compared to Friday, so you won't give up your cookie.

Indeed, hyperbolic discounting (as well as the status quo bias) might be at work in the SMarT example. Employees are willing to sign up for the programme today because the lost income (from their take-home pay) isn't suffered until the future. If the SMarT programme required citizens to sacrifice take-home pay immediately as well as in the future, uptake might not be so high.

The implication is that any consequences that are immediate are particularly powerful. As a result, you can encourage certain actions either by reducing the cost of the action today, or by increasing its benefit today. Indeed, this is linked to the suggestions of my March 2020 lecture, on Mental and Physical Wellness, on how to get into good fitness habits. In that lecture, I discussed the "EAST" framework of the Behavioural Insights Team (informally known as the UK's "Nudge Unit", applying the ideas of nudging to practice). Let's revisit the first two aspects of this framework.

Easy

The E stands for easy. Make the action easy – reduce its immediate cost. One study gave university students a booklet encouraging them to get a tetanus injection. Adding "fear" to the booklet (using vivid photos and descriptions to highlight the seriousness of tetanus) had no effect on their likelihood of getting an injection. But making it easy to get an injection, by giving students a map showing how to get to the health centre, increased uptake from 3% to 28%.[3]

You might think it obvious that making an action easy should encourage it. But in fact, it shouldn't, if citizens are rational – at least for a decision as important as vaccination. The benefits of vaccination are so high that they should swamp any costs of having to look up how to get to the health centre. But because the cost is borne immediately, and immediate costs have a disproportionate effect due to hyperbolic discounting.

A separate study showed that a Her Majesty's Revenue and Customs tax collection letter that linked to the specific form taxpayers needed to fill in, rather than merely the webpage that included the form, increased response rates by 19-23%.[4] Again, rationally this should have no effect, as the benefits of paying tax on time should vastly outweigh the small-time cost of finding the correct form on a webpage.

Attractive

[3] Leventhal, Howard, Robert Singer and Susan Jones (1965): "Effects of Fear and Specificity of Recommendation Upon Attitudes and Behavior" *Journal of Personality and Social Psychology* 2, 20-29

[4] Behavioural Insights Team (2014): "EAST: Four Simple Ways to Apply Behavioural Insights"

The A stands for Attractive. Make the action attractive – increase its immediate benefit. In my Mental and Physical Wellness lecture, I discussed several ways to do this to encourage exercise. Here, I'll discuss an economic application, thanks to a study by Nobel Prize winners Abhijit Banerjee and Esther Duflo, and co-authors.[5] They studied how to encourage inoculation in India. Holding an "inoculation camp", where lots of mothers could take their children to be inoculated on the same day (rather than clinics where you're seen one by one), increased inoculation rates from 6% to 17%. This could either be because it makes inoculation attractive (as a mother can go with her friends) or easy (as there's no concerns about whether the clinic is open on a particular day – here everyone knows the day).

However, an even bigger improvement was achieved by giving a mother a kilo of lentils if she brought her child to be inoculated. This increased the rate from 17% to 38%. Again, it's irrational for the effect to be so large. Inoculation is a life-or-death issue, and your choice shouldn't be affected by a kilo of lentils.

While hyperbolic discounting may seem irrational, the upside is that it means that even small things can make a big difference. So, it gives us confidence that we can encourage socially desirable behaviours – we might not need huge investments of money. As the saying goes, "sweat the small stuff".

Loss Aversion

A quite separate behavioural bias is *loss aversion*. The pioneering work of Nobel Prizewinner Daniel Kahneman and his co-author Amos Tversky shows that the pain of losses is greater than the pleasure of gains. While this might lead to suboptimal behaviour (e.g., not investing in the stock market even though, in the long run, the returns are high), again it can be harnessed for good.

For example, loss aversion can be used to deter bad behaviour. In the UK, driving infractions lead you to receiving penalty points, and once you've reached 12, you're hit with a driving ban. In Italy, you start with 20 points, and they're taken away upon infringements, which may be more powerful. Similarly, it can be used to nudge behaviour – rather than emphasising the gains from good behaviour, you can emphasise the losses from bad behaviour. Telling households "If you don't conserve energy you'll lose £200 per year" can be more powerful than "if you do conserve energy, you'll save £200 per year".

What's interesting about the above examples is that they're exclusively about *framing* – how an idea is presented. Often people misinterpret loss aversion as only advocating the use of sticks over carrots – e.g. firing a worker for poor performance rather than rewarding her for good performance – and thus a draconian treatment of your employees, children etc. However, in the above examples, nothing substantive changes. All that changes is the framing, but because of loss aversion, the framing matters. (More scientifically, under loss aversion, losses are calculated relative to a *reference point*. The framing affects the reference point – e.g., whether it's 0 or 20 – and thus whether the actions taken are seen as losses).[6]

Moreover, loss aversion can also be used to guide substantive changes. For example, the StickK website allows you to write a commitment contract where you forfeit money if you don't fulfil a pledge (e.g., to run a marathon next year). It might seem more effective to reward yourself if you do fulfil a pledge, e.g., buy yourself a gift. Certainly, rational economics would say so – in both cases, your bank

[5] Banerjee, Abhijit, Esther Duflo, Rachel Glennerster and Dhruva Kothari (2010): "Improving Immunisation Coverage in Rural India: Clustered Randomised Controlled Evaluation of Immunisation Campaigns With or Without Incentives" *British Medical Journal* 340:c2220

[6] Similarly, some might argue that loss aversion is not irrational. If people don't like losses, that's simply their preferences. It's rational for a citizen not to invest in the stock market if losses cause him particular pain. However, the fact that changing the framing without changing the substance can have large impacts suggests that at least part is irrational.

balance might fall but in the latter case, at least you get a gift in return. However, due to loss aversion, the pain of losing the money can be a powerful motivator.[7]

Quite separately from using loss aversion to encourage certain behaviours, it's also important to bear loss aversion in mind when using other nudge techniques – in particular, to ensure that they don't impose losses on citizens. That's another advantage of the design of SMarT. If enrolment entailed the employee saving more today, he'd immediately feel the "loss" from his take-home pay. However, the saving doesn't occur until he receives a pay rise, in which case his pay packet won't fall and so the immediate pain of saving is lower.

Anchoring / Conformity Bias

Let's return to conformity bias, which causes us to follow the crowd, even for activities that are hidden. This may be in part due to *anchoring* – citizens place weight on an "anchor" number, even though it has no direct relevance for their decision. (Note that this isn't the same as status quo bias, as it also applies even if there's no default decision).

For example, a HMRC study used messages that included social norms to encourage tax payments. It found that the most effective messages weren't *injunctive*, of what others think you should do (e.g., "Nine out of ten people agree that everyone in the UK should pay their tax on time"), perhaps because paying tax is not socially visible. Instead, they were *descriptive* of what other people actually do. Without any norm in the letter (simply saying that your tax is overdue), 33.6% paid within 23 days. The message "The great majority of people in the UK pay their tax on time" increased this by 1.4 percentage points. The more similar the comparison group, the larger the effect. "The great majority of people in your local area pay their tax on time" increased it by 2.2%, "Most people with a debt like yours have paid it by now" led to a rise of 3%, and the combination of the last two yielded a boost of 5%. These simple messages accelerated £9.3 million of tax payments within 23 days.[8]

Similarly, a study on Manchester GPs sent letters comparing GPs' referral rates for cancer diagnosis to their peers. Such letters increased the referral rates by 9.6%.[9] Again, it's difficult to explain such an effect on rational grounds. A GP's referral rate is private, and GPs have particularly strong intrinsic motivation to refer patients where appropriate. But, as with all the other studies considered in this lecture, small things matter.

[7] Another reason why StickK may be effective is that the pledge is public and so there is social shaming if you fail to fulfil your commitment.

[8] Hallsworth, Michael, John A. List, Robert D.Metcalfe Ivo Vlaev (2017): " The Behavioralist as Tax Collector : Using Natural Field Experiments to Enhance Tax Compliance" *Journal of Public Economics* 148, 14-31.

[9] Behavioural Insights Team (2018): "Improving Appropriate Urgent GP Cancer Referrals"